A survey of research projects improving the discoverability of manuscripts resources through digital technologies

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Introduction to the report: scope and limitations

This report offers a concise description and analysis of currently active and recently completed research projects which seek to improve the discoverability of pre-modern manuscripts through digital technologies such as IIIF and TEI or by means of collaborative transcription initiatives. In researching this report, particular attention was paid to projects that focus on resources relevant to food history, such as culinary recipes. Research was carried out systematically by reading the abstracts of current or recently completed projects supported by the major funding bodies in the UK, European Union and North America. Nevertheless, there are some limitations to the comprehensiveness of this report on a chronological, geographical and linguistic level.

To start with the chronological limitations, the use of digital technologies such as TEI and IIIF in humanities and information technology projects has grown exponentially in the past decade. For this reason, it was deemed appropriate to focus on projects that began no earlier than 2010. The newest projects included in this report have started in the summer of 2020.

The search for relevant project was easier for certain geographical regions than for others. For projects funded in the UK, the UKRI Gateway to Research website was an especially valuable starting point, because it brings together information on a large proportion of the major research projects funded across the humanities and social sciences. Attention was also paid to research taking place in major DH centres across the country and to the growing digital collections created by several university libraries.

The landscape of funding bodies across the rest of Europe is much more varied and fragmented. A thorough search through all funding bodies for each EU country would require more extensive research. Thus, for EU-based projects, this report has opted for a spotlight approach, concentrating on projects that are of particular relevance to food historians. Similarly, the search for relevant projects across the US was limited to the grants awarded by the National Endowment for the Humanities and the Institute of Libraries and Museums and, for Canada, by the Social Sciences and Humanities Research Council.

Linguistic barriers have also hindered the comprehensiveness of this research. Several of the transcription and digitisation initiatives presented in this report have proved more arduous to discover because they are described solely in the European language of the country where the project is hosted. Searches were carried out in French, German, Dutch and Italian, but it is possible that similar digitisation and transcription initiatives exist in the Scandinavian region, the Iberian Peninsula as well in eastern Europe. Discovering these projects is likely to require reading knowledge of these languages.

Overall, systematic search through the main fund-giving bodies was found to yield but partial results. Particularly across Europe and the US, several digitisation and transcription initiatives have been coordinated by singular libraries or research centres that draw upon internal funding and rely on volunteers for the transcription of manuscripts. Searches targeted to collections with rich holdings of manuscripts and / or performed in languages other than English have proved more successful in uncovering digitisation and crowdfunding transcription initiatives, which have been devoted a separate section of this report.

Projects funded and / or based in the United Kingdom

Research for relevant projects was carried out consulting the [UKRI Gateway to Research](#) database and the lists of funded projects provided on the websites of the Andrew W. Mellon Foundation, JISC, British Academy and important Digital Humanities centres such as Cambridge, Oxford, King's College and Sheffield. Rather than arranging the projects into subsets according to the grant-giving body that funded them, it was decided to divide them into two broad categories. The first group includes all projects that seek to develop new digital infrastructure or enhance existing ones in order to overcome any issues of interoperability. The second brings together all projects that employ DH tools like TEI and IIIF in order to produce digital editions of manuscript resources. No projects combining research on culinary recipes or other resources relevant to food history with DH tools were found, to the exception of a PhD project in collaboration with Wellcome Collection, due to start in October 2020.

Projects developing new technology

Practical applications of IIIF as a building block towards a Digital National Collection

Funded by AHRC
P.I. Joseph Padfield, The National Gallery, London, & Melissa Terras, University of Edinburgh
Years running February 2020-October 2021 – N.B. the start date of the project has been delayed by Covid-19

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FT011084%2F1

Project website https://tanc-ahrc.github.io/IIIF-TNC/

Objectives and relevance
This project intends to lay the groundwork for the implementation of IIIF across UK collections whose works of art (paintings, but also manuscripts and other kinds of documents of cultural significance) are increasingly made available to the public through high-resolution images. Research will be conducted to better understand how to bring together digital collections in online environments, exploring the potential for shared IIIF services.
The project will assess current use of IIIF in the cultural sector through a series of workshops and surveys. The results will be summarised in a landscape report and used to devise a small number of pilot demonstrations using IIIF. For example, one such pilot project will entail working with and presenting datasets and research outputs from different institutions, focussing on resources created within a separate ongoing research project on Jacobean portraiture.

Further comments

Prof. Melissa Terras was contacted in order to ask for further details about this project. Unfortunately, due to the delay mentioned above, the project has properly started only in October 2020 and it was not possible for her to give any indication of actual progress made. When the P.I.s applied for funding, they were not aware of the IIIF for Research network project (described below). However, they are hoping that the two projects can collaborate with each other in a fruitful way.

IIIF for research network (IIIF4R)

Funded by AHRC
P.I. Lorna Huges, Glasgow College of Arts
Years running 2020-2021

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FV002260%2F1

Objectives and relevance

This is a research network investigating the potential for scholarly exchange offered by IIIF. The network will organise four workshops at Glasgow, Durham, Dublin and Aberystwyth. These will offer an opportunity for dialogue between arts and humanities researchers, curators and information professionals. Together, they can help develop research-driven agendas for the deployment and development of IIIF to investigate a wide range of primary materials and archives relevant to humanities research domains. The workshops will build on acknowledged leadership in development and promotion of IIIF in both the United Kingdom and Ireland. They will demonstrate the many different ways in which IIIF supports innovative analysis and commentary on the various types of source material used by arts and humanities researchers.

Bi-Directional context search and indexing in historical text archives with complex annotation layers

Funded by EPSRC
P.I. Daniel Bruder (PhD candidate) with Simone Teufel (primary supervisor), Cambridge Computer Laboratory, University of Cambridge
Years running: 2016-19

Project description on UKRI website
https://gtr.ukri.org/projects?ref=studentship-1778276#/tabOverview

Objectives and relevance

Although this is a project hosted by the Computer Laboratory at Cambridge University carried out by a singular scholar rather than as part of a larger research group, this PhD Thesis seems relevant to the scoping exercise for several reasons. The project investigates the range of possibilities available to online collections to overcome the issues posed by the lack of interoperability between electronic transcriptions, thereby enhancing the discoverability and accessibility of manuscripts. The author of the thesis maintains that the TEI XML format cannot be further developed into a structure of general applicability that can guarantee long shelf life and interoperability. Therefore, one major aim of this doctoral project is to develop new mathematical structures that can be used to archive and record written cultural inheritance in any language or script and irrespective of content. New retrieval tools will be implemented, too.

Further remarks

Daniel Bruder was contacted to ask if his thesis will be made publicly available and how we can learn more about his findings, but he never replied.

Developing a digital framework for the Medieval Gaelic world

Funded by AHRC
P.I. Gregory Toner, Queen's University of Belfast, School of Arts, English and Languages
Years running: 2020-2021

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FV00235X%2F1#/tabOverview

Project website https://www.qub.ac.uk/schools/ael/Research/ResearchinLanguages/imdorus/

Objectives and relevance

Through a partnership with the British Library, the National Library of Scotland and the Royal Irish Academy, this network will explore the possibilities of research into the medieval Gaelic world through textual resources accessible in digital format and through digital technologies. By promoting integration of approaches and interlinking of resources, this project hopes to increase accessibility to and raise public interest in the medieval heritage of Ireland and Scotland. The network will organise a series of workshops, two of which directly relevant to this scoping report. One, titled 'Representing Texts: From Material to Digital', organised in cooperation with BL, NLS and Library of the Royal Irish Academy, seeks to facilitate access to medieval manuscripts available in online versions on the part of the public. Another relevant workshop addresses the issue of sustainability of digital resources and considers their maintenance to create a framework that will ensure their future preservation.

Further comments

The network wishes to think about ways to bring major Gaelic manuscript collections together, making them accessible to specialist and non-specialist audiences alike. A particular area of interest

is that of manuscripts with medical content, for which the network hopes to devise a further collaboration with the Royal College of Surgeons in Dublin and the Surgeon's Hall Museum in Edinburgh. If so, the manuscripts at the centre of this other project may well include recipes and other content relevant to food history.

Digital Manuscripts Toolkit

Funded by Andrew W. Mellon Foundation
P.I. Richard Ovenden, Bodleian Libraries, Oxford University
Years running 2014-2016

Project description https://digital.humanities.ox.ac.uk/project/digital-manuscripts-toolkit

Project website http://dmt.bodleian.ox.ac.uk/about-the-project/

Objectives and relevance
This is a project involving scholars, developers and librarians working collaboratively towards the increase in accessibility and use of IIIF among a variety of users. The project resulted in the development of a toolkit that can be used even by small libraries with limited access to IT support to build IIIF resources. The toolkit consists of 3 tools. *Manifest Editor* is an in-browser tool for creating, enhancing and remixing digitised image sequences. *Metadata Transformation Tools* allows one to create IIIF manifest files from existing METS and TEI manuscript catalogue metadata. *Docker Images* can be used to deploy a IIIF compliant image server.

The toolkit is available to view on GitHub http://dmt.bodleian.ox.ac.uk/get-the-toolkit/

Further comments
Judith Siefring (Head of Digital Research, Bodleian Libraries) was contacted to ask for further details about the use of IIIF and TEI in the toolkit; she promised to reply as soon as she could find the time, but did not follow up on this.

Projects developing digital editions of manuscript resources

Mapping Manuscript Migrations. Digging into data for the history and provenance of pre-modern European manuscripts.

Funded by ESRC
P.I. Kevin Page and Toby Nicolas Burrows, Engineering Science, University of Oxford
Years running 2017-20
Project description on UKRI website
https://gtr.ukri.org/projects?ref=ES%2FR003971%2F1#/tabOverview

Project website https://mappingmanuscriptmigrations.org/en/

GitHub Link https://mapping-manuscript-migrations.github.io/mapping-manuscript-migrations.github.io/

Project website http://mappingmanuscriptmigrations.org

Objectives and relevance
This project *Mapping Manuscript Migrations* (MMM) investigates the provenance of European manuscripts currently held in EU, UK and US collections using digital humanities tools. This is a collaboration between the Engineering Science Department at Oxford, Aalto University and the University of Pennsylvania. The project links data from numerous datasets and aggregates them in a new web portal, which collates data on 216,000 manuscripts from 3 already extant databases into a unified RDF Triple Store. The three databases are the *Schoenberg Database of Manuscripts*, *Bibale* and *Medieval Manuscripts in Oxford Libraries*, A diagram visualising the MMM unified data model is available for download here .
Entities referenced in each database (persons, places, organisations) have been reconciled and matched using Linked Open Data services like the Getty Thesaurus of Geographical Names and VIAF. The MMM portal offers users an interface for visualising and exploring the combined data. The data created by MMM are now available for reuse through the Zenodo data repository.

Further remarks
Although the intention to link together data about manuscripts from so many collections is laudable and the database can be interrogated in various meaningful ways (search by author, material of the MS, places where the MS was held, database in which it is recorded…) the entries focus on provenance and are not enriched by digitised versions of the manuscripts described.
The Consortium of European Research Libraries (CERL) is considering the findings of this projects in the context of redeveloping its own manuscripts portal.

Learning French in Medieval England. The manuscripts of Walter de Bibbesworth's *Tretiz*

Funded by AHRC
P.I. Thomas Hinton, Modern Languages, Exeter University
Years running Jan 20-July 2021

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FT001658%2F1#/tabOverview

Project website http://tretiz.exeter.ac.uk/

Objectives and relevance

The project explores the sixteen manuscript versions held across libraries in the UK, Europe and the US (e.g. Cambridge, British Library, Paris BNF, Beinecke Library) of the French vocabulary written by Walter de Bibbesworth in the mid 13th century, known as *Tretiz.* The project intends to construct a digital edition of the *Tretiz* in all its manuscript versions, which will be available for comparison and faceted search.

Further remarks
Contacted about the projects, two of the DH specialists, Edward Mills and Dr Charlotte Tupman explained that they are producing the first digital edition of all 16 versions of the manuscript, using TEI XML to encode them for publication via an online resource that they are building with eXist-db. The transcription is being carried out manually.

Towards a new edition of the Wycliffite Bible

Funded by AHRC
P.I. Elizabeth Solopova, English Department, Oxford University
Years running: 2016-20

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FN001591%2F1#/tabOverview

Project website https://wycliffite-bible.english.ox.ac.uk/#/

Objectives and relevance
The project built a digital edition of the Wycliffite Bible, based on two versions (the Latin source text and two Ms in English) that can be read and explored simultaneously. The digital edition is available to consult on the purpose- built website, whose generous interface allows for faceted search and side-by-side reading of the Bible in Latin and in the two English versions along with, in a separate column, any of the two digitised manuscripts. The text can be downloaded as TEI XML file.
A key element of the digital version is a model for online presentation of texts that exist in numerous versions and that can be viewed, searched and navigated simultaneously. In addition to traditional search facilities (wildcards, boolean operators and proximity of search terms), the website offers innovative search options, such as phonetic search and keyword in context concordance that allows users to view words aligned in their context within each version of the biblical translation.

Further remarks
The online version offers a selective new edition of the Wycliffite Bible (6 of its books). The P.I. sees this online edition as a technical framework that can be further expanded once editions of the other biblical books become available so that even after the completion of the project, it will be possible to further enrich and add content (textual and visual).

The online bibliography lists 39 libraries worldwide that own full or partial manuscript versions of the Wycliffite Bible. Where the manuscript has been digitised, a link to the digital edition hosted by the external library website is provided. It is worth pointing out that although many versions of this Bible exist, the user of the digital edition is able to peruse only two digitised manuscripts, both from the Bodleian Libraries.

Finance, Law and the language of governmental practice in late medieval towns: Aberdeen and Augsburg in comparison (FLAG)

Funded by AHRC
P.I. Jackson Webster Armstrong, School of Divinity History and Philosophy, University of Aberdeen, & Jörg Rogge, Johannes Gutenberg-Universität Mainz
Years running 2020-23

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FT012854%2F1

Project website https://flag-project.uni-mainz.de/home/

Objectives and relevance
The project compares historical records kept in the archives of two towns, Aberdeen and Augsburg. One question driving this project and relevant to the scoping exercise is 'how can one best address the methodological challenge of a structured comparison of two XML datasets, both in TEI format?'.

Further remarks
The project builds upon a Leverhulme Trust funded project led by Dr Armstrong between 2016 and 2019, titled "Law in the Aberdeen Council Registers 1398-1511". The team of researchers working on this project was responsible for producing a digital textual resource from the Aberdeen Council Registers in the format of a TEI compliant transcription. This transcription of the records now forms the basis for the comparative analysis undertaken in the FLAG project.
Likewise, the Augsburg archival records analysed in the FLAG project had been brought together in a digital archive constructed as part of a research project led by Co-investigator Dr Jörg Rogge, titled "Die Augsburger Baumeisterbücher – Digitale Edition der mittelalterlichen Stadtrechnungen von 1320 bis 1466".

Language and Linguistic Evidence in the 1641 Depositions

Funded by AHRC
P.I. Barbara Anne Fennell, School of Languages and Literature, University of Aberdeen
Years running 2010-2011

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FH03790X%2F1#/tabOverview
Project website https://www.1641.tcd.ie/project-related_projects-language.php

Objectives and relevance
The project uses language technology developed by IBM LanguageWare to create a computer environment in which researchers can conduct analysis and visualisation of the digitised corpus of the 1641 Irish Depositions. The online environment where the depositions are digitised and archived allows researchers to collaborate simultaneously on single resources. Thanks to the creation of a TEI compliant corpus, the database overcomes interoperability issues, meaning it is possible to link it to similar digital research initiatives including DARIAH (Digital Research Infrastructure for the Arts and Humanities, a European network that facilitates and enhances digital humanities research and teaching) and CLARIN (Common Language Resources and Technology Infrastructure).

The research team developed an innovative Collaborative Linguistic Research and Learning Environment (CLRLE) that semi-automates the analysis of a digitised database of approximately 1.2 million words of witness testimony regarding the Irish rebellion of the 1640s, and facilitates the visualisation, dissemination and exchange of research findings by expert users, novice researchers and members of the general public.

Further remarks
This project built upon the corpus of depositions created over the course of *1641 Depositions* (2007-2010), a project funded by The Irish Research Council for the Humanities and Social Sciences based at Trinity College Dublin (https://www.1641.tcd.ie). The aim of this project was to preserve through digitisation and transcription the collection of 4000 depositions recounting the experience of Protestant people following the outbreak of the rebellion by the Catholic Irish in 1641.

Manuscript Pamphleteering in Early Stuart England

Funded by AHRC
P.I. Noah Chaim Millstone, History department, University of Birmingham
Years running 2017-20

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FP006140%2F1

Project website https://mpese.ac.uk/

Objectives and relevance

The project is concerned with manuscript pamphlets from around the time of the Civil War in England (early Stuart England). The P.I. has partnered with the British Library in order to digitise, transcribe and promote the discoverability of this little-known body of literature. The purpose-built database can be interrogated to read the transcriptions of circa 500 manuscript pamphlets and examine 1500 photographs of these digitised manuscript resources. Each entry is enriched with basic bibliographic information.

The manuscript pamphlets described in the database come from the collection of more than 50 different archives located in the UK and USA. However, most of the digitised ones are from the collection of the BL and smaller British record offices like Norfolk Record Office and Surrey History Centre. Sometimes, the same manuscript pamphlet is recorded in the database in its multiple versions to show the difference between them.

Further remarks

The software developed for this project is now available on GitHub (https://github.com/mpese/), with the hope that it will be further developed or used for similar research. The technical specifications of the projects are detailed here.

The transcriptions and XML encoding of the pamphlets were carried out partly by volunteers and partly by members of the research team, all adhering to semi-diplomatic conventions. For further information about the specificities of the transcription side of this project, the P.I. suggested that Dr Richard Bell should be contacted at Richard.Bell@keble.ox.ac.uk, because he was responsible for turning the transcriptions into XML files.

The Bentham Papers Transcription Initiative

Funded by AHRC (2010-11), Andrew W Mellon Foundation (2012-14) and European Research Council (Horizon 2020)
P.I. Thomas Philip Schofield, Faculty of Laws, UCL
Years running 2010- present

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FH037233%2F1#/tabOverview

Project website https://www.ucl.ac.uk/bentham-project/

Objectives and relevance

The Bentham Papers Project seeks to complete the transcription of all existing manuscript papers by Bentham kept at UCL. It was one of the first projects to rely on crowdsourcing methods for the transcription of manuscript sources. All transcriptions are then linked to digitised versions of the manuscripts and displayed in a database.

The project features an online Transcription Desk designed to facilitate TEI mark-up based on Wikimedia. See http://transcribe-bentham.ucl.ac.uk/td/Transcribe_Bentham

A Big Data History of Music

Funded by AHRC
P.I. Stephen Rose, Department of Music, Royal Holloway
Years running 2014-15

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FL010046%2F1

Project website http://www.rhul.ac.uk/bigdatamusic

Objectives and relevance
The project partnered up with the British Library in order to bring together 7 major existing datasets about sheet music and music manuscripts for analysis, manipulation and visualisation. The datasets (from BL, RISM UK, RISM EU, Music Manuscripts in EU libraries, Concert programmes Project database) were aligned and combined to be analysed as Big Data.

Further remarks
The British Library dataset of printed music is available for download and analysis and its launch has received positive responses from academics and scientists.

A corpus of Renaissance correspondence: The Letters of Elizabeth Talbot (1527-1608, known as Bess of Hardwick)

Funded by AHRC

P.I. Alison Eve Wiggins, School of Critical Studies, University of Glasgow

Years running 2008-12

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FF017308%2F1#/tabOverview

Project website https://www.bessofhardwick.org/home.jsp

Objectives and relevance
The project has resulted in a critical edition of the full correspondence of Bess of Hardwick, hosted on a database. The manuscript letters (234 in total) are presently located in 19 different repositories across the UK and USA (102 letters are at the Shakespeare Folger Library, accessible via LUNA). All of them have been transcribed and they can be read in XML, diplomatic or normalised format. Furthermore, 185 letter transcriptions are linked to the high-res images of the handwritten letter.

Further remarks

Transcription of the letters was carried out manually by the P.I. along with her research associates. Following the completion of the project, all data from the Bess of Hardwick research were integrated in the <u>Women's Early Modern Letters Online</u> (which is part of the EMLO database). HRI Digital (The University of Sheffield DH Institute) was in charge of the development of the database.

Welfare, conflict and memory during and after the English Civil Wars, 1642-1700

Funded by AHRC
P.I. Andrew James Hopper, School of Historical Studies, University of Leicester
Years running 2017-2021

Project description on UKRI website
https://gtr.ukri.org/projects?ref=AH%2FN010140%2F1#/tabOverview

Project website https://www.civilwarpetitions.ac.uk/

Objectives and relevance

The project has led to the creation of a digital archive bringing together all petitions from civilians submitted between 1642 and 1700. These manuscript sources are presently kept in County Record Offices nationwide. These have been collected in the online database, complete with high-res digital images, metadata and transcription of the text. The database can be interrogated in various ways: by personal name, gender of the petitioner, parish, county, occupation of the petitioner, among others. A faceted search is also available.

Further remarks

The transcriptions are available in original and modernised form and have been carried out by a postdoctoral fellow.

DIAMM: Digital Image Archive of Medieval Music

Funded by Andrew W. Mellon Foundation
P.I. Elizabeth Eva Leach, Faculty of Music, University of Oxford
Years running 1998-2011, but the project is still being expanded and kept updated

Project website https://www.diamm.ac.uk/

Objectives and relevance

The project has resulted in the creation of the DIAMM website, a portal to information about medieval and early modern polyphonic music manuscripts worldwide. The music and the manuscripts date from c. 800 to c. 1600, and the original documents are kept in libraries and archives around the globe.

Following a free registration, users can browse the archive, and interrogate the database searching by country, place where the manuscript is held or simply by inputting a shelf-mark. Most, but not all, manuscript entries include high-res images of the item. Where necessary, the entry is annotated and the text transcribed.

At the moment, the database collates entries from 30 participating countries (each with one or more collections / museums contributing data), for a total of 56075 entries.

Full-text search of early music prints online (T-TEMPO)

Funded by British Academy & JISC
P.I. Prof Tim Crawford, Computing Department, Goldsmiths - University of London
years running 2018
Project description on British Academy website
https://www.thebritishacademy.ac.uk/funding/ba-jisc-grants-digital-research-humanities/past-awards/2018/

Project website https://f-tempo.org/

Objectives and relevance
The project has built an open access online database that allows users to search a growing number of digital images of renaissance and early modern music. The project began with the British Library's collection of digital images of 16th century music scores, but has now expanded to include holdings from the BNF in Paris, the Staatsbibliothek in Berlin and the Polish National Library in Warsaw. The problem that the project sought to tackle was the discoverability of printed music scores. This has been solved through an alternative to OCR suitable for music score, called Optical Music Recognition (OMR). The OMR program Aruspix was used with results not dissimilar from those obtained by Google Books with the OCR.

Further remarks

In its focus on discoverability of early modern resources that are difficult to discover, the project is in tune with those concerned with digitisation and transcription of manuscripts. However, the interface that has been built thus far only allows searches for pages containing music similar to that contained in a query page (users can upload a picture of the music score they want to search). It does not yet allow searching for an arbitrary musical sequence of notes, though this is planned for a future version. The addition of metadata about the books (titles, composers, printers, dates, places, etc.) is planned for a future development of the database. In regard to the limited possibilities of

search offered by the database, one should also bear in mind that the project ran for one year only and the funding given by this specific scheme was up to 10.000 £.

Polonsky Foundation Greek Manuscripts Project

Funded by AHRC and Academy of Sciences (Germany)
P.I. A collaboration between Cambridge University Library, Heidelberg University Library and Biblioteca Apostolica Vaticana
Years running 2018-2021

Project description on Cambridge Digital Library website
https://cudl.lib.cam.ac.uk/collections/greekmanuscripts

Project website https://www.lib.cam.ac.uk/collections/departments/manuscripts-university-archives/subject-guides/medieval-manuscripts/polonsky

Objectives and relevance
The project is engaged in the conservation and digitisation of 432 Codices Palatini written in Greek, of which 29 are in Heidelberg and 403 in the Vatican. The project reunites in a new database the entire Palatine manuscript Library along with all Greek Medieval and Early Modern Manuscripts kept at Cambridge. Cambridge holds 444 Greek manuscripts, spread across 14 of its libraries (College Libraries, as well as the Fitzwilliam and the UL). As the project webpage stresses, this project is unique in the number of collections that it brings together in digital form.

Further remarks
The digitisation of the Greek Manuscripts allows users to leaf through the digital pages, which are, however, not accompanied by a transcription or translation of the text. IIIF manifest and TEI-compliant metadata about each manuscript is provided.

Scriptorium: medieval and early modern manuscripts online

Funded by AHRC
P.I. Richard Beadle and Colin John Burrow, English Department, University of Cambridge
Years running 2006-09

Project description on Cambridge Digital Library website
https://cudl.lib.cam.ac.uk/collections/scriptorium

Objectives and relevance

The project created a digital archive of manuscript miscellanies and commonplace books produced between 1450 and 1720 circa. It brought together holdings from five College Libraries in Cambridge, Cambridge UL, Brotherton Library in Leeds, The Archives of Holkham Hall, Belton House and Lambeth palace. Given the focus on Miscellanies and Commonplace Books, several manuscripts include recipes, including medical ones. A cluster of recipes can be found in the Lambeth Palace library miscellanies of William Rawley (for example, https://cudl.lib.cam.ac.uk/view/MS-LAMBETH-02086/1).

Further remarks
For each manuscript miscellany, under the tab 'Contents' there is a line of description for the content of each page. However, no transcription is provided for the vast majority of the pages. The digitised manuscripts come with metadata that can be freely downloaded, and the high-res images are IIIF compliant and can be viewed in Mirador.

Michaelides Fragments

Funded by The Islamic Manuscript Association
P.I. Yasmin Faghihi, Head of Near and Middle Eastern Department, Cambridge University Library, with Gennady Kurin, Specialist Cataloguer, Cambridge University Library

Project description on Cambridge Digital Library website
https://cudl.lib.cam.ac.uk/collections/michaelides/1

Objectives and relevance
The project has digitised the full collection known as the Michaelides Fragments, bought by Cambridge UL in 1977, and which is the largest private collection of Arabic Papyri. Part of the collection is relevant to food historians because it consists of recipes (for example, https://cudl.lib.cam.ac.uk/view/MS-MICH-PAP-E-00001/1).

Further remarks
A transcription or translation of the text on each papyrus is not provided, making the digital collection rather inaccessible for the non-specialist reader. It is possible, however, to download basic TEI-compliant metadata and IIIF manifest for the images.

Cairo Genizah Collection

Funded by Jewish Manuscripts Preservation Society, The Friedberg Genizah project Inc. & AHRC
P.I. Ben Mathew Outhwaite, Head of the Genizah research Unit, University of Cambridge
Years running 2009-13 (with AHRC funding)

Project description on Cambridge Digital Library website
https://gtr.ukri.org/projects?ref=AH%2FG011397%2F1

Objectives and relevance
The project has digitised the Taylor-Schechter Cairo Genizah Collection, the largest collection of medieval Jewish Manuscripts, held at Cambridge UL (more than 18.000 manuscripts). The collection features a diverse range of secular texts, including recipes   - medical, magical and culinary recipes – and leaves from medical texts concerning food. By way of example, https://cudl.lib.cam.ac.uk/view/MS-TS-NS-00222-00013/1   and https://cudl.lib.cam.ac.uk/view/MS-TS-MISC-00035-00095/1

Further remarks
The digitised manuscripts come with metadata that can be freely downloaded and the high-res images are IIIF compliant and can be viewed in Mirador. However, there is no translation or transcription accompanying the images.

Casebooks projects

Funded by Wellcome Trust & Isaac Newton Research Grant
P.I. Lauren Kassell, History and Philosophy of Science, University of Cambridge
Years running 2008-2018

Project description on Cambridge Digital Library website
https://cudl.lib.cam.ac.uk/collections/casebooks/1

Project website https://casebooks.lib.cam.ac.uk/

Objectives and relevance
The project led to the digitisation of the largest collection of medical records, which was created by Simon Forman and Richard Napier in the early 17th century. In-depth research on part of the casebooks led the research team to produce a selective index of relevant categories for which content was found in the archive, including food and drink (see here https://casebooks.wordpress.com/selective-index/#food)

Further remarks
The database includes high-res images with TEI-compliant metadata, but no transcriptions. There is, instead, a brief description of content of each page or a relevant quotation from it.

The heterogeneous nature of early modern manuscript recipe books: a study of recipe book functions 1500-1800

Funded by AHRC
P.I. Kate Owen (PhD Candidate) and Matthew Symonds (primary supervisor), UCL
Years running October 2020-23

Project description on UKRI website https://gtr.ukri.org/projects?ref=studentship-2387852#/tabOverview

Objectives and relevance

This PhD project proposes to survey Wellcome Library's rich collection of manuscript recipe books through a focus on the material properties, provenance and content of the individual manuscripts. The project also intends to improve upon and expand existing catalogue records for the individual recipe books, enriching them with transcriptions, the examination of contributions from different hands in the same manuscript and with the analysis of the individual recipes contained in each manuscript, among other things. It is expected that palaeographical, physical and biographical details of the recipes will be made accessible through an online platform.

Projects funded and / or based in the European Union

This section of the report highlights some research initiatives based in the European Union that are of particular relevance to food historians. The ERC database of previously funded projects appeared as the most obvious starting point. However, extensive search through this database uncovered only one relevant project. It was found that several research initiatives were financed by smaller, national research bodies or had been enabled by a combination of state and internal funding, which made them more difficult to find.

Overall, there is only a limited number of European countries and languages represented in the projects described here below. This is partially explained by the uneven distribution of surviving collections of culinary recipes and other resources relevant to food history. For example, in Dutch-speaking countries, only a handful of manuscripts containing recipes survive. In Italy, the number of culinary recipes in handwritten sources may be higher, but these are disseminated across many public libraries and there seems to have been no attempt thus far to unify this heritage in a coherent database that includes digitisations and / or transcriptions. Sweden, instead, even boasts its own kokboksmuseet (Cookbook Museum) because it has a rich collection of printed culinary books, but fewer manuscripts relevant to food history, mostly dating from the 18th century onwards and thus outside the scope of this report.

FoodCult: Food, culture and identity in Ireland, 1550-1650

Funded by European Research Council
P.I. Dr Susan Flavin, School of Histories and Humanities Trinity College Dublin
Years running 2019-2024

Project description on ERC website https://erc.europa.eu/projects-figures/erc-funded-projects/results?search_api_views_fulltext=foodcult

Project website https://foodcult.eu/

Objectives and relevance
This project takes early modern Ireland as a case study to investigate the role of food in the development of culture and national identity. The collaboration between archaeologists, historians, science information and technology specialists allows for an exploration of food consumption through diet-related archaeological evidence. This will be used to construct the database Mapping Diet: Comparative Foodways in early modern Ireland. More relevant to this report is one of the seven research strands of FoodCult, titled 'Food Microhistories'.

This research strand studies dietary habits and food consumption in early modern Ireland through in-depth look at household accounts. This kind of manuscript resource is still little known, but contains a wealth of information about diet, food provision and consumption on a local level.

Further remarks

Dr Flavin was contacted to ask for more information concerning the 'Food Microhistories' strand of her project. She explained that the household accounts relevant to early modern Ireland are disseminated across the UK: some are in record offices and regional archives, others are in private collections. Dr Flavin's intention is to have some team members work on the transcription of these household accounts. These transcriptions will be made available in the project's database at a later stage during the project. However, it is not entirely sure whether the manuscripts will also be digitised, because not all collections and private owners of these manuscripts have authorised digitisation.

Dr Flavin expressed interest in being kept informed about any other projects – including any initiated by Wellcome Collection - that focus on historical recipes and any other food history resource and which are keen to enhance accessibility to these resources through digitisation and transcription.

Cooking Recipes of the Middle Ages: Corpus, Analysis, Visualization (CoReMa)

Funded by Agence National de la Recherche & Fonds zur Förderung der wissenschaftlichen Forschung

P.I. Bruno Larioux, University of Tours & Helmut W. Klug, DH Centre Graz. In collaboration with members of CESR (Centre d'Etudes Supérieures de la Renaissance) at University of Tours and Zentrum für Informationsmodellierung – Austrian Centre for DH, Department of German Studies at University of Graz

Years running 2018-2021

Project descriptions https://corema.hypotheses.org/project/presentation and https://dev.clariah.nl/files/dh2019/boa/1026.html

Objectives and relevance

This project brings together cooking recipe collections and manuscripts from France and all German speaking countries. This requires an analysis of more than 80 Manuscripts and approximately 8000 recipes written between 12th and 15th century and currently spread across nine countries. Building upon the database of digitised and transcribed recipes, the ultimate aim of the project is to compare the cooking recipe transmission of France and German-speaking countries, focussing on the analysis of origin, relation and text migration of recipes across Europe. The data will also form the basis for spatial and temporal visualisation and statistical evaluation.

This comprehensive corpus of historical recipes and its metadata is edited according to international standards using TEI/XML, semantic web technologies and a research infrastructure that is laid out for digital preservation of research assets. Linked open data and semantic web technologies are at the heart of this project. The appeal of semantic web technologies lies in the opportunity it offers to work outside of language barriers.

The storage, analysis and dissemination of the project's data is handled by the data repository GAMS (Geisteswissenschaftliches Asset Management) developed by the Austrian Centre for Information Modelling in Graz. Within this infrastructure aimed at long-term preservation, the triplestore Blazegraph is accessed through a web service for the storage and retrieval of RDF triples which allows the researchers to query the project's databases of medieval recipes in France and Austria as well as all connected concepts in the Linked Open Data Cloud.

Further remarks

Given that the data modelling and DH aspect of the project is coordinated by the team members based at Graz, Dr Helmut Klug was contacted to ask for further details concerning the mode of transcription of the recipes and the database hosted on the CoReMa website, which at the moment appears still under construction. However, Dr Klug did not reply.

Monumenta Germaniae Culinaria et Diaetetica. Ein Digitalisierungsprojekt zu den älteren deutschen Kochbüchern und Ernährungslehren

P.I. Thomas Gloning, Institute for German Literature, Justus-Liebig Universität Giessen (Germany)
Project website https://www.uni-giessen.de/fbz/fb05/germanistik/absprache/sprachverwendung/gloning/kobu.htm

Project description (in German only) https://www.uni-giessen.de/fbz/fb05/germanistik/absprache/sprachverwendung/gloning/mgcd.htm

This is an online corpus of culinary and dietetic texts of Europe from the Middle Ages to 1800. The corpus includes a combination of recipes from manuscripts and early printed books, both from German-speaking countries and from elsewhere in Europe. The project began in the early 2000 and initially based its transcription on already existing modern printed editions of manuscripts and other early printed sources containing recipes. The aim was to make the recipes more accessible and easy to discover through an online version of their text. At the moment, only the earliest version of the database is accessible (see project website link), hosted on the website of the Germanistik Department at the Universität Giessen.

Further remarks

Contacted about the scope and limitation of the projects, Thomas Gloning (P.I.) explained that in recent years he has created a website with digital editions and transcriptions from a growing number of manuscript and early printed books than those currently visible on the University Website. Unfortunately, the University of Giessen server was attacked by a hacker in December 2019, and as a result access to the Monumenta Culinaria Website has ever since been lost. The PI is currently trying to reset the database and make it once again accessible, but this may take several more months.

Manuscriptorium - Europeana

Link to Manuscriptorium database
http://www.manuscriptorium.com/apps/index.php?envLang=en#search

Europeana collaborates with archives, libraries and museums across Europe and offers access to digitised books, manuscripts and works of art. One of Europeana's aggregators is Manuscriptorium, which brings together metadata and digitised editions of manuscripts and early printed books from a vast number of libraries across Europe. Manuscriptorium contains approx. 400,000 descriptive records and circa 110,000 complex digitised documents.

The content currently available in Manuscriptorium is of interest to food historians because it contains metadata and digital versions of recipes in medical, pharmaceutical, chemistry and culinary manuscripts. The repository can be searched by keyword, library name, title and author of the manuscript, among other facets. For each item, users can view and download metadata in XML format, provided from the participating library. All XML files comply with TEI PF standard and use the ENRICH schema, which has been devised for the requirements of projects focussing on description of manuscripts.

Further remarks

The level of information available for individual database entries is variable and depends on the library holding the physical copy of the manuscript. Thus, in some cases, the entry includes the link to the full digital version of the manuscript, but on other occasions only a sample of the digital version is made available. In other cases, there is no digitised manuscript at all, and only the metadata is provided. Furthermore, some participating libraries have provided the metadata in a language other than English, making the retrieval of data and consultation of the database more arduous for non-specialist users.

Projects funded and / or based in the North America

The projects described here below were found on the two major US funding bodies, namely the National Endowment for the Humanities (NEH) and the Institute of Museum and Libraries Services (IMLS) and in one other case on Canada's Social Sciences and Humanities Research Council.

What the following list of projects focussed on manuscript resources does not show is that several US public libraries have extensive collections of cookery printed books. A large proportion of these collections focuses on the period between 18th and 20th century rather than on the medieval and early modern period. There appears to be a marked scholarly and public interest in culinary heritage given that many libraries have developed specific collection guides about their printed cookbooks and gastronomical history items, many of which are fully digitised. To give some examples, the Library of Congress holds the Katherine Golden Bitting Collection on Gastronomy, whilst since 2000 The Huntington holds the Cranston Collection, which features some 4.400 British and American cookbooks from 19th and 20th century. Michigan State University Libraries has a Cookery and Food Collection which showcases recent projects such as *Feeding America*: *the historical American cookbook project*, a collection of 76 cookbooks from 18-20th century, fully digitised and transcribed. Texas Woman's University features a Culinary History and Cookbook digital archive, but this too focuses on the period 18 to 20th century and solely on printed rather than manuscript resources.

In recent years, the National Endowment for the Humanities has funded several community projects of digitisation of local culture resources among which recipes. Local inhabitants are usually invited to bring along handwritten documents and ephemera relating to a specific subculture and have them digitise for the purpose of cultural memory preservation. However, these digitisation projects are not focussed solely on culinary heritage and tend to concentrate on the recent history of cultural minorities in the US. By way of example, see grants no. PY-258638-18 and PY-258723-18.

Digital Scriptorium 2.0 A national union catalogue of pre-modern Manuscripts in US collections for the digital age.

Funded by IMLS: National Digital Infrastructures and Initiatives Grant Scheme
Recipient: University of Pennsylvania Libraries
Years running started in 2020
Project description https://www.imls.gov/sites/default/files//grants/lg-246396-ols-20/proposals/lg-246396-ols-20-full-proposal.pdf

Objectives and relevance

The funding has been awarded to a consortium of 34 representatives from US American libraries and museums, led by the University of Pennsylvania Library and working in cooperation with [Digital Scriptorium](#).

The project proposes to find practical solutions to the problem posed by the growing number of cultural institutions that are digitising their own special collection, without paying sufficient attention to potential issues of compatibility with the digital repositories of other museums and libraries.

Digital Scriptorium was born in 1997 with the intention to provide a national repository for digitised manuscripts held in collections across the US (34 collections currently represented), moving away from the coexistence of many bespoke systems that work in isolation to a single one that guarantees the integration of complex library applications and is based on shared technology and institutional collaboration. However, the Digital Scriptorium repository is now in need of improvement and updates. The funding will be used to enhance the existing features platform and, crucially, apply Linked Open Data. In this way, it will be possible to control descriptive metadata through an interoperable data platform and to expand access beyond institutional silos. Another goal is to create an International Standard Manuscript Identifier (ISMI), in the hope that a set of unique identifiers created especially for manuscript resources will encourage developers to provide interoperability among digital manuscript resources.

The Georgian Papers Programme (GPP)

Funded by NEH – office of digital humanities and [many others](#).
Recipients College of William & Mary, King's College London, Royal Collection Trust. For full Team list, see [here](#)
Years running 10 years

Project description on NEH website
https://securegrants.neh.gov/publicquery/main.aspx?f=1&gn=HAA-266513-19\

Project website https://georgianpapers.com/

Objectives and relevance
The Georgian Papers Programme (GPP) is a ten-year interdisciplinary project that intends to digitise, conserve, catalogue, transcribe, interpret and disseminate 425,000 pages or 65,000 items in the Royal Archives and Royal Library relating to the Georgian period, 1714-1837. The ultimate goal of the GPP is to provide a unique digital resource that is both readily accessible to members of the public and capable of sophisticated manipulation by researchers in any discipline.

Further remarks
The funding awarded to the project by the NEH (see link above) for the period 2019-2021 will allow two team members to undertake further work in regard to transcription methods. More specifically, this funding serves to explore the application of *Transkribus* to machine-driven transcription of manuscript sources in tabular format from the Georgian Papers Programme,

such as financial records and inventories.

However, the GPP website also credits a number of individuals who have contributed transcriptions manually: 17 students coordinated by a web developer, a programmer and another team member in charge of transcription and metadata.

Resurrecting Early Christian Lives: Digging in Papyri in a Digital Age

Funded by NEH – Office of Digital Humanities
Recipient Melissa Harl Sellew, Classical and Near Eastern Studies, University of Minnesota
Years running 2013- present

Project description on NEH website
https://securegrants.neh.gov/publicquery/main.aspx?f=1&gn=HJ-50178-14

Objectives and relevance
This project is a collaboration between Oxford University and the University of Minnesota and studies Christian identity in Greco-Roman Egypt through the extant papyrus documents. The team has developed a transcription tool hosted on Zooniverse for the Coptic language so that volunteers can help with the transcription of papyrus documents of different kinds: recipes, poetry, letters, contracts among others.

The T-PEN tool: Sustainability and quality control in encoding handwritten texts

Funded by NEH – office of digital humanities
Recipient James R. Ginther, Theological Studies, St Louis University
Years running 2010-2014

Project description on NEH website
https://securegrants.neh.gov/publicquery/main.aspx?f=1&gn=HD-51138-10

Objectives and relevance
The project proposes to create a transcription tool coupled with automated mark-up techniques called T-PEN. The tool will help scholars transcribing manuscript sources and enable automatic insertion of mark-up textual features (TEI P5 mark-up) whilst transcribing. Digitised images of medieval manuscripts from the Carolingian Canon Law Projects are used as a case study to help develop and refine the potential of this Transcription-palaeographic and editing notation tool.

Crowdsourcing culinary history at the New York Public Library

Funded by NEH – Office of Digital Humanities
Recipient Benjamin Vershbow, New York Public Library
Years running 2010-2013

Project description on NEH website
https://securegrants.neh.gov/publicquery/main.aspx?f=1&gn=HD-51301-11

Objectives and relevance
The funding assisted with the development of a prototype interface that could enable volunteers and scholars to contribute transcriptions of material relevant to food history from the New York Public Library collection. The pilot project used the collection of 40.000 Menus dating from 1840s to the present. The online platform hosting the project is called 'What's on the Menu'.

Ensuring access to endangered and inaccessible manuscripts

Funded by IMLS (2012-15), Andrew W. Mellon Foundation, NEH (2017-2020)
Recipient St John's University, Collegeville, MN
Years running 2012- present
Project website https://www.vhmml.org/

Project description on NEH website
https://securegrants.neh.gov/publicquery/main.aspx?f=1&gn=HAA-255994-17

Objectives and relevance
This 3-year grant by the NEH ensures the enhancement and further development of the Virtual Hill Museum & Manuscript Library (VHMML), a digital portal that provides access to manuscript collections from Africa, the Middle East and Europe. The initial developers of the platform were James Gunther (Saint Louis University) and Abigail Firey (University of Kentucky). By registering on the platform, users can access a virtual reading room (active since 2016) and view high-resolution images (IIIF compliant) of manuscripts accompanied by their metadata. Currently, there are no transcriptions accompanying the manuscripts.

What America Ate. Preserving America's Culinary history form the Great Depression

Funded by National Endowment for the Humanities
Recipient Helen Zoel Veit and Peter Berg, Michigan State University
Years running 2014-17
Project website https://whatamericaate.org/

Objectives and relevance

Although this project focusses on early 20th century history, it is worth highlighting because it draws upon a wealth of resources relevant to food history, such as recipes, community cookbooks, adverts and photographs, in order to investigate food consumption in the US during the great depression. Volunteers were involved in the transcription of handwritten recipes. The digital archive created as part of the research project features circa 200 community cookbooks, a wealth of ephemera such as pamphlets, recipe cards, food packaging material.

Early Modern Maritime Recipes (EMMR)

Funded by Social Sciences and Humanities Research Council of Canada
Recipient Edith Snook, University of New Brunswick, Canada
Years running 2016-2018
Project website https://emmr.lib.unb.ca/

Objectives and relevance
Early Modern Maritime Recipes examines pre-1800 recipes that circulated in manuscript and in print in Canada's maritime provinces: Nova Scotia, New Brunswick and Prince Edward Island. The project has led to the creation of a database which contains 568 digitised recipes with their transcription. Of these, 453 are taken from manuscript sources, mostly from the Nova Scotia Archive. A vast proportion of the recipes are medical, but culinary recipes form the second largest group.

Further remarks
Transcriptions were carried out manually by 10 research assistants. The quality of the digitised documents containing the recipes is varied and does not seem to adhere to the latest standards; in some cases, the digital recipe is simply a picture taken from the holding library's microfilm collection.

Crowdsourcing transcriptions initiatives

This section of the report draws attention to projects based across Europe and North America that rely on crowdsourcing to transcribe manuscript resources through a combination of manual transcription and tools like *Transkribus* and *From the page*.

Manuscript Cookbooks Survey - United States

Project website https://www.manuscriptcookbookssurvey.org/

Objectives and relevance
The Manuscript Cookbooks Survey began in 2011 and is now an online database that collects information on pre-1865 culinary recipes manuscripts held in 68 libraries across the United States. This is not a funded project, and it was carried out by a team of librarians, co-ordinated by Szilvia Szmuk-Tanenbaum and Stephen Schmidt. All recipes manuscripts listed on the website and searchable by century, by keyword or by collection, are written in English and document American culture.

Note, however, that this is not a digital library; the database is simply an inventory of English-language manuscript cookbooks. Each manuscript entry includes information about its content, but is not complemented by a digital version unless this is provided on the website of the Institution holding the manuscript. The website is thus more of a finding aid that can enhance public and academic awareness of these manuscript resources.

Early Modern Recipes Online Collective (EMROC) – United States

Project website https://emroc.hypotheses.org/

EMROC (Early Modern Recipes Online Collective) comprises a group of international scholars working with early modern recipes and coordinated by Rebecca Laroche (U. of Colorado) and Elaine Long (MPIWG).

The website reports on the research and transcription conducted on several recipes manuscripts kept at the Folger Shakespeare Library and at Wellcome Collection. Transcriptions are carried out through Transcribathons, which involve a number of university students enrolled at several US institutions. At the moment, 16 projects of transcriptions are highlighted and described on the EMROC website, with each manuscript description including links to the digitised items and details of its content. EMROC is especially effective in disseminating information on Early modern recipes and promotes research on these manuscripts both directly by involving students in the process of transcription and indirectly through the blog and website.

From the Page

Project website https://fromthepage.com/

From the Page is a crowdsourcing transcription software. Its website includes a list of all currently active projects devoted to transcription of manuscripts kept in university and public libraries world-wide. Anyone can sign up and contribute transcriptions to any of the digitised manuscripts. For each manuscript, it is possible to learn what percentage of pages has already been transcribed and if the contribution has been reviewed. Among those transcription initiatives currently described on the website, the following appear relevant because of their focus on food history resources.

University of Pennsylvania, The Kislak Center for special collections, **rare books and manuscripts**

The Kislak Center holds a vast collection of recipe books that feature culinary but also medical, chemical and household recipes
https://fromthepage.com/upenn/kislak-center-recipe-books

Stanford University libraries, The Countess of Hohenlohe's recipe book
A recipe book written in German in 1593, featuring 243 culinary recipes
https://fromthepage.com/stanfordlibraries/the-countess-of-hohenlohe-s-recipe-book

Stanford University libraries, Dorothea Rousby Cookery Book
A 17th century cookery book with culinary recipes and household remedies
https://fromthepage.com/stanfordlibraries/dorothea-rousby-cookery-book

Rezeptdatenbank – Gastrosophie

Funded by Fonds zur Förderung der wissenschaftlichen Forschung, Kulinarisches Erbe Österreich, Paris Lodron Universität Salzburg

Project description
https://www.gastrosophie.at/de/forschung/detail.asp?id=3&tit=Historische%2520Rezeptforschung

Project database http://gastrosophie.sbg.ac.at/kbforschung/r-datenbank/

Objectives and relevance

Gastrosophie is a research centre at the University of Salzburg (Austria) that brings together researchers working on all aspects of nutrition in historical context. Since 2013, Professor Gerhard Ammere leads the working group 'Historische Rezeptforschung' ('Research on historical recipes'), which is concerned with transcription of recipe books dating from 15th to 18th century.

This research project has led to the creation of an online database of historical recipes, developed by Dr Marlene Ernst. The search interface allows users to browse by title of the manuscript, by recipe and by single ingredient. Currently, the website features 9463 recipes from 16 historical sources. It must be pointed out that the recipes are transcribed not only from manuscripts but also from early printed books.

The database is intended to facilitate comparisons and analysis across different source material within one corpus, irrespective of the language in which the recipe is written (German, French, English all feature) and of the source material (manuscript or printed book). The scholars hope to gain a better understanding of the formation of national and regional cuisines and of the origins of specific recipes. The database is still being expanded and the team of scholars working on it hopes to add transcriptions from other manuscripts in the near future.

Further remarks

Dr Marlene Ernst was contacted for further details about the scope and limitations of the database. She explained that the Gastrosophie Database was conceived from the beginning as a research tool focussing on transcription of historical recipes – not on digitisation of manuscripts. Wherever possible, the record for a transcription is linked to the digital manuscript, if this has been digitised by the relevant library. The transcription of recipes has been possible thanks to the involvement of volunteers, contributing transcriptions as part of a Citizens Science Project.

Szathmary culinary manuscripts and cookbooks, University of Iowa

Project database http://diyhistory.lib.uiowa.edu/collections/show/7

The Szathmary collection, named after its creator Chef Louis Szathmary, has been fully digitised and counts 108 items corresponding to 9379 pages. The oldest recipes in this collection date from c. 1700, the newest from the early 20th century. The recipes have been transcribed thanks to a crowdsourcing initiative.

To facilitate volunteers' engagement in transcription of this collection of culinary manuscripts and cookbooks, the University of Iowa has used a platform called DIY History. DIY History is powered by Omeka 2.6 with a custom theme and transcription plugin developed by the digital scholarship & publishing studio at the University of Iowa. Volunteers can help by tagging, transcribing and commenting on all digitised items from the University of Iowa Library.

Digitizing material culture: handwritten recipe books, 1600-1900 - NLM

Funded by internal funding only
Recipient U.S. National Library of Medicine
Years running 2017- present

Project description https://circulatingnow.nlm.nih.gov/2017/04/13/digitizing-material-culture-handwritten-recipe-books-1600-1900/

Link to database here

Objectives and relevance
In 2017, the National Library of Medicine digitised its collection of manuscript recipe books written between 1600 and 1900. The collection is now accessible online at the link provided above.
For each book, it is possible to download metadata and a pdf of the full digital publication.

Further remarks
One of the archivists involved in this project, John Rees, was contacted for further information about this project. He explained that the NLM is currently working on the transcription of the recipes from this digitised collection and that these will be added to the digital repository in due course. Members of staff of the NLM have been using the 'work from home' period as an opportunity to invest time in transcribing. However, they are hoping to add a crowdsourcing transcription tool that will enable to volunteers to participate, but nothing has been put in place yet.

Concluding observations

This report was researched and written over the course of two months and it has uncovered 43 research projects that are employing digital humanities tools to improve access to and engagement with medieval and early modern manuscript resources. Of these projects and initiatives, 23 are based in the United Kingdom, 15 in North America and 5 in the European Union. Furthermore, 14 out of 43 projects deal specifically with manuscripts of recipes or other resources relevant to food history. Based on the information and data gathered in writing this report, it is possible to make the following observations.

First, there is scope for funded research that looks specifically at the heritage of manuscript recipes. Particularly in the UK, there seems to be no active research project drawing upon digital humanities tools to study collections of recipes or other handwritten documents relevant to food history.

Second, funding bodies seem to be increasingly aware of the issues that hamper the discoverability of historical handwritten documents and keen to support relevant research initiatives. For example, in the last ten years the Andrew W. Mellon Foundation has granted financial support to several libraries in the UK, EU and US, specifically with the aim of ensuring the implementation of standards to improve the discovery of archival collections, or the enhancement of interoperability protocols for digitised manuscripts.[1]

Similarly, although it did not feature prominently as a funding body in this report, it is worth mentioning the research that JISC has done and continues to conduct. Various members of staff working at JISC are involved in projects concerned with the building of digital infrastructure necessary for large-scale digital humanities projects, or with the development of policies and national recommendations in the field of DH. A good example is the project Making your digital resources easier to discover which ran between 2014 and 2016, managed by Karen Colbron (Digital content manager JISC) and Paola Marchionni (Head of digital resources for teaching, learning and research, JISC), working in partnership with SCONUL and RLUK. The project intended to provide practical advice and solutions "aimed at maximising the discovery of institutions' digital collections over time".[2] JISC has also published a guide titled Making your digital collections easier to discover, which touches on aspects such as the importance of Google searches in making digitised resources discoverable; the use of aggregators; the need for improvement of the user experience of a digitised collection.

Third, devising sustainable methods for reliable transcription of manuscript sources seems an area in which further work needs to be done. The list of projects highlighted in this report reveals that US-based projects are relying on crowdsourcing methods more so than UK-based projects. In

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[1] A selection of relevant projects can be viewed on the database of the Andrew W. Mellon Foundation using <manuscript> as keyword in the search and then limiting the time frame to the years <2010-present>, following this link https://mellon.org/grants/grants-database/

[2] As described on the webpage presenting the project, URL https://www.jisc.ac.uk/rd/projects/making-your-digital-resources-easier-to-discover (last accessed 14.10.20). A brief report including practical solutions from this project was made publicly available here .

general, more often than not, transcription is still carried out manually by members of the individual research project. Whether a team of postdoctoral researchers provides more accurate transcriptions than a group of volunteers feeding transcriptions via a crowdsourcing platform is something that deserves further consideration.

Overall, the projects examined in this report underscore the importance of collaborative research in this field. The cooperation between IT and DH specialists, humanities scholars, public collections and volunteers is at the heart of all ambitious research projects seeking to develop sustainable digital methods and infrastructure that allow different kinds of users to engage with manuscript resources in new and exciting ways.