



The National Library of Finland Bulletin 2015



Finland's drive to become a world leader in open science

Open science is rapidly developing all over the world. How are we Finns doing?

By Riitta Maijala



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or more. We have passed the test of time – why shouldn't we pass the test of digital revolution?

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Open science opens up the library

How is the National Library promoting openness and accessibility in academic publishing?

By Esa-Pekka Keskitalo



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Ambitious *Aviisi* aims to increase the availability of copyrighted newspapers

National Library's collaborative *Aviisi* project aims to make available copyright-restricted newspapers from the 20th and 21st centuries more extensively than ever before.

By Pirjo Karppinen

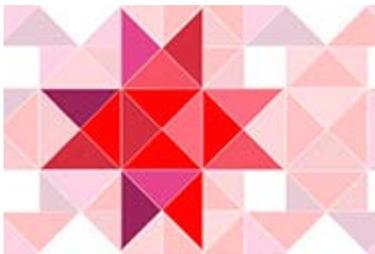




Sibelius' collected works on 150th anniversary of his birth

2015 marks not only Jean Sibelius' birth anniversary, but also the halfway point in a groundbreaking National Library project to publish more than 50 individual volumes of the great composer's oeuvre.

By Timo Virtanen



From Crowdsourcing to nichesourcing

The world's largest collection of Uralic language materials digitised.

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"A wonderful gift to the nation."

As the immense renovation of the historic National Library of Finland building edges towards completion, the project's conservation specialists reveal its challenges, surprises and significance.

By Suvi Kingsley



Old dissertations and new technologies: a good match?

What were the technical and other hurdles in the digitisation project of the old Royal Academy of Turku dissertations? And how were they solved?

By Juha Hakala



Rarities of experimental literature

The Slavonic Library within the National Library of Finland houses Futurist rarities from the early 20th century.

By Tomi Huttunen



People, tech and connecting across cultural divides

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By Molly Schwartz

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Editorial: Solutions-based future lies ahead



By Kai Ekholm, professor, Director of the National Library of Finland,
Chair of CDNL

Istanbul hosted the recent IFLA President's meeting in May. We enjoyed many fine presentations that tackled the change of media and libraries. In my own presentation I stressed the solution-based approach.

Why? Libraries are pretty resilient, I hear you say. The basic concept has worked for a thousand years or more. We have passed the test of time – why shouldn't we pass the test of digital revolution?

The digital revolution is not gradual. It is total. "User demand" means: "I want it all, not some fragments of it. And I want it now when I need it."

There is a lot to tackle and I start with the fears we all share:

- Digital paper and tablets replace printed media
- Young readers abandon the book (for the internet)
- Respect for the copyright will collapse
- Google replaces libraries
- Google will roll over copyrights
- Publishers will vanish
- Book production collapses and never evolves back
- Reading habits will change for ever
- Book stores will be discounted to death by Amazon
- Amazon has started to lend books

Most of this is already happening. Media is in the middle of a strong change. Internet has become more popular than TV. People use more time on the internet than watching TV. Tablets will be more popular than printed magazines



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and books. In Denmark only 30% read their newspapers in print. In 10 years, games have become bigger money makers than films. The Finnish game industry alone needs 600 new employees annually.

Allow me to jump to some conclusions.

By 2030 (or earlier) digitalisation has merged all media to one huge cloud service. This means that our users change as well. There will be a totally new kind of knowledge professionals researching our materials.

How will libraries ever be able to fit into this changing landscape? They need to change into media centres. Otherwise they will disappear. We need to see past our fears and start acting more business-like, not just pretend that we do so. For a prolific and strategically-oriented library there are new markets to be discovered. The long tail of research resources needs to be digitised. But someone has to pay for it. So new partners need to be found so that we can work this out together.

New content is our strongest asset. There is a growing need for our digitized materials if we act in an ambitious, driven and strategic environment.

Just as our competitors GAFA (Google, Apple, Facebook, Amazon) do.



Finland's drive to become a world leader in open science



Open science is rapidly developing all over the world. For some time now Open Access (OA) publications, self-archiving systems and the new innovations and scientific discoveries enabled by open data have motivated many key Finnish institutions – along with their international counterparts – to promote openness extensively. Now Finland has risen to the challenge in earnest and set itself an ambitious goal to become the leading country in the openness of science and research by 2017.

By Riitta Maijala, Head of the Science Policy Division at Finland's Ministry of Education and Culture

Open publishing and open data

After the 2002 Budapest Open Access initiative and the 2003 Berlin Open Access to Knowledge manifesto, we have arrived at a situation in which more



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than 10,000 Open Access publications exist in the world. Even though their level and policies vary, it has been proven that an Open Access publication will often be cited more than a traditional publication, and the difference may even grow over time. So it is no wonder that many traditional journals are adopting Open Access policies, and that the citation indices of certain OA journals are already on a par with traditional ones.

The impact of open publications and electronic books is boosted by the fact that they can be easily shared in both mainstream media with its extensive reach and social media, which increases their potential readership and speeds up the spread of information.

At the same time, increases in author and subscription fees can significantly increase the cost of sharing research results. Consequently, greater attention is being paid to the respective, sometimes conflicting goals of publicly funded research and independent science, the former focusing on social impact and the latter on freedom. As science is always built on previous research results, it is only natural that placing scientific works behind a paywall is being increasingly criticised from the perspective of both repeatability of the research and long-term access.

“ *It is only natural that placing scientific works behind a paywall is being increasingly criticised from the perspective of both the repeatability of the research results and long-term access.* ”

Open data also provides opportunities to make research work more effective, to support the quality development of research and to increase innovations – all these aspects have generated new perspectives. Issues relating to licensing, usability, fees, data protection, repeatability of research results and copyright are becoming ever more common in the academic community.

Open science as part of research work

Launched in 2014, the Finnish Ministry of Education and Culture’s Open Science and Research Initiative (*ATT*) looks at research work as a whole. This means that the initiative does not restrict open science and research to open research data and articles, but includes the application of new methods, such as open-source programs or “open notebook” science.

Another key policy of the Open Science and Research Initiative is the definition of openness. The basis is “intelligent open research”, where everyone involved recognises the ethical and legal parameters for how and when content can be made open. This means the idea is not to make all results immediately open to all. A variety of solutions are also available for articles, such as Open Access journals (i.e., “Golden OA”) or self-archiving (i.e., “Green OA”).

Open science, open society

Many EU, OECD and UNESCO statements endorse open science as a way to improve the quality of research, accelerate innovations, develop societies and engage citizens more extensively. On the other hand, Finland's science policy seeks to increase the quality and impact of research, something that would be facilitated by a more effective, more international research system.



The ambitious goal is for Finland to become a leading country in the openness of science and research by 2017.

The *ATT*-initiative supports Finland's science policy objectives by providing a shared forum for discussion and action, where recognised goals are furthered in national, or, if necessary, international cooperation. Broad-based cooperation between Finland's ministries, institutions of higher education, research institutes, research funders, the IT Centre for Science, the National Library, university libraries and other institutions provides a solid basis for this work.

The ambitious goal is for Finland to become a leading country in the openness of science and research by 2017, and that the opportunities of open science be widely exploited in our society. The initiative has four sub-goals: 1) increasing the quality and repeatability of research, 2) strengthening openness-related expertise, 3) ensuring a stable foundation for the research process, and 4) increasing the social impact of research.

Increasing the quality and repeatability of research

The first sub-goal on the *ATT*-roadmap seeks to increase the quality and repeatability of research through openness. The national objectives for open publishing and data for the year 2017 will be set this year after extensive discussion. At the same time, incentives for openness will be identified with respect to the peer review system, the career development of researchers and funding instruments. The development of self-archiving systems for articles is being conducted by both the Finnish National Library and a collaborative project of the University of Jyväskylä and the University of Eastern Finland.

Competing for international funding and working in international research groups increasingly require solutions and services that support openness. It is important for the quality and impact of Finnish research that all research organisations create the best possible support for their own staff in order to adopt open science methods. Without the research organisations' strong strategic commitment, the development enabled by open science can easily

benefit internationally active individuals or groups only. Solutions can take many forms, but research organisations cannot afford the delay.

The report on the openness of the operating cultures in institutions of higher education, published this May to determine the current situation, was the first of its kind. The intention is to repeat the survey in 2016 and 2017. A similar report will be drafted in autumn 2015 for research institutes. According to its findings, research universities are much more open than universities of applied sciences. On a scale of one to five, the University of Helsinki and the University of Jyväskylä received a grade of four, the highest for any Finnish institution of higher education.

In terms of researchers' working environments, the nine institutions of higher education that are yet to take any public steps to develop an open culture are of particular concern. Such organisations have no policies or guidelines to instruct staff in open methods. It is hoped that the situation will have improved in the upcoming reports. Research organisations are responsible for maintaining functional research environments and supporting the development of the working culture, and, as such, have a key role in promoting openness.

Strengthening openness-related expertise

It is important that institutions in the research system can take advantage of the opportunities afforded by openness in a way that supports the competitiveness of science and research. The *ATT*-initiative promotes education in open science and research and the coordinator for this cooperation is the Finnish National Library. The training seeks to make science more open by engaging institutions, building networks and focusing on the matter at hand. At the same time, opportunities for sharing competence and best practices are generated.

“ *The ATT-initiative promotes education in open science and research and the coordinator for this cooperation is the Finnish National Library.* ”

In addition, the initiative will create a description of openness-related skill areas for the researcher as well as a related self-evaluation tool, and develop certification for open research. The *NopSA* project at the Hanken School of Economics is determining how focusing on individual support for key researchers in an institution of higher education can strengthen competence.

The *ATT*-initiative has also seen the publication of the *Open Science and Research Handbook*, which aims to provide practical advice for researchers, among others, on how to work more openly. The second part was released online this spring, and anyone can now be involved in editing its content. Based on feedback, the Handbook will be edited to better correspond to the needs of researchers and research organisations.

Ensuring a stable foundation for the research process

The third sub-goal of the *ATT*-roadmap aims to strengthen the foundation of the research process so that with the help of good, clear basic structures and services, institutions can take advantage of the benefits of openness at the right time and ensure a sustainable basis for research.

The goal of the Service working group is to clarify the role of the services in the research process and promote the interoperability of the services. Finland already has a range of significant open science services, for instance the *IDA* storage service, the *AVAA* open data publishing platform, the *Etsin* search service for research datasets, the *Aila* Data Service, the Language Bank of Finland, the *Doria* and *Theseus* repositories, the *Finto* ontology service as well as several organisation- and discipline-specific national and international self-archiving systems. The *Tuuli* project, coordinated by the Helsinki University Library, is developing a tool for all Finnish research organisations to help them draft data management plans.

Long-term preservation, or rather, long-term availability, is being prepared by the Long-term Preservation Solution for Research Data working group. Long-term preservation ensures that key research results can be reused, that the chain of evidence is coherent, that new research can be built upon existing research, that results can be easily assessed and that existing research materials can be used to save time when collecting data. The goal is for long-term preservation to be nationally available in 2017, with related guidelines set in place.

Increasing the social impact of research

The fourth sub-goal focuses on increasing the social impact of research. At their best, open science and research generate new opportunities not just for researchers, but also for decision-makers, businesses, organisations and individuals. The financial and social impact of research can increase when research results and methods can be quickly made available to businesses and decision-makers.

“ *At their best, open science and research generate new opportunities not just for researchers, but also for decision-makers, businesses, organisations and individuals.* ”

The *ATT*-initiative seeks to clarify the roles of service production, activate cooperation between companies and research organisations, and recognise indicators that measure openness and open accessibility. The Finnish Ministry

of Education and Culture has also granted funding for improving the usability and accessibility of science and research as well as for including the impact of open information in innovation activities. The results from the projects being funded will eventually serve the interests of other institutions as well. For example, the Ministry is investing in a project run by the University of Turku's Research Unit for the Sociology of Education, which seeks to determine metrics for measuring the social impact of open science. In addition, the Seinäjoki University of Applied Sciences is heading a joint-project promoting openness in the user-based innovation ecosystems of institutions of higher education.

Openness to become commonplace for research

In just a few years, we hope to be in a situation where open science is a commonplace aspect of research work. This means that at the start of every research project, a data management plan will be drafted with an indication of the local, national and international services and infrastructures into which the accruing data and its metadata will be stored, to be opened later. At the same time, the requirements for using research results opened elsewhere in new research will be considered. As the research progresses, open source code will be created and used, and the work recorded in an open notebook, while the research organisation supports the development of both related skills and services.

“ *In future, the forms of open publishing will have become fully established.* ”

In future, the forms of open publishing will have become fully established, and it will be increasingly common for researchers to share their work while the research is ongoing through a variety of digital conversation and publication platforms. The results can be easily made open through infrastructures that are user-friendly, interoperable and economical. The open interfaces, through which the results can be easily used in a machine-readable format, create new opportunities for developing new applications and new understanding through, for instance, text and data mining.

This way, research results pass easily throughout society: from one researcher and research group to another, between disciplines, to innovation enterprises and to decision-makers and citizens. This increases the quality and effectiveness of research, and offers the research community broader opportunities to become more visible and influential in the international academic world. Open science supports the generation of new innovations and the development of society. It makes it possible for citizens to participate in academic research more extensively, and offers decision-makers an easy path to the source of confirmed research results amid the ever-increasing stream of information.

With the *ATT*-initiative, we can build the future of open science together. It is wonderful to see how much national and international activity Finland is already engaged in with respect to this field. Through cooperation, we can develop our own practices, but also influence what open science will become in international forums. As an open democracy and innovative country, Finland can use the opportunities afforded by open science in a comprehensive way.



Open science opens up the Library



Open science means that the research publications, research data and methods used in research are published openly to be used by all. This has a significant impact on the work libraries do to satisfy the information needs of their customers.

By Esa-Pekka Keskitalo, Head of development, the National Library of Finland

What's important for libraries?

Three aspects are particularly important to libraries: their role in open publishing, the impact of openness on their collections and information service work, and the rise of research data and methods as information materials alongside publications.

Libraries have invested a great deal of work in promoting openness, particularly in relation to Open Access publications.

For a variety of reasons, the number of Open Access publications has not increased at the rate that was originally hoped for, but the concept of openness has been recognised as a useful and viable one. So the work continues.



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The golden road of openness

Open Access can be implemented in two ways. “Gold” Open Access means that the academic publications are openly available online, and revenue is accrued from fees collected from authors.

For Finnish academic journals, which are often small, transferring from subscription fees to author fees may not be easy. This is why the Federation of Finnish Learned Societies (TSV) and the National Library recently received funding from Finland’s Ministry of Education and Culture for their project to support Finnish academic journals to transfer into open practices and increase their impact.

The project includes a redesign of the TSV open publication platform for Finnish journals, a new funding model for Finnish open journals, and methods to measure their impact.

“Green” access

“Green” Open Access means that material published through academic media is republished in openly accessible publication archives. This way, the content from paid journals can also be made openly available, while all publications produced by the research organisation are collected in one place.



“Media literacy is increasingly important in the academic world.”

The National Library has maintained such a self-archiving service for many years, used by approximately forty institutions of higher education and other organisations. Through the Open Science and Research project, the Library has received funding to further develop these services.

Funding has also been received for other development and report targets. It will be used to develop identifying codes and description methods for research data as well as to solve issues relating to the long-term preservation of open publications. In addition, the funding will support the development of methods for covering the author fees associated with open journals.

Many projects

The Ministry of Education and Culture has also funded several projects of universities and universities of applied sciences that will help promote open science.

The Helsinki University Library is developing a tool to draft data management plans. Aalto University is promoting the publication of research data as linked open data. The University of Jyväskylä and the University of Eastern Finland are researching and improving the publication processes for open data, while the Hanken School of Economics has a project to facilitate a rapid shift to an open culture of publishing. The Research Unit for the Sociology of Education at the University of Turku is researching metrics for measuring the social impact of open science. Universities of applied sciences are also launching a project, which aims to increase their openness.

Challenges for libraries

How will all this impact libraries? New publication channels are a challenge for collections and information service work. The field of publishing is in constant flux. So-called “predatory” journals have also appeared on the market. These are journals, which publish all articles regardless of quality to collect author fees. Simple online publishing also means that the same content may be available in different places. One article may be available in several slightly different versions. This means media literacy is increasingly important in the academic world.

Research data and research methods are actually becoming their own type of publications. Researchers and libraries have much to learn in this area, both in making the material ready for publication and in finding and using useful data materials.

It has become apparent that the current organisation of researcher services does not support open science in the best possible way. Publishing, data management and applying for research funding, for example, can no longer be easily kept separate.

Libraries, IT departments and research administrators are finding that they must cooperate in order to provide good services to researchers. The increasingly international and networked nature of academic work adds its own dimension to this. Accordingly, participating in international cooperation, involvement and debate are included in the basic duties of the National Library and the library sector at large.



Ambitious Aviisi aims to increase the availability of copyrighted newspapers



The National Library's Aviisi project is joining the major societal shift to digital. This shift is characterised by media companies struggling with their printed newspapers, their readership figures, and, consequently, advertising profits, which are declining faster than the profits from digital services are increasing.

By Pirjo Karppinen, Project Manager, Centre for Preservation and Digitisation, the National Library of Finland

Newspapers – the nation's rich collective memory

Finns have always been enthusiastic readers: daily newspapers have informed us of topical events throughout the decades, whether in the realm of politics, finance, science, culture or art. Newspapers narrate and store local and national news in the national memory clearly and concisely, and from different perspectives.

The *Aviisi* project is working and negotiating with media companies, the



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Kopiosto Copyright Society and the National Library to release copyright-restricted digital newspaper materials from the 20th and 21st centuries more extensively than current legislation allows. By cooperating and digitising the full process chain, we can streamline functions and promote the use of the material.



The Aviisi project is a collaborative effort between the public and private sectors, and a step towards an open information society.

The more extensive use of digital newspaper materials is being piloted for research and teaching in universities and universities of applied sciences, comprehensive schools and upper secondary schools, an adult education centre and, in the Mikkeli region of eastern Finland, a library.

The extensive digital materials enable the use of cross-disciplinary, pedagogical cooperative learning methods in history, social studies, art and other subjects. In cooperation with adult education centres and libraries, the material can be used to organise courses for senior citizens so they can learn IT skills by researching information that interests them. The digital archives of newspapers constitute abundant source material for big data research. In the field of digital humanities, masses of text are studied through computational methods and models. The materials are a treasure trove for many different disciplines.

Based on experiences from the pilots, practices will be evaluated and developed to enable rendering newspaper materials available more comprehensively to different target groups. The *Aviisi* project is a collaborative effort between the public and private sectors, and a step towards an open information society.

Huge treasure troves already online

Finnish newspapers published in 1910 or earlier have already been digitised and are openly available online. These newspapers can be found in the National Library's digital newspaper library at www.digi.kansalliskirjasto.fi. The newer newspapers from 1911 onwards are under copyright, and only a fraction of them have been digitised. The National Library wants to actively promote the digitisation of this valuable cultural heritage, currently hidden in musty archives, so that the material can be provided for the use of researchers, teachers and society at large.

In Finland, the digitisation effort has received no public funding. The National Library is striving to digitise copyright-protected newspapers and periodicals from the 20th century together with its partners, which include publishers, rights holders and copyright organisations. The National Library and its partners are

dividing the cost of digitisation and can each use the digitised materials as agreed.

A collection drive to support the digitisation of our cultural heritage has been launched to celebrate the centennial of Finland's independence in 2017 at www.rahasto.kansalliskirjasto.fi/

- The *Aviisi* project is being conducted by the University of Helsinki's Centre for Preservation and Digitisation in Mikkeli. Funded by the European Regional Development Fund, the project is also supported by the City of Mikkeli, media companies Kaakon Viestintä Oy and Viestilehdet Oy as well as the Kopiosto Copyright Society. The project will be carried out in 2015-2016.



Sibelius' collected works on the 150th anniversary of his birth



2015 is the 150th birthday of Jean Sibelius, marking another reason to celebrate for the Jean Sibelius Works, the project which produces a critical edition of the composer's oeuvre. This year, the project will pass the halfway mark in its effort to publish more than 50 individual volumes. Still other volumes are currently being edited and are scheduled for publication within the next two years. If these are also included, the total number of completed publications and publications on the homestretch will be more than 30 volumes.

By Timo Virtanen, Editor-in Chief Jean Sibelius Works, the National Library of Finland

The 150th anniversary of the Finnish national composer is a suitable occasion to take a look at the publications produced in the Jean Sibelius Works project. By summer 2015, Sibelius' works for solo voice will have been published in their entirety (four volumes), as will be his original works for piano (four volumes) and works for a cappella mixed choir (one volume). As to his orchestral oeuvre, four symphonies have been published (the first, second, third and seventh) as well as *Kullervo* (four volumes), *Lemminkäinen* with early versions (two volumes), *En Saga* (with early version, one volume), *Aallottaret* with early version and *Tapiola* (both in one volume), *Skogsrået* and *Vårsång* with early version (one volume) and *Cassazione* in two versions (one volume).



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The latest volume of orchestral works includes the two versions of the *Violin Concerto*. In 2015, the project will publish works for male choir a cappella and the orchestral suites *Scènes historiques* (“Historical scenes”) I and II.

Breitkopf & Härtel, the esteemed German publisher of the Jean Sibelius Works, has published several separate editions, including miniature scores and conductor’s scores as well as editions of individual piano works and orchestral parts. This means that the first and second symphonies, *En saga* and soon *Skogsrået*, are published as new, affordable soft-cover scores, and *Kullervo*, *Skogsrået* and *Luonnotar*, performed for decades from problematic, hand-copied material, will be available as meticulously edited and easy-to-use orchestral materials. New orchestral parts have also been produced of the abovementioned symphonies as well as *En saga* and *Skogsrået*. Especially interesting is the early version of the *Violin Concerto*. During the anniversary year, this version will be performed a few times and published separately. The orchestral parts of the version will also be made available.^[1]

The production of new scores and performance materials has immediately caused a significant upswing in performances and recordings. For example, before the publication of the critical edition and the associated orchestral material, *Luonnotar* (a tone poem for soprano and orchestra dedicated to the renowned Finnish singer Aino Ackté) was rarely heard in concerts and existed in only a handful of recordings on the market, despite being one of Sibelius’ most important central works.



The publication of the new score and orchestral materials has caused a veritable Luonnotar renaissance.

The publication of the new score and orchestral materials has caused a veritable *Luonnotar* renaissance. The piece work has become a part of the core repertoire for sopranos and orchestras around the world, and several new recordings have been published.

The special position of *Luonnotar* is also marked with a special publication, as the original orchestral and piano scores, hand-written by Sibelius himself, has been published as a facsimile edition to celebrate his 150th birthday. This will be the first full facsimile of a complete Sibelius piece of such scope.

The Jean Sibelius Works project will publish all Sibelius’ completed compositions with their full early versions. Selected unfinished works and fragments will also be published, usually as appendices or facsimiles. Only arrangements made by Sibelius himself will be published.

The editing process of the *Works*

The critical edition of Sibelius' oeuvre is based on thorough research of all musical and relevant text sources. The core of the publications are the critical editions of scores and critical commentaries which feature detailed descriptions of the sources used and their significance in the editorial process. The commentaries also explain the text variants in different sources and justify editorial decisions. The volumes include the score, critical commentary, and an introduction which discusses the creation and publication processes of the works as well as their contemporary reception. The introductions alone often contain a great deal of new and significant information about Sibelius' works and their history.

Two full- and two part-time editors are currently working on the Jean Sibelius Works at the National Library. In addition, two outside editors are working on the volumes.^[2] The editorial work requires a wide scope of expertise, including an understanding of composition techniques and musical theory, score reading skills, familiarity with different instruments and orchestration, studies of source research, history of music and notation practices as well as skills in several languages (original literary sources are typically in Finnish, Swedish or German, occasionally French or English, and the texts for the Jean Sibelius Works are printed in English and German) and – last but not least – practice as a musician.

Even though the publications of Jean Sibelius Works, like those of any similar musical editions, are the result of scholarly editing, they must also correspond to the practical requirements of performers. The editors have sought to consider and predict questions which may arise when musicians peruse the works. To this end, the editors of Jean Sibelius Works draw upon their own musical training and experience, but they also contact professional musicians when deciding on specific solutions. Working on an “scholarly” edition of a piece of music requires expertise in source-criticism as well as practical experience and understanding as a musician. Meanwhile, “practical” musicians are increasingly aware of the editions they use and interested in original sources – this is to say they have often adopted a scholarly, source- and text-critical attitude themselves. The line between “scholarly” and “practical” is ultimately hazy, and the critical editing has been called a bridge that connects musicology and performance.



Jean Sibelius Works offers a comprehensive view of the composer's work in the light of all the sources which our contemporary researchers could access.

The inaccuracies, ambiguities and outright mistakes in previous publications were an important reason for launching the project to publish Sibelius' oeuvre in its entirety as an edition based on thorough examination. Another reason

was that many of the works were difficult to find. Some works of Sibelius have never been published before, and some of the earlier editions are out of print. Jean Sibelius Works offers a comprehensive view of the composer's work in the light of all the sources which our contemporary researchers could access. The fruits of the Sibelius editors' labour have begun to show during recent years, as pieces that have rarely been heard are beginning to feature more in performances and recordings. The new publications have also sparked extensive and varied awareness of Sibelius and more research into his works. This can also be seen in the celebrations for the 150th anniversary of Sibelius' birth, in 2015.

[1] This separate publication was produced by the original German publisher of the Violin Concerto, Lienau, together with Breitkopf & Härtel.

[2] The full- and part-time editors include Anna Pulkkis, Tuija Wicklund, Sakari Ylivuori and Timo Virtanen (editor-in-chief). Editors with external contracts include Folke Gräsbeck and Pekka Helasvuo. More information about the project organisation and publications is available at <http://www.nationallibrary.fi/culture/sibelius>.



From crowdsourcing to nichesourcing with Uralic languages



During the Digitisation Project of Kindred Languages (2012–15) the National Library of Finland has digitised and made available approximately 1200 monographs and more than 100 newspaper titles in several Uralic languages. The resulting materials will constitute the largest resource for the Uralic languages in the world. As well as the digitised materials in the Uralic languages, the project will also produce their development tools to support linguistic research and citizen science. The project will allow researchers to gain access to corpora, which they have not been able to study before and to which all users will have open access regardless of their place of residence.

By Jussi-Pekka Hakkarainen, Project Manager, the National Library of Finland's research library



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Solutions-
based future
lies ahead

Libraries are pretty resilient. The basic concept has worked for a thousand years

or more. We have passed the test of time – why shouldn't we pass the test of digital revolution?

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Data enhancement to meet the researchers' needs

The Digitisation Project of Kindred Languages is linked with the research of language technology. The mission is to improve the usage and usability of digitised content. During the project we have advanced methods that will refine the raw data for further use, especially in the linguistic research.

The machined-encoded text (OCR) contains quite often too many mistakes to be used as such in research. The mistakes in OCR texts must be corrected. For enhancing the OCR texts, the National Library of Finland developed an open source code OCR editor that enabled the editing of machine-encoded text for the benefit of linguistic research.

This tool was necessary to implement, since these rare and peripheral prints often included perished characters, which are sadly neglected by the modern OCR software developers, but belong to the historical context of kindred languages and thus are an essential part of the linguistic heritage.

The material offers a lot, but how to find it?

The majority of the digitised literature was originally published in the 1920s and the 1930s, which was an era when the many Uralic languages were converted into a medium of popular education, enlightenment and dissemination of information pertinent to the developing political agenda of the Soviet state.

The “deluge” of popular literature in the 1920s- 1930s suddenly challenged the lexical orthographic norms of the limited ecclesiastical publications from the 1880s. Newspapers were now written in orthographies and in word forms that the locals would understand. Textbooks were written to address the separate needs of both adults and children. New concepts were introduced in the language.

This was the beginning of a renaissance and period of enlightenment. The linguistically oriented population can also find writings to their delight, especially lexical items specific to a given publication, and orthographically documented specifics of phonetics.

From Crowdsourcing to Nichesourcing

The written material from this period is a gold mine, but how to filter the material for the benefit of research? Could crowdsourcing play some role here? How does our library meet the objectives, which appear to be beyond its traditional playground?

The traditional methods of crowdsourcing cannot be implemented here, since the targets in crowdsourcing have often been split into several micro-tasks that do not require any special skills.

This way of crowdsourcing may produce quantitative results, but from the point

of view of research, there is a danger that the needs of linguistic research are not necessarily met. Also, the number of pages is too high to deal with. The remarkable downside is the lack of a shared goal or social affinity. There is no reward in traditional methods of crowdsourcing.

“ *Nichesourcing is a specific type of crowdsourcing where tasks are distributed amongst a small crowd of citizen scientists (communities).* ”

Nichesourcing is a specific type of crowdsourcing where tasks are distributed amongst a small crowd of citizen scientists (communities). Although communities provide smaller pools to draw resources, their specific richness in skill is suited for the complex tasks with high-quality product expectations found in nichesourcing.

Citizen scientists at work

Communities have purpose, identity and their regular interactions engender social trust and reputation. These communities can correspond to research more precisely. Instead of repetitive and rather trivial tasks, we are trying to utilise the knowledge and skills of citizen scientists to provide qualitative results.

Some selection must be made, since we are not aiming to correct all 200,000 pages which we have digitised, but to give such assignments to citizen scientists that would precisely fill the gaps in linguistic research. A typical task would be editing and collecting the words in such fields of vocabularies, where the researchers do require more information.

Research and society

For instance, there is a lack of Hill Mari words in anatomy. We have digitised the books in medicine and we could try to track the words related to human organs by assigning the citizen scientists to edit and collect words with the OCR editor.

From the perspective of nichesourcing, it is essential that altruism plays a central role, when language communities are involved. Our goal with nichesourcing is to reach a certain level of interplay where the language communities would benefit from the results.

For instance, the corrected words in Ingrian will be added to the online dictionary, which is made freely available to the public and the society to benefit from as well. This objective of interplay can be understood as an aspiration to support the endangered languages and the maintenance of lingual diversity, but also as a servant of ‘two masters’, research and society.

The materials are available to both researchers and the general public in the National Library’s [Fenno-Ugrica](#) collection. The project is financially supported by the Kone Foundation.



“A wonderful gift to the nation”



As the immense renovation of the historic National Library of Finland building edges towards completion, the project’s conservation specialists reveal its challenges, surprises and significance – and explain why on a clear summer’s morning, there’s no better place to be than inside the Library’s dome.

The renovation of the National Library’s main building designed by Carl Ludwig Engel began in the summer of 2013.

The renovation has focused on the updating of the building’s technical systems, as well as improvements in accessibility and the functionality of the Library’s facilities. The repair work is characterised by the large number of conservators, as well as the use of models to find design solutions in cooperation with the National Board of Antiquities and other experts.

The renovation will be completed in the late autumn of 2015 and the Library will be open to the public in early 2016.

Edited & translated by Suvi Kingsley, Editor, The National Library of Finland Bulletin

Photos (see images): Kati Winterhalter

In conversation:

Dorrit Gustafsson (DG), Director of Administration, the National Library of Finland

Pekka Lehtinen (PL), Supervisor of Architectural Conservation of the renovation project, Senior Architect, National Board of Antiquities

Pentti Pietarila (PP), Conservation planner

Kati Winterhalter (KW), Conservation coordinator, Architect (Okulus Architectural Practice)



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Conservation, restoration or renovation?

DG Could you first of all explain what architectural conservation is?

PL The aim of architectural conservation is to preserve the existing structure with minimal intervention. We have to think about how to manage the many conditions and changes so that the history of the original building isn't damaged or covered up.

This doesn't necessarily involve physically doing anything, but monitoring the situation to make sure that nothing untoward happens.

KW At the start of the project we discussed whether we could describe it as the "conservation" of the Library, and then decided that the term is perhaps too loaded, so we agreed on calling it the renovation of the National Library – not even restoration. In fact using the word "conservation" in Finnish for a project such as this would be unusual and problematic.

PL The goals of this project weren't so tightly centred around the physical conservation of the building anyway. The physical structure, which comprises many historic stages and all sorts of traces of that history, is just one part of a living whole that is shaped by the actual working library and its collection spaces. That's what we're working with here.

“ *How do you find a balance between conservation and renovation? Dorrit Gustafsson*

DG How do you find a balance between conservation and renovation?

PL That's a big challenge in a project like this. The early stages of mapping out the impacts and changes caused by the works, and defining what the situation will be at the end, that's a big job and not just one for a single conservator. For instance, digging underneath the building, into the bedrock, is going to create a change in the conditions. But we have a vast array of specialists working on the site with whom we have an on-going dialogue.

Meticulous cleaning with a goat-hair brush

DG Pentti, as a conservation planner, how do you see the overall picture here?

PP There were a few surprises, because you can't plan out everything beforehand. For instance the fact that the foundations don't extend into the supporting rock throughout the whole site, or the structural problems we had with the dome section, which had an impact on the surface conservation.

But at its most delicate conservation means cleaning. The vast majority of surfaces have been cleaned with a goat-hair brush.

This has of course reinvigorated the building and brought out the colours in a different way. Removing small patches of dirt from, for instance, the stucco pillars has an amazing effect on your senses, as does meticulously cleaning the varnish of the bookshelves so that they look cared for. That's the aim of conservation.

KW An overall vision for this building is easy to envisage, but structurally it's quite exceptional.

PL And just about every room contains a great many conservational challenges. There are stone structures, wooden surfaces, ornamental plasterwork and frescoes.

PP But of course, when all the technology in the building has to be updated as well, the planning stage of the project can become something of a battlefield. The National Board of Antiquities, conservation planners and coordinators all have a say in how – and how much – that technology is going to be incorporated.

Ultimately though, the technology's aim should be to optimise conditions for the books and for the people working in the building.

Preserving layers of history

DG Pekka, you've said that it's all about interpreting the need for preservation – what will be preserved and how.

PL The idea is that the renovations shouldn't be based on any one image nor on returning the building to any given state. Instead, everything you do should be a response to a real situation – at least based on the available information.

Looking more closely at the building, you uncover signs of previous layouts, the structure's history, as well as traces of the way it was used, and of the patina of the surfaces. The study of all of this history is an integral part of the conservation planning.

DG From the outset the National Board of Antiquities wanted to preserve the building's multiple layers. What has that meant in practice?

PL Maximising the light and the building's nuances, as Pentti said, has made the space even more impressive. But an important side of this authenticity is that the building's history must be seen and felt in the spaces too. Surfaces and structures that date back to the 1840s have been brought to the fore, but so have features from other periods.

This is the layering that the National Board of Antiquities has spoken about

since the off. So rather than looking to peel back the changes from the 1870s and the 1950s and return to Engels' original design, we saw them as integral to the building's value.

But what is “authenticity”?

DG How has the notion of preservation developed in Finland?

PL The field of architectural conservation in Finland has developed a great deal since the early restoration projects during the end of the 1800s. To make a broad generalisation, its development has led consistently towards the current championing of authenticity. And absolutely imperative to this is an understanding of the building which is being restored.

DG How does it compare to other European countries?

PL There are clear differences in architectural conservation culture between European countries. But in Finland we may be surprisingly close to what I've seen in Italy, for example. But in Finland there is also a school of thought which places great value on the original architecture and on expounding a particular idea from a certain period.

KW Authenticity is a divisive question – are we talking about the authenticity of surfaces, and treasuring that, or do we mean authenticity of the architecture and of the experience of the building?

PL Yes, this is still an authentic library, one which has been in operation here since the 1840s, and it embodies this very continuum. We have tried to keep this idea very much at the forefront of what we do.

DG For me this comes back to the idea of layering again. This building is a working library, and the better we can see this, the clearer the building communicates the many layers of its existence as one.



The most authentic thing in all of this is the day-to-day operation of a working library. Pentti Pietarila

KW What is clear is that if the National Library didn't continue in this building, it would become just a shell.

PP The most authentic thing in all of this is the day-to-day operation of a working library.

PL This has always been a prized building, and even the renovations done in the 1870s clearly had a restorative approach, with the aim of preserving Engels' architecture. In that way the goals have always been the same but the techniques have developed and of course become more complex over time.

PP For instance, this is maybe the first building in Finland where photographic techniques have been so integral to reaching conservation decisions, and have also been used to document the work for the future.

PL It's true that the level to which that's been done here is special.

A model building

DG Let's talk about the model making that's been integral to this project. What have we learnt here that could inform future large-scale works?

PL The use of models has been exceptionally high here, because there are simply so many different types of specialist work going on side by side in every single space. If you think of the preservation work, it's the only way to proceed.

In the planning stages, a proposed change sketched on paper can seem like it could work. But it's only by building a model and opening up a structure and seeing what's really in there that you can carefully investigate how it will be affected, and find a sensible approach.

DG There are many different specialists, different parties involved, it's an impressive construction site. How has the cooperation process been, from the point of view of conservation?

KW We've approached the work one step at a time. Because of the model building and the weekly site tours, we've always been able to solve any issues before they've developed into something bigger.

PL There has been a separate conservation planner and coordinator, and a large number of conservators. The project has certainly brought many different sides together and generated a lot of dialogue. It's been managed really well.

Once-in-a-lifetime experience

DG There are quite a few subcontractors on site. Do they all share the same understanding of the conservation principles?

KW The conservators working on the project are relatively young, educated to the same standard and very committed to their work. For instance, it was due to their innovation and persistence that a solution to clean the stucco pillars was found. The conservators did 27 tests with different mixtures until they managed to achieve the beautiful, authentic shine on the pillars with a solution based on Marseille soap and a little bit of turpentine. I'm very proud of them.

“ *I've heard that this has been a real generational experience for the conservation professionals. Pekka Lehtinen*

PL I've heard that this has been a real generational experience for the conservation professionals. A bit like the façade of the Helsinki Cathedral some years ago, which also involved most of the professionals in the field.

PP It's a once-in-a-lifetime experience and you can see they really understand and appreciate that.

KW In conservation, some things you just cannot learn from a textbook, such as how materials age, you have to see it for yourself. The timescales one works with are huge and you have to understand that the work to maintain a building goes on forever, it never ends. That's why it's been great to have Pentti working with us, you have decades' worth of experience in the field.

PL That's right, we aren't working to make the building beautiful and perfect for the day that it reopens to the public. We are trying to achieve a well-functioning, beautifully aging, easily maintainable and repairable building, which will hopefully be standing here without a need for further structural works for quite some time.

DG Yes and the holders of the library's purse strings expect that too!

Celebrating change

DG One of the most visibly changed areas will be the entrance hall. There were many possibilities for the way it should look, how did you make the final decision?

KW We wanted to uncover the decorative paintings as much as possible, so that the visitor would be able to understand how, originally, they were meant to affect the mood of the space.

Then we realised that working on such a large area would be much too slow and expensive and that uncovering the paintwork underneath would result in removing all the newer layers. As for the colour scheme, I guess the aim was to make it as balanced and credible as possible.

PP Yes, our first thought was to dig out the paintings in their entirety. But we were faced with the realities of keeping the costs down.

PL The National Board of Antiquities made it clear from the start that from a preservation point of view the old colour scheme would have been fine. We researched different possibilities and considered the arguments for and against the uncovering the painting.

KW The final decision actually has nothing to do with conservation, but is a sort of celebration of the very human need for change. The way we use colour nowadays is incredibly restricted and when one finds a colour scheme so

interesting, challenging and surprising, then it's just pure joy.

PL I want to point out as well that the current painting isn't the original. It was different in the 1840s, the arches and the colours are from the turn of the 1870s and 1880s.

DG It's one interpretation of history.

A gift to the nation

DG What are your thoughts on the legacy of this project?

PP We can safely say that the National Library and the University of Helsinki are about to give a wonderful gift to the nation to celebrate the 100 years of Finland's independence. This is the greatest building in this part of the world and it'll be ready just in time for the anniversary of Finnish independence.

DG And at the same time we can celebrate the national online library, which will be featuring Finnish history and independence.

“ *There's nowhere else that is as beautiful as this.* Kati Winterhalter

PL I hope that this renovation will inspire people to find out more about our history. It has been a wonderful process and fantastic to see that we have the know-how to accomplish something so demanding and highly-skilled.

KW I've been deeply moved by the light within this building. Now that the surfaces have been cleaned and we've removed the scaffolding, the light that floods in through the windows especially in the reading rooms is just so... there's nowhere else that is as beautiful as this. It's just wonderful to come and experience the building in natural light. The dome especially is divine on clear summer mornings.



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Images 1-5. Reconstruction work in the entrance hall. Image 1, taken in 2013, shows the colour scheme that dates back to the renovation done in the 1980s. This time round it was decided that the surfaces would be returned to the colour scheme of the 1880s.

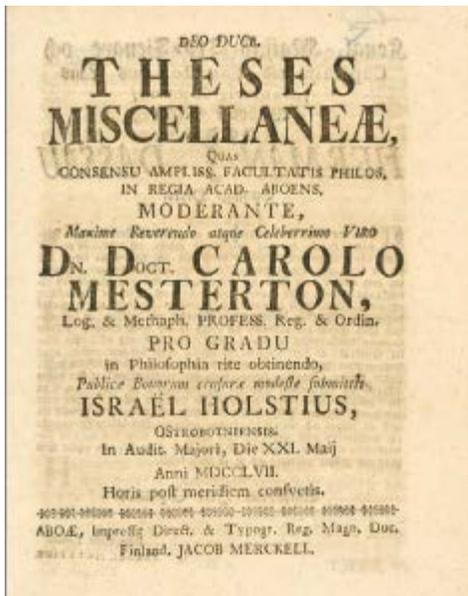
Images 6-9 (taken in 2013). The Library's three halls are studies of light and tone. Three nearly identical halls look very different in natural light. The South Hall is filled with warm light whereas the North Hall has colder tones. The Cupola Hall is lit through the "lunette" windows located within the dome creating a dramatic effect.

Images 10-13. The arches in all three halls had substantial structural cracks, which date back to an even earlier era than the great renovation project of 1879-1881. Images show the work done to the cracks.

Images 14-17. The conservation work was divided up to many different contractors, the most important ones were kuustie&sorri, Osuukunta Kollaasi, Osuuskunta Rotunda, conservators Tony Lidman and Kimmo Oksanen and Koristemaalaamo Ocra.



Old dissertations and new technologies: a good match?



What were the technical and other hurdles in the digitisation project of the old Royal Academy of Turku dissertations? And how were they solved?

By Juha Hakala, Senior adviser, the National Library of Finland

Digitising for perpetuity and maximum accessibility

Royal Academy of Turku was the first university in Finland. It was established in Turku in 1640. In 1809 Finland became part of Russian empire and the university became The Imperial Alexander University of Finland. After the Great Fire of Turku in 1827 the university was relocated in Helsinki, where it was renamed once more after Finland became independent; since 1919 the name of the institution has been University of Helsinki.



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Any project digitising old and valuable collections should design the process in such a way that it will never be necessary to digitise the documents again. But the digitised collection should also be widely available – unless there are legal or other constraints preventing open access. Therefore the digitised documents must be submitted both to a digital asset management system available to the public, and to secure digital archive. And users should be able to find all these materials and tell them apart, which means that some cataloguing enhancements must be made.

With private funding the National Library of Finland has digitised all the 4609 Royal Academy dissertations in its collections. Both the documents themselves and all related metadata will be made available under CC0 license when the project is completed in autumn 2015. Therefore digitisation will help the library to preserve the original documents, and at the same time improve access to the information. This article presents the technical and other hurdles this project – called TAV for short – faced, and solutions that were found.

The collection

Royal Academy of Turku dissertations form an important part of the historical national collection. The National Library's collection is the most complete one in Finland, and with few exceptions the titles missing have vanished completely (they may have existed only as manuscripts). However, in order to create as complete a collection as possible, the library has in the past microfilmed publications missing from the collection. TAV continued this tradition by digitising books from other libraries' collections when these items held content – dedications etc. – missing from the item(s) held by the National Library. This process would not have been possible without prior knowledge of Royal Academy of Turku collections in other libraries.

“ The most significant programmatic change was the addition of rights metadata.

Since the National Library's collection often contains two or even more items of dissertations, digitisation process began by analysis of the collection in order to select the item(s) to be digitised. If all items were more or less identical, the best preserved one was digitised. But if there were differences in the intellectual content, all dissimilar items were selected.

Each printed and digitised item was treated as an independent manifestation of the work and catalogued separately. Bibliographic records were enriched so that if several items were processed, the differences between them became apparent. But other improvements were required as well. Some of these were made manually, some programmatically. Changes of the former kind

concentrated on authority control. For instance, the roles of authors and other agents are now included:

700 1# \$a Dahlsteen, Andreas, \$d n. 1715-1771, \$e piirtäjä.

700 1# \$a Mennander, Carl Fredrik, \$d 1712-1786, \$e preeses.

700 1# \$a Seeliger, Johan Henrik, \$d 1704-1763, \$e kaivertaja.

710 0# \$a Kämpe, Johan (kirjapaino, Turku, 1729-1753)

Cataloguing language is Finnish, so for a foreign user it may be difficult to see that in this example Johan Seeliger is the engraver, and the book was printed in Johan Kämpe's printing house. 700 and 710 subfield \$e is repeatable, but at least for now we use just Finnish. If and when the policy changes, it is easy to add these terms in e.g. Swedish and English programmatically.

The most significant programmatic change was the addition of rights metadata. Traditionally national bibliographic records have provided the Web addresses of catalogued resources, but no information about license has been provided. This is a problem, since a user can retrieve an electronic resource without having any idea of how the document can be used. The project added rights metadata like this to the records in order eliminate the problem:

506 0# \$a Aineisto on vapaasti saatavissa; \$f Unrestricted online access \$2 star

540 ## \$c Public domain \$u

<https://creativecommons.org/publicdomain/zero/1.0/deed.fi>

Any resource free of copyright and digitised by the library could in principle get similar 506 and 540 tags. No details are included in the metadata record; only a link to the Finnish summary of the Creative commons Public Domain dedication is provided. The cataloguing experts group in Finland has recently decided that this approach should be used with all well-known licenses such as CC0 1.0 or CC BY 4.0.

In this instance MARC 21 provides poor multilingual support. In 506 only two languages can be used, and another one must be English. Moreover, the term list provided by STAR vocabulary is rather short. 540 \$a-\$d are non-repeatable, so if no generic term such as "public domain" can be used, there is a problem. 540 \$u can be repeated, so it is possible to provide links to the CC Public Domain dedications in multiple languages. So far, only a link to the Finnish version is given, but from that page users can find links to the text in other languages.

MARC 21 conversion programmes were designed in close co-operation between the collection specialist / cataloguer hired by the project and a programmer in the library's network services department.

Digitisation

The National Library did not need to purchase any additional software or hardware to digitise the dissertations in house or to make them available to the public. The Library's Centre for Preservation and Digitisation has used docWORKS and Finereader for several years, and the TAV project did not have any requirements these applications would not have been able to meet, with one exception: FineReader module for Latin grammar was purchased in order to improve the OCR results.

The first step of the digitisation process was harvesting of the enriched MARC 21 records to the docWORKS application which manages the digitisation process. Such management means that all metadata needed for e.g. long term preservation of digitised resources must be created. Administrative metadata plays a vital role in this, and a large amount of it is created. For instance, all scanner settings are stored as technical metadata to images, and if images are modified by e.g. cropping them, all changes are stored as preservation metadata. As regards descriptive metadata, new bibliographic records, based on those of printed dissertations, were programmatically created to the digital surrogates. These MARC 21 records and those describing printed manifestations of dissertations are interlinked in library's bibliographic databases.

“***The benefits of digitising resources in-house are considerable.***”

The benefits of digitising resources in-house are considerable. From the point of view of the project manager the main thing is that the project had full control of literally every aspect of the digitisation process. This is vitally important, not least because digital preservation is a process which begins when the documents are created. If there are mistakes made early on, it may be impossible to fix the problems later. For instance, if check sums are not calculated immediately after the files have been created, it is not possible to check if the files have been changed inadvertently (or maliciously). Or, if the technical details about the scanning process are not preserved in technical metadata, it may be difficult or even impossible to reproduce the images correctly later.

In most respects the digitisation process was typical for old printed materials. The exception was the cases when two or more items of a dissertation were digitised. Initially digital hybrids were created, combining content from two or more printed original documents. But we decided to abandon this approach to maintain 1:1 relationship between printed originals and digital surrogates. This approach is also eminently suitable for future FRBRization and most likely also easier to understand for the users.

The end product of the digitisation process is a METS container containing rich descriptive and administrative metadata about the resource, and the digital resource itself in various formats: uncompressed TIFF and compressed JPEG page images for archival and public use, and METS/ALTO encoded full text with “lightweight” page encoding. These containers are used for exchange of metadata and documents between the National Library’s productions systems.

Access

The National Library has DSpace-based digital asset management system, [Doria](#), which has been in production for eight years. Approximately half of the dissertations have been available in Doria as the [Dissertations of the Royal Academy of Turku -collection](#) since 2011.

The test load of the dissertations digitised in the second part of the project in 2014 was done in May – June 2015. Production load will be done when problems revealed by the test have been fixed.

Doria load processes begin by migration of metadata from MARCXML used in docWORKS to Dublin Core supported by DSpace. In order to capture all relevant metadata, the project developed its own DC application profile. This can be done because DSpace allows tuning of indexing and user interface at the collection level.

“***The biggest change is that the library intends to make the entire collection available as open data.***”

The National Library has cooperated with researchers in all stages of the project in order to guarantee that the search capabilities and user interface design meet the requirements. The GUI designed in the first phase of the project has served the users well, but has deteriorated slightly as a result of DSpace version updates. However, we do not anticipate that major enhancements are needed. The biggest change is that the library intends to make the entire collection available as open data. Since both metadata and the documents will be available for free, anyone interested may harvest the material from Doria using OAI-PMH, and make it available via a database, or publish the dissertations as printed books.

Doria is not the only place via which the dissertations will be available. Bibliographic records (but not the dissertations themselves) will be loaded into the national union catalogue [Melinda](#) from which they will be harvested to [Fennica](#), the national bibliography. This requires for instance the – in principle – simple migration from MARCXML to MARC 21.

Both the bibliographic data and the documents themselves will also be sent to

Europeana. And if other libraries want to add the Royal Academy's dissertations to their collections, such projects should be technically easy if the potential partners are familiar with e.g. METS and MARCXML.

Preservation

Libraries have a lot of experience of making documents available on the Web. Digital asset management systems have been in production for about 15 years, and libraries know how to use them. But applications like Dspace are not suitable for digital preservation, and even if they were, systems freely available in the Web are not safe enough for digital archiving.

The National Library is one of the founding partners of [the National Digital Library \(NDL\)](#) initiative, alongside the Finnish National Archive and the Finnish Board of Antiquities. The project, funded by Finland's Ministry of Education and Culture, has created the shared basis for preservation of digital cultural heritage in Finland. The project has created several guidelines for digital preservation, including specification for Submission Information Packages (SIPs, as specified in the [OAIS model](#) and recommendation on file formats suitable for long term preservation.

“Any Finnish project digitising cultural heritage resources can achieve long term preservation of its digitised documents by following the NDL requirements, and avoid re-inventing the proverbial wheel.”

Because of this, any Finnish project digitizing cultural heritage resources can achieve long term preservation of its digitized documents by following the NDL requirements, and avoid re-inventing the proverbial wheel. For some organisations the changes required were substantial and even the National Library had to adjust its digitisation processes.

Like most projects dealing with digital preservation, NDL has decided to use Open Archival Information System (OAIS) model as the starting point. Preferred SIP container standard is METS, and PREMIS is used for preservation metadata. Technical metadata selections were MIX for images, textMD for texts, VideoMD for moving images and AudioMD for sound.

Meeting the NDL specifications may be difficult unless the organisation has acquired suitable tools and developed appropriate production processes. An advanced digitisation programme such as docWORKS is a must, but not sufficient unless it is accompanied by suitable work routines.

For instance, a version of the document suitable for end users is usually not suitable for preservation. Lossy JPG image will meet the requirements of most

users, while digital preservation mandates lossless image, in (for instance) TIFF or JPEG2000 format. So when a resource is digitised, both TIFF and JPEG images must be produced. And every file sent to the digital archive must be accompanied by rich technical metadata so that the image can be rendered and migrated correctly.

The dissertations digitised by TAV project are encapsulated in METS containers as required by NDL. Within these containers there is all administrative metadata mandated by NDL, and much more. Meeting the NDL requirements makes it possible to preserve the documents for the long term in the shared NDL digital archive, once it has been established (which is expected to happen in 2017). As an intermediate measure, the documents will be archived in [IDA service](#) maintained by the Finnish IT Center for Science (CSC), which will also be responsible of the fully functional archive.

“Thanks to the NDL project, TAV initiative did not need to develop an internal solution to the hardest problem of any digitisation project – preservation.”

Although IDA is not a complete digital preservation system, incoming SIPs are fully validated in order to make sure that they meet the NDL requirements. This guarantees not only the safe storage of bits, but smooth transfer to the digital archive in the future. Thanks to the NDL project, TAV initiative did not need to develop an internal solution to the hardest problem of any digitisation project – preservation.

Conclusion

Although TAV project dealt with old dissertations, many of the solutions developed can be applied in other digitisation processes as well. Anything worth digitisation is valuable now and most likely also in the (distant) future. Since it is never practical to digitise the same document twice, digitised resources must be preserved for long term. And this is only possible if preservation is taken into account from the beginning. This has a significant impact on work processes, and if there are no supporting preservation initiatives such as NDL, the additional cost of guaranteeing long term preservation may be prohibitive. But if there is an opportunity for such cooperation, it should be utilised. Digital preservation may be expensive, but losing our digital cultural heritage is even more costly.



Rarities of experimental literature



Olga Rozanova and Aleksei Kruchenykh's work Voina (War, 1914)

The Slavonic Library of the National Library of Finland houses material on Futurism that contains rarities from the early 20th century. This material has now been conserved and digitised for customer use with support from the Autogenetic Russian Avantgarde research project. The material contains works by internationally famous Futurists, such as Vladimir Mayakovsky, Elena Guro and David Burluk. In addition, the collection features previously unknown works, such as an anthology by a Neo-Futurist group from 1913 and Poëma poëm (“The poem of poems”, 1920), an erotic urban poem by Aleksandr “Sandro” Kusikov.

By Tomi Huttunen, Professor of Russian literature and culture at the University of Helsinki.



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Counter reaction to modernism

Kusikov's booklet was illustrated by artist Boris Èrdman. One of the special features of the Futurism collection is that it contains not only literary but also artistic rarities, such as works by Wassily Kandinsky and Pavel Filonov. Many of the Futurists were educated as artists, and the later avant-garde groups also comprised artists and poets.

In addition to text and illustration, the experimental nature of avant-garde art was evident in the printing techniques. As the books were self-made from start to finish, they had a handmade look to them. This is why the originals of Russian avant-garde literature are considered rare and valuable collectors' items today.

Produced with lithographic printing techniques, the first Futuristic books – Aleksei Kruchenykh's *Starinnaja ljubov* ("Antique love"), *Mirskonca* ("Of the end of the world") and *Igra v adu* ("The hell game") – were published at the end of 1912. They represented so crude a counter reaction to fin-de-siècle modernist aestheticism that contemporary artists often denounced the Primitivistic illustrations of Mikhail Larionov and Natalia Goncharova as the daubs of a lunatic.

Better at distilling the Russian national character than Pushkin

Aleksei Kruchenykh and Velimir Khlebnikov's collection of poems *Tè li lè* (1914) was illustrated by artists Olga Rozanova and Nikolai Kulbin in a way that makes every published volume unique; one of them is housed in the National Library's Futurism collection.

Kruchenykh was the one who wrote most of the works in the collection. This was no coincidence, for he was a skilful organiser among the Futurists; in fact, it was he who came up with the idea of a group of experimental prints. A drawing teacher from Odessa, Kruchenykh was also educated in the fine arts. He is best known for a small poem that makes no sense at all:

Дыр бул щыл

убѣшщур

скуп

вы со бу

р л эз

Composed of words of an unknown language, the poem *Dyr bul štšyl* is featured in Kruchenykh and Khlebnikov's collection, though it was first published in 1913 in a booklet produced with lithographic printing techniques and illustrated by Olga Rozanova. In his numerous comments on the poem, Kruchenykh emphasised that it is both transrational, composed of an unintelligible language, yet unquestionably Russian.

“***There is nothing like it in European avant-garde, even though it has often been compared to Dada.***”

According to him, the small poem says more about the Russian national character than all the poetry of Pushkin. Its transrational language, or *zaum*, was one of the specialities and peculiarities of Russian avant-garde literature. There is nothing like it in European avant-garde, even though it has often been compared to Dada. The Dadaists, however, had their Russian counterparts in a group that called themselves the Nichevoks.

Denying everything that went before

To deny the previous culture was very important in Russian Futurism. This was the idea behind the manifesto *A Slap in the Face of Public Taste* (1912), which appears in an eponymous book in the National Library's collection. In the *Slap*, the Futurists declare that

We alone are the true face of our Time. Through us the horn of time blows in the art of the word.

The past is too tight. The Academy and Pushkin are less intelligible than hieroglyphics.

Throw Pushkin, Dostoyevsky, Tolstoy etc., etc. overboard

from the Steamer of Modernity.

Slap in the face of other -isms

The movement gave resounding slaps in the faces of 19th-century Realists, fin-de-siècle Symbolists and other Futurists. It comprised a discordant group of poets competing against each other in experimentation, oddity, madness and courage. As a result, Russian Futurism split into several subgroups. The avant-garde poet had to be unique as well as the first and the best of his or her time. Ego-Futurist Igor Severyanin was a typical example of such thinking. He loudly

proclaims his own magnificence by declaring that

I, the genius Igor Severyanin

am in rapture over my own triumph:

I am screened in every city!

I am affirmed in every heart!

A struggle for a place in the sun

There was also a group called the Centrifuge, which included future greats such as Boris Pasternak. The less well-known Konstantin Bolshakov was also a Centrifuge, and his collection of poems *Solntse na izljote* ("The Sun at the end of its flight", 1916) has found its way into the National Library's collection. A Muscovite group called the Mezzanine of Poetry, in its turn, brought together disconnected Ego-Futurists and future Imaginists. Their main objective was to resist the dominion of Mayakovsky and co., who had already become popular. For this reason, they responded to the *Slap* by writing *A Slap in the Face of Cubo-Futurists* in 1914:

They intend to throw "overboard from the Steamer of Modernity" those who had heretofore steered it, even though they do not yet know the way to the stars or have not understood the structure and aims of the simplest of navigational instruments, the compass.

From this point on, the history of Russian avant-garde literature was characterised by a chain reaction of novel and increasingly smaller literary groups, movements and "-isms" as well as by a struggle for a place in the sun. The Imaginists, who had attacked the Futurists, became the most visible writers of the chaotic years following the revolution. Life was good for them, as they consorted with the ruling Bolsheviks.

The golden age of literary groups

In the early 1920s, more mutually competing experimental literature groups emerged, many of which were very small "-isms" consisting of two or three writers who nevertheless industriously published their own manifestos and anthologies. The New Economic Policy (NEP) of the 1920s made it possible for literary groups to engage in small-scale entrepreneurship; by March 1922, Moscow alone boasted 143 publishing houses. Since then, Russia has never enjoyed so many literary groups.

The text samples are from *Venäläisen avantgarden manifestit* (Helsinki: Poesia, 2014).



People, Tech, and Connecting across Cultural Divides



Digital libraries, archives, and museums create the opportunity for hosts of cultural content to reach people across cultural divides in numbers and locations unknown and unforeseen. For digital libraries such as Finna, the challenge is to create a positive user experience for audiences in diverse and undefined cultural contexts. Advances in machine learning technologies could be the solution to scaling human-centric user experiences to large, diverse audiences.

By Molly Schwartz, visiting Fulbright Scholar at Aalto University's Media Lab and the National Library of Finland, and Heli Kautonen, Head of Services at the National Library of Finland, leader of Finna's usability work.

Cultural heritage breaks barriers

Cultural heritage has a way of transcending cultural differences to unite us as individuals who share a common humanity. There is a reason why people enjoy visiting museums, galleries, and other cultural heritage exhibits when they visit a new country or region: by confronting the artifacts, paintings, and books that showcase our collective cultural differences, we can appreciate the common threads of humanity that weave through the linguistic, historical, political, anthropological, and sociological divides. Broadening our cultural horizons deepens our knowledge about others and ourselves.



There is real potential in using large aggregations of



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■ ■ *cultural heritage content on digital platforms to break down the traditional national and linguistic barriers and make cultural knowledge available to all in a usable and accessible format.*

Which is why the concept of radically broadening access to culture is so exciting. New technologies let libraries, archives, and museums share their cultural treasure boxes with the world over digital platforms, and reversely individual users can freely find and interact with information when it is available on the internet. There is real potential in using large aggregations of cultural heritage content on digital platforms to break down the traditional national and linguistic barriers and make cultural knowledge available to all in a usable and accessible format. [Finna](#), a web portal that aims to make all Finnish library, archives, and museum materials accessible in a restrictions-free format, is one player in this larger phenomenon.



Fig. 1. A Knut Hilden candy wrapper from 1890 that can be found in the Helsinki City Museum archives (available in Finna, www.finna.fi)

Wider audiences for Finnish culture through Finland's digital library

As a public service developed and maintained by the National Library of Finland, Finna is, primarily and in principle, designed for every Finnish citizen. But as a resource that is freely available over the internet, it provides Finnish cultural heritage institutions with the opportunity to reach a global audience. From the users' perspective, only via digital services can they access materials that would be otherwise out of their reach, e.g. on the other side of the globe. There are audiences, such as students or researchers of history and culture, that could benefit from accessing materials in another country that they currently know nothing about.

The possibility of transcending national and geographic borders to reach audiences across the globe is an opportunity for Finland. Physically remote, small in population size, and advanced in technical and civic infrastructure,

Finland has the potential to build an innovative service that is also robust and sustainable. Through strong national collaboration across libraries, archives and museums, Finna can, in few years, claim to incorporate a comprehensive collection of Finnish cultural heritage.

Going Global: Evaluating the use of Finna abroad

Over the course of the past eight months the National Library of Finland has been a partner in a study to evaluate how effectively the national view of Finna currently serves audiences outside of Finland who have compelling reasons to use the service. In collaboration with a visiting Fulbright scholar from the United States and Aalto University, the design team at Finland have been investigating the following questions: How do audiences outside of the mainstream target audience in Finland use and experience Finna? What barriers, if any, prevent diverse audiences from accessing and using the service?

The study included a round of surveys and interviews with students and professors of Finnish studies at universities in the United States. The results indicated that portals such Finna make it easier to find open content from a particular region and reduce legal and technical complexities, such as geo-blocking, that students have experienced.

“ *The results of the study showed that there would be interest in using Finna abroad.* ”

While conducting remote evaluations of how users experience the national view of the Finna interface (www.finna.fi), it was fascinating to observe that U.S. students struggled with the language barrier. Despite the option to view the site in English by clicking links located in the upper right corner of the homepage, users were not familiar with such a convention – they are used to entering sites in single language and had difficulties converting the site to the English-language version. Students and professors also had limited experience with digital portals that provide access to different types cultural heritage institutions in an aggregated format, so there was some confusion upon entering the website about what it was and what could be found there.



Fig. 2. The National View of Finna on a laptop browser

The Finna team has not started actively marketing the service to the general public because it is still growing rapidly and developing the technical infrastructure, but the results of the study showed that there would be interest in using Finna abroad. Professors of Finnish at the university level in the United States were particularly enthusiastic about having a single, trustworthy source for finding Finnish materials and they reacted positively to the design of Finna's website. After Finna starts reaching a broader audience in the general public through increased marketing campaigns all Finna partner organizations can incorporate knowledge about how users outside the Finnish cultural context experience the service to increase the ways they benefit from it.

Smarter services in a human context

While linguistic barriers continue to restrict access to foreign cultures in physical and digital environments, there are researchers in the field of machine learning and text mining who are making great strides in the field. [A past article in the National Library of Finland Bulletin](#) explains that Timo Honkela, a distinguished machine learning scholar who has experience working in research institutions and private companies, believes that rapid progressing text mining technologies will be capable of not only bridging language divides, but also bridging more subtle emotional and cultural differences in the transmission of information. That means that technology would not only enable searches across languages on platforms such as Finna, but it could also provide options to summarize text in ways that are more understandable to different audiences.

Institutions that facilitate the discovery of knowledge, such as libraries, archives, and museums, have traditionally been structured organizations with professional operators in the public service sector. With the advent of digital technologies information-seeking behaviors have become freewheeling, decentralized, unstructured, more accessible, and less restricted. With the creation of portals like Finna that incorporate aspects of both old and new formats of knowledge discovery, it is possible to push the boundaries and experiment with ways that cultural heritage can transcend some of the boundaries of past public service models. Can we bridge cultural divides in ways that were previously unforeseen? Can we give individuals more individual agency to shape their lives through easy access to information? These are major societal questions in which libraries, archives and museums can, should, and are playing an active role.



FinELib Consortium's strategy to be revised to meet future needs



By Paula Mikkonen, the National Library's licensing unit

FinELib centrally negotiates license agreements for electronic material on behalf of Finnish universities, universities of applied sciences, research institutes and public libraries. The Consortium, which focuses on the acquisition of electronic material, including scholarly e-journals, e-books and databases, operates in a rapidly changing environment. The direction and emphasis of the Consortium's operations must therefore be reviewed on a regular basis.

The FinELib Consortium has had a strategic plan guiding its operations since 2004. The current strategy period will conclude at the end of 2015, and the following period will run until 2020.

The strategy revision process is supervised by the FinELib steering group, which comprises representatives from Finland's Ministry of Education and Culture, as well as the Consortium's member sectors and major cooperation partners. The steering group is also working on the new strategy. FinELib's member organisations are encouraged to express their ideas and opinions regarding the strategy throughout the revision process.

The National Library is in charge of the operations and development of FinELib according to the guidelines of the FinELib steering group. FinELib's strategy revision coincides with that of the National Library, which enables both organisations to draw synergies from their work. FinELib's revised strategy is scheduled to be ready in autumn 2015.



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Development and strategy of Finna



Finna, the shared public interface for Finnish archives, libraries and museums, has been in use since autumn 2013. New materials are constantly being added on Finna as new organisations join in. Participating organisations are also developing their own Finna interfaces to integrate into their services. The Vaski libraries in south-western Finland were the first public library organisation to adopt Finna and to show the way for wider adoption.

By Timo Laine, Information Systems Specialist, Library Network Services, the National Library of Finland

Finna is being developed at the National Library as an open source project. At the moment, development is focused on transferring to version 2 of the VuFind software which is the basis of Finna. The National Library has made improvements for Finna to VuFind version 1, and the modular structure of version 2 will make it significantly easier to make changes and maintain the system locally. After the transfer, the Finna source code will be more tightly connected to the main branch of VuFind. This means that cooperation with the international developer community will be more flexible.

Since the beginning of this year, the future of Finna has been planned in conjunction with the strategy preparations that aim to create development guidelines for the next strategic period, 2016-2020. The new strategy will be completed by the end of 2015.

One of the fundamental points of the strategy is that Finna will be developed to meet the needs of our changing society. Another core goal is to create services



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in a cost-effective manner. The more organisations that adopt Finna, the bigger the benefits.

“ ***One of the fundamental points of the strategy is that Finna will be developed to meet the needs of our changing society*** ”

To enable widespread adoption, Finna must be useful to organisations.

Replying to current demands is not enough: Finna must also be ready for the future. Finna will have an important role to play, for example, in opening data.

When machine-readable open data interfaces are created for Finna, participating organisations will not have to create them for themselves, and all Finna materials will be available conveniently from the same interface.

The needs of participating organisations are naturally connected to those of their clients. Finna has been made as user-friendly as possible, and has garnered positive feedback. A challenge for the future and the key to user satisfaction will be to make Finna interesting to users. Many of the participating organisations have traditionally focused on sharing reliable information. However, in addition to reliability, Finna must be able to offer new surprises and engaging experiences .

The Finna strategy is not restricted to Finna as a system. All of the services offered by Finna to its users must be implemented in the Finna back-end systems, and Finna will use them through its interfaces. This means Finna is first and foremost a portal to services. This development model requires fluent cooperation with participating organisations, so that the solutions being created will be available to all who need them.



National Library's Finto: building interoperability for the public sector



The National Library of Finland has been developing the national thesaurus and ontology service Finto since 2013. Finto's goal is to provide a centralised source of all the thesauri, ontologies, and classifications needed in annotation. It is a one-stop-shop for publishing and finding the vocabularies and the modern interfaces (APIs) to access them. The project development is being funded by the Ministry of Finance and the Ministry of Education and Culture.

By Matias Frosterus, Finto Project Manager, the National Library of Finland

Powerful *and* simple

Ultimately, Finto aims to help with interoperability between metadata from different organisations. One of the requirements for publishing a vocabulary in Finto is for it to have globally unique identifiers (URIs) for all the concepts contained in the vocabulary. Furthermore, these should be resolvable identifiers i.e. ones that lead to more information about the concept. Often this destination can be set to Finto itself but Finto can also publish vocabularies whose URIs resolve to someplace else.



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Unique identifiers allow for powerful linking between various vocabularies and other resources. Resolvable links are machine-traversable so that an application can use the links to find out whatever it needs. And since the Finto APIs are common to all the vocabularies published in the service, utilising several and switching between them is simple.

What's under the bonnet?

Under the bonnet, Finto service is powered by Skosmos – an open source application developed in the National Library. Skosmos is a SKOS vocabulary browser – SKOS being the World Wide Web Consortium's recommendation for representing thesauri, taxonomies, classifications and light-weight ontologies. Skosmos has garnered positive responses and in addition to Finto, there are a few instances of Skosmos running in various parts of the world.

Skosmos 1.0 was released in February 2015, followed by version 1.1. in May. The development still continues, but Skosmos now fulfills the requirements that were originally set for it. It is fast and reliable and supports all the basic functionalities that are needed. Skosmos has undergone three separate usability test rounds during its development and has been approved according to the standard System Usability Score.

A stamp of approval for Finto

During the year 2015 Finto is being connected to the Finnish National Data Exchange Layer (*kansallinen palveluväylä* in Finnish). The Layer is essentially a set of practices for relaying information in a standardised way at a low level. It defines a common SOAP API for encoding the messages, provides a secure way of transferring information over the web and deals with fundamentals such as time stamping, logging, federation, etc. The Layer is to form the future basis for the Finnish public sector service infrastructure.

Since Finto adheres to the principles of open linked data and the use of Finto is free, joining the National Data Exchange Layer is of limited impact in the technical sense. In essence, it means that Finto will be available through the SOAP API as well as its own REST API (Representational state transfer).

But the impact is more a matter of principle. Joining the Data Exchange Layer can be seen as a sort of stamp of approval that Finto fulfills the national requirements and is seen as a trusted service. Finto is planned to be among the first services available through the Data Exchange Layer soon after the launch of the Layer in November 2015.

Central to semantic interoperability

Maybe even more importantly, Finto has a central role to play in the pursuit for

semantic interoperability in the public sector.

The Data Exchange Layer solves some of the challenges associated with integrating various services and systems at the, as the name implies, data exchange level. But in order to enable true integration, a layer of semantic interoperability is needed and it is at this level that Finto can be seen as being one important piece in the larger puzzle.

Publishing ontologies and thesauri allows for explicit links to common concepts with machine-understandable relations between them. When different organisations use the same identifiers for the same concepts, it makes metadata integration possible at a deeper level.

Next steps

In an even more recent development, the spring 2015 also saw the beginning stages of planning for a common registry of person, family, and organisation names for museums, archives and libraries where Finto is poised to play a key role.

The current plan is to build a master registry of actor data, aggregating all the knowledge possessed by the different sectors. This has been made possible due to the adoption of the common cataloging standard RDA (Resource Description and Access) for depicting actors in libraries as well as in museums and archives in Finland.

Finto would be the service and publication platform for this data but it has to be stressed that the plan is still in its infancy and will be solidified later this year.



The National Library opens up its data



The National Library of Finland will gradually open up its data from 2015 to 2017 in line with the Government's policies. A plan for opening up metadata in 2015–2017 already exists, and a scheme for content data is in the makings.

By Nina Hyvönen and Osma Suominen, Library Network Services, the National Library of Finland

A 2011 government resolution defined policies regarding the accessibility of digital public-sector information resources. According to the resolution, information produced with public funding must be openly accessible and reusable under clear and common conditions that are the same for all. In May 2013, the Open Data Programme was launched to boost the resolution's implementation.

“*Open metadata for joint use*” is one of the National Library's strategic spearheads.

“Open metadata for joint use” is one of the National Library's strategic spearheads. The Library's goal is to make its bibliographic metadata and authorised descriptions openly and freely available as widely as possible, taking into consideration any restrictions based on copyright and related rights, data protection and agreements. In future, the copyright-free material digitised by the Library will also be published as widely possible.

In 2015–2017, the National Library will construct a service for linked open data (data.kansalliskirjasto.fi), which will serve as the Library's data catalogue and open-data publication platform for bibliographic data. It will include descriptions



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of the open data and resources, as well as documentation related to the opening process. The open-data service will first be launched as a prototype to gain experience and collect feedback. It is difficult to decide on definitive modelling solutions at this stage since the international BIBFRAME data model, which will replace the MARC formats, and the related information systems are still under development and the RDA rules have not yet been fully adopted. After the first data have been published (2016–2017), development will also focus on linkage to external sources, such as corresponding bibliographic data in the national libraries of other countries.

The National Library has previously published its thesauri and dataset of Finnish corporate names in the Finto service.



Finnish parliamentary elections online materials into an online archive



Content for the National Library's online archive has traditionally been gathered through theme-based collections around different elections. This year the collection covered social media contents from Twitter, Instagram, Facebook and YouTube in addition to traditional online sources. The materials to be archived were mapped together with researchers. This cooperation will continue when the research use of the archive materials is piloted.

By Aija Vahtola, Chief Information Specialist, the National Library of Finland

The online material related to the Finnish parliamentary elections was archived during the campaigning period, the elections, and later.

For social media, the collection covered the profile pages of candidates and parties on Twitter and Facebook as well as tweets with election-related hashtags, such as #vaalit2015 and #eduskuntavaalit. Election videos were collected on YouTube and election galleries. For websites, the collection focused on the online contents published by candidates, parties, organisations, political decision-makers, support groups and news media.

The collected materials were mapped together with researchers from the Helsinki Institute for Information Technology [HIIT](#), which is jointly operated by the University of Helsinki and Aalto University. The cooperation will continue when the research use of the material is piloted.



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Copyright legislation enables access to the online archive for reading, viewing, listening and printing only through the legal deposit workstations. The National Library is now studying and testing ways researchers can analyse the material without infringing copyright laws, e.g., through [link analysis](#) and [topic modelling](#).

The websites archived from the election collection will be added to the online archive and released for use on the legal deposit workstations. Planning for the release of social media contents is underway.

“ *Finnish websites (domains ending in .fi or .ax) have been collected into the online archives every year since 2006.*

Finnish websites (domains ending in .fi or .ax) have been collected into the online archives every year since 2006. In addition, more material has been acquired for the online archive through themed collections related to parliamentary, presidential and European elections, etc. The collection of online material is based on the Act on Collecting and Preserving Cultural Materials (1433/2007).



The use of open source in The National Library of Finland



The National Library of Finland has embraced open source when it comes to developing software. Essentially this means that we strive to publish and use code that is available under an open license and developed openly as much as possible.

By Matias Frosterus, Timo Laine, Osma Suominen and Artturi Lehikoinen, Library Network Services, the National Library of Finland

We publish our own code in the GitHub code hosting service (<https://github.com/NatLibFi>) and take part in various open source projects that we use ourselves. The international forum offers unique possibilities for collaboration and using open source software means independence from closed system support networks: if we need a new feature or something does not work, we can try and fix it ourselves.

As an example of an open source software use, the Finto service is based on Skosmos, which is developed as open source software at the National Library. Skosmos is also used by other organisations around the world, including the Food and Agriculture Organisation of the UN, the Rhineland-Palatinate spatial data infrastructure initiative in Germany, and the University of Oslo Library in Norway who have contributed bug reports as well as new features into Skosmos. Reciprocally the Finto team has contributed to the Apache Jena project, whose components are used in Skosmos, and also other open source libraries including rdfliib and EasyRdf.



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“Using open source software means independence from closed system support networks: if we need a new feature or something does not work, we can try and fix it ourselves.”

Another project, Melinda, which develops the Union Catalogue of Finnish Libraries, also releases most of the specific implementations as free software. Not all can be released openly due to license agreements, however.

The National Library's Finna provides access to the collections and services of archives, libraries and museums in Finland. The development team enthusiastically participates in improving VuFind, the component used by the public user interface of the service. With the adoption of VuFind 2 later this year, the collaboration with the global development community is set to become even smoother, as the new version has a more modular structure that permits the addition of new, custom components without forking.

The combination of having access to the source code and being able to make any modifications and a closer relationship to the participating organizations gives us a unique opportunity to offer a better service. The work done on Finna has also given valuable insights on how to manage an open source project with many stakeholders with diverse needs. Agile development methodologies help us to respond quickly to changes and to the needs of the participating organizations.

Yet the need to provide a stable, functional service obviously requires quality control, particularly in the form of change management and problem management. The work done in these areas is by no means complete, but the position of the National Library as a centralised service provider enable us to allocate more resources to quality control.



The Hague Declaration – Fostering Open Science



By **Kristiina Hormia-Poutanen, Director of National network services,**
the National Library of Finland

Liber, president

The Hague Declaration aims to foster agreement on how best to enable access to facts, data and ideas for knowledge discovery in the Digital Age. By removing barriers to accessing and analysing the wealth of data produced by society, we can find answers to major challenges such as climate change, depleting natural resources and globalisation.

LIBER and the National Library of Finland have been advocating for a modern fit-for-purpose European copyright system that recognises the needs of research and development, education and scholarship.

As part of this effort, preparations were made to draw up a Text and Data Mining (TDM) Declaration. The Declaration was published on the 6th of May 2015 in Brussels. On the day of the launch, around 50 organisations had signed it. The number of organisations and individuals signing has been growing every day showing that research organisations, research funding organisations, researchers, industry and many others stakeholders fully recognize the Declaration's importance. At the end of May there are close to 160 organisations and 350 individuals who have signed the Declaration. National Library of Finland as well as CSC, the IT-centre for Research were the first Finnish organisations to sign.

Liber has also been promoting Open Science as means of strengthening the global competitiveness of European research. We believe that the move towards openness will lead to increased transparency, better quality research, a higher level of citizen engagement, and will accelerate the pace of scientific discovery through the facilitation of data-driven innovation.

Open Science is a top priority also in Finland. Finland's Ministry of Education and Culture has launched the Open Science and Research Initiative for 2014-2017



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The Hague Declaration: <http://thehaguedeclaration.com/>



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LIBER 2016 conference in Helsinki, 29 June to 1 July 2016

The annual conference of LIBER, Europe's largest network of research libraries, brings together hundreds of representatives of the library sector. The 2016 conference will be held in Helsinki.

The Helsinki Congress Paasitorni offers a stylish setting for the event. The magnificent Art Nouveau building boasts an excellent location on the shoreline.

Open science is an essential element of LIBER's strategy, and it will also feature as a theme at the Helsinki conference. Further details about the themes and programme will be published in autumn 2015.

The event will be jointly organised by the National Library of Finland, the Helsinki University Library and the Finnish Research Library Association.

For further information about the conference, please email kk-tiedotus@helsinki.fi

liber2016.org

<http://libereurope.eu/>



EDITORIAL Kai Ekholm Solutions- based future lies ahead

Libraries are pretty resilient. The basic concept has worked for a thousand years

or more. We have passed the test of time – why shouldn't we pass the test of digital revolution?

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Liber 2016 in Helsinki

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Facts and Statistics 2014



The National Library of Finland in numbers (2014)

- Visits: 71 715
- Loans total: 399,000
- Total number of page views (www.kansalliskirjasto.fi and its language versions): 1,050,406
- Website visits (www.kansalliskirjasto.fi): 390,991
- Searches conducted for digitised material: 10.7 million
- Databases of own collections:
 - national bibliography *Fennica* total number of records: 960 000
 - national discography *Viola* total number of records: 1 040 000
 - catalogue for Finnish libraries *Melinda* total number of records: 6,9 million records
 - the national databases (*Arto*, *Fennica*, *Melinda*, *Viola*) put together contained approximately 10.5 million data
- Growth of National Collection (Legal Deposit Collection) in 2014:
 - books: 10 644 titles
 - born-digital publications: 20 565 files
 - ephemera (uncatalogued collection): 61 100 items
 - sheet music: 318 volumes
 - sound recordings: 2751 titles
- Total number of references on www.finna.fi: 9 million
- Digitised pages made available for customer use: 1.2 mill.
- Pages available on digi.kansalliskirjasto.fi service: 8.8 million
 - magazines: 5.4 million pages
 - newspapers: 3.2 million pages
 - ephemera: 129,400 pages
- Total operating budget: 22.2 mill. €
- Number of staff: 264



International cooperation



International interaction and cooperation 2014

ORGANISATIONS AND BODIES

- Alto Editorial Board, metadata development team
- BAAC, Baltic Audiovisual Archival Council
- Bibliotheca Baltica, cooperation body for libraries in the Baltic Sea region
- Breitkopf & Härtel, Wiesbaden, Germany
- CCS, Content Conversion Specialists GmbH, Germany
- CDNL, Conference of Directors of National Libraries
- CENL, Conference of European National Libraries
- CENL Executive committee
- CERL, Consortium of European Research Libraries
- CLM, Copyright and other Legal Matters, working group
- Cobra+, coordination body for European national library project cooperation
- Conference on Open Repositories
- Dublin Core Metadata Initiative, developer group and steering group of the Dublin Core Standard
- EBLIDA, European Bureau of Library, Information and Documentation Associations
- EDItEUR, international group coordinating development of the standards infrastructure for electronic commerce in the book, e-book and serials sectors
- Eesti Rahvusraamatukog, the Estonian National Library
- eIFL (electronic information for libraries)
- ELAG, European Library Automation Group
- EURIG, European RDA Interest Group
- Europeana, the European Digital Library

Europeana Newspapers project

- The Council of Aggregators and Content Providers /Europeana network and its groups
- EROMM, European Register of Microform Masters
- ICOLC, International Coalition of Library Consortia
- FAIFE, Committee on Free Access to Information and Freedom of Expression
- IAML, International Association of Music Libraries
- IASA, International Association of Sound and Audiovisual Archives
- ICA, International Cartographic Association
- IFLA, International Federation of Library Associations, several divisions and working groups
- IGELU, International Group of Ex Libris Users, various groups
- IIPC, International Internet Preservation Consortium
- IMPACT, Competence Centre for Digitisation
- ISBN Board, International ISBN Agency
- ISO, International Organisation for Standardisation, several working groups under Technical Committee 46
- ISSN, Governing Board, ISSN network, standards organisation for publications' descriptions
- Joint Steering Committee for Development of RDA, Technical Working Group
- The National Library of the Republic of Karelia, Petrozavodsk
- The National Library of the Komi Republic, Syktyvkar
- Kungliga Bibliotek, National Library of Sweden
- Latvijas Nacionālā bibliotēka, National Library of Latvia
- LIBER, Association of European Research Libraries
- Library of Congress
- Chavain National Library of the Mari El Republic, Yoshkar-Ola
- MSEG, Member States' Expert Group on Digitisation and Digital Preservation
- METS Editorial Board, metadata development group
- National Library of the Republic of Mordovia, Saransk
- Murmansk State Regional Universal Scientific Library, Murmansk
- Nasjonalbiblioteket, National Library of Norway
- National Library Resources, Moscow
- Göttingen State and University Library, Göttingen, Germany
- NISO, US National Information Standards Organisation
- NOA, Audio Solutions VertriebsmbH, Austria
- NORON, Nordic Conference of State and National Library Directors
- Scandinavian Library Quarterly, membership on editorial board
- The Finnish Institute in London
- SVUC, Scandinavian Virtual Union Catalogue
- TEL, The European Library
- National Library of the Udmurt Republic, Izhevsk
- The National Library of Russia, St. Petersburg



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