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MEI (Music Encoding Initiative) as a Basis for Thematic Catalogues: Thoughts, Experiences, and Preliminary Results

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Abstract
The Danish Centre for Music Publication (DCM) was founded in the spring of 2009, building on the philological expertise of *The Carl Nielsen Edition*, which had published its 33rd and final volume in March 2009. The purpose of the DCM was, by nature, broader than that of *The Carl Nielsen Edition*, standing so to speak on two legs: one is the edition of unknown music kept in the library to be used by scholars and musicians and based on a philological approach, the other is the development of ways to disseminate the results of the Centre's work via the internet. The latter aim has resulted in developing a system for storing and presenting data, especially related to thematic catalogs, based on MEI (Music Encoding Initiative) XML. At present, the software developed at the DCM, called MerMEId (Metadata Editor and Repository for MEI Data), is used for catalogs-in-progress for the works of Carl Nielsen, Johan Svendsen, J. P. E. Hartmann, Niels W. Gade, and J. A. Scheibe. In a further perspective, MEI enables the integration of detailed metadata with the full music text, including variants and emendations within the same file in a format that is interchangeable with other software such as a graphical note editor. In our presentation, we will outline the ideas and principles behind the MerMEId software and briefly demonstrate its use, from the point of view of both the editor and the user.

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[Niels Krabbe:]

The following presentation will concentrate on one of the main functions of the Danish Centre for Music Publication: namely the developing of tools for expanding the traditional concept of a well-grounded "institution" in musicology of the previous centuries, namely the thematic catalogue with its host of static information and its strong anchoring in the state of research on the composer in question at the time of its publication – with its host of esoteric abbreviations and hundreds of library sigla – all of which makes it very useful for the dedicated nerd but not very user-friendly.

The presentation is divided into two sections. First I will give a general introduction to the aims and visions of DCM, thereby so to speak showing the intellectual journey from the work of the Carl Nielsen Edition to the concentration by DCM on this special topic; and after that my colleague, Dr. Axel Teich Geertinger will give a more technical presentation of DCM's use of the

Music Encoding Initiative (MEI) as a basis for thematic catalogues in the broader sense of the word, and the role of DCM in housing and disseminating the tools via open source.

From CNU to DCM

As in many instances in Danish musical life you cannot navigate without including our towering national icon, Carl Nielsen. This also holds true in connection with our topic today: without Carl Nielsen we would obviously not have had a Carl Nielsen Edition. Without the edition we would not have had the Danish Centre for Music Publication, and without the Centre we would not have had the opportunity to get funding for development of the Music Encoding Initiative.

The Carl Nielsen Edition was housed at the Royal Library during the period 1993-2009, with the explicit aim to publish a scholarly edition of all the composer's works.

It was established on the direct order of the Minister of Culture in 1993 because of a high-profile press polemic in connection with very critical remarks from the musicians and the conductor who were to perform Nielsen's opera *Maskarade* in Germany and Austria. The musical score and the parts sent abroad for this performance, it was claimed, were "a scandal and a mess", as the leading Copenhagen newspapers wrote on its front page.

In the wake of this serious criticism of Denmark's handling of an important part of its cultural heritage, the government funded 5 full-time editors over a period of 15 years on the two explicit requirements that the schedule was kept and the budget was not exceeded. So under these working conditions the CNU project came to an end 15 years later with, by presenting 33 volumes in stiff blue bindings, the last volume being published on 31 March 2009, on the very day when the funding stopped.

The success of the Carl Nielsen Edition (mainly as to time schedule and budget) made it possible that the public funding behind the CNU could smoothly be transferred to a new five-year project in the Royal Library, namely the Danish Centre for Music Publication. One of the important considerations was to preserve the music philological expertise that had been built up during the 15 years with the work on Nielsen; no doubt the Nielsen edition was the most comprehensive music philological project having ever been set up in Denmark, and it was important not to lose the acquired experiences within this very restricted area of musicology. Another – and in connection with our talk today important – consideration, was that after all the detailed philological work with Nielsen's manuscripts, prints, letters and other documents, the lack of a thematic catalogue of his works became pronounced, but also that much information from the edition could comparatively easily be included as an important part of such a thematic catalogue. I need not stress the fact that any composer of a certain stature approximately one hundred years after his birth would be blessed by any one of three standard tools: a collected edition, a standard monograph on life and work, and a thematic catalogue. In 1993 Nielsen had none of these three tools, in 2009 he had one (namely a collected edition) and when DCM was founded a second tool (namely a thematic catalogue) was on the agenda. So, in short the CNU in 2009 became the *battering ram* for the establishing of DCM.

Aim and vision

Immediately after its start in 2009, DCM formulated the following vision, which is still to be seen on its website and which is meant to govern the work of the centre during its first five-year period (up and until September 2014):

> *The primary aim of the Danish Centre for Music Publication (DCM) is to make musical works and musical sources related to Danish music history available for music scholars and musicians; it is also the aim to develop and to expand philological competences and to develop methods and tools for digital editions of music.*

As you will understand, the last part of this vision paves the way for expanding the understanding of a thematic catalogue and for considering the potentials of MEI in such a context.

Before Axel Teich Geertinger goes on to discuss technical details, I want to stress certain strategic considerations which we have had to make. When DCM was launched in 2009, part of the grant was tied to producing a thematic catalogue of Carl Nielsen's works (CNW), and as the grant was given by the rather conservative Carl Nielsen Foundation, who until 2001 had all the performance rights to Nielsen's music, it was obvious that a publication in traditional book form was expected, and that the funding was to further a Nielsen thematic catalogue ad modem Köchel, Hoboken, Kinsky, Schmieder etc. etc., that was to become a future standard reference tool for Nielsen scholars, musicians, concert managers and others.

A close study of three of the more recent printed thematic catalogues of composers which one could compare with Nielsen – namely Sibelius, Grieg, and Schumann – made us doubt the rationality in producing yet another volume along these lines, or rather the rationality in producing *only* a Nielsen catalogue as a book. Instead we decided on a more flexible solution, aiming at a combination of a traditional – but rather "small" – book to be available for quick reference on the shelves of libraries and elsewhere, and an ambitious site on the internet combining a traditional thematic catalogue with a modern dynamic Carl Nielsen site. In fact this ambition would mean an abolition of the distinction between thematic catalogue and documentary site in general, including the philologically edited music, tagged in a way which makes possible further manipulation like parallel readings, sources, emendations etc. The latter ambition, namely the inclusion of the full scores with editorial comments and alternative sources still belong to the future.

This is not the place to go into a more exhaustive analysis of the problems behind printed thematic catalogues like the ones mentioned on Sibelius, Grieg and Schumann. They all represent an impressive piece of scholarly thinking and work and are indispensable tolls in any scholar's work with these composers, but already the banal observation that by nature, they represent one and only one state of research, namely the state at the time of their publication, gives food for thought along different lines. To which of course should be added the very limited possibilities of making, for example:

- concordances
- chronological lists
- sorting out of people with different tasks in connection with the composer's oeuvre like copyists, conductors, soloists
- venues of first performances
- number of movements in the works

- list of various types of sources
- "hands" in the manuscripts
- list of publishers
- dedications

– not to mention: the full score, marked up and tagged with a view to computer-aided analysis of the music. All such questions can be answered by one or two clicks via a site as the one we are aiming at.

Another aim of our use of the MEI standard in this connection is to make a metadata editor to be used for composers other than Carl Nielsen. In practice this aim has had two results so far.

One is that parallel to the Nielsen site, the MEI-based editor is at present being used in-house for thematic catalogues by two other Danish composers, N.W. Gade and J.P.E. Hartmann, and one German composer who worked in Denmark at a certain stage of his life, namely J.A. Scheibe. Furthermore we have made the editor, for which the acronym is the well-known Danish statue "MerMEId", available as open source, and at present it is also used and developed by our Norwegian colleagues in connection with their planned Johan Svendsen edition and catalogue. Furthermore we have current contacts with colleagues in other places, not least in Detmold.

One final experience – which again may not come as a surprise to you, but which came as a surprise to us: A few months after the start of Danish Centre for Music publications, and after the project sketched above had been planned, we realized that such a project could not materialize unless the staff included very strong and very specialized IT expertise, far beyond what one could reasonably expect from music scholars. In the beginning we had to rely on ad hoc support from the large IT department of the library, but during that last 6 months and for the rest of the first five-year period we have now had a professional computer programmer as a member of staff without whom we would not be able to approach our ambitious goals in the future.

I will now give the floor to my colleague, Dr. Geertinger, for a technical report on MerMEId.

[Axel Teich Geertinger:]

As Prof. Krabbe has already pointed out, we decided from the start that the primary output of CNW (Carl Nielsen Works/Werke) should be an online catalogue, but we were also very well aware that digital solutions have their limitations as well. Not least databases are problematic in terms of preservation, software dependency, and the difficulty of data interchange with other applications.

These technical concerns made us try to re-think thematic catalogues in a broader context and to describe a generic concept for the production of such catalogues rather than providing a composer-specific solution.

When we started in 2009, our considerations happened to coincide with efforts of the Music Encoding Initiative (MEI), aiming at defining an XML-based standard for the encoding of critical editions of music. The first MEI schema defining this standard was released two years ago.

Naturally, this had our interest in terms of future digital editions, since no other encoding system known to us is capable of handling e.g. variant readings. But it was equally interesting for us to learn that MEI was also designed to support quite comprehensive metadata. This gave us the idea that the Nielsen thematic catalogue could be based on a set of MEI documents, which eventually would also be able to hold the entire score – both in the same document.

All these considerations finally made us opt for a solution based on XML documents – one document for each work – rather than a relational database, which otherwise would have been the most obvious choice and, I believe, the one used in nearly all comparable projects until now.


This is not the place to go into detail with the pros and cons of the two concepts, but especially the simple and largely software-independent nature of XML, and, as a consequence, the better long-term prospects were strong arguments for us to choose MEI XML rather than a database.
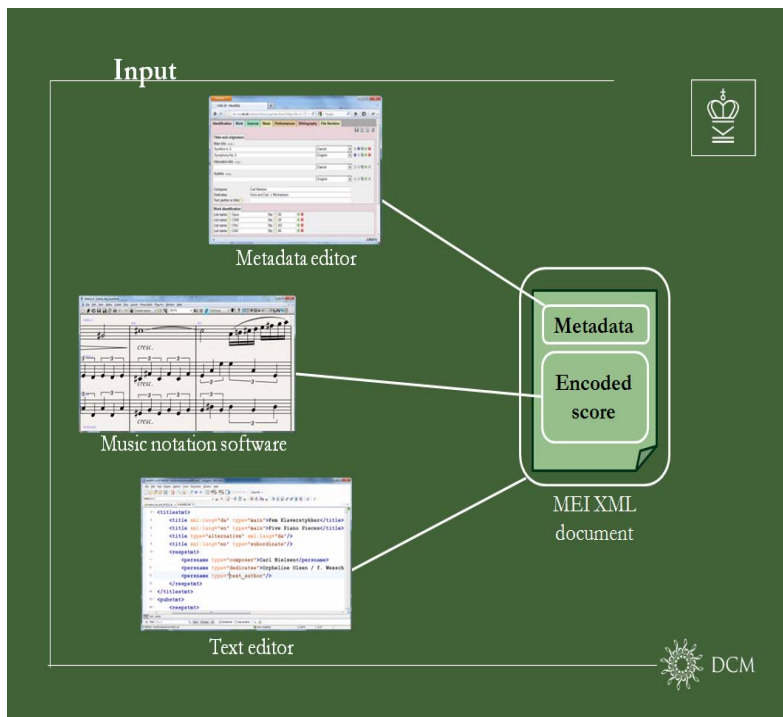
To illustrate the versatility of the XML-based concept, many different types of software can act on the same document. For instance, we can edit an MEI document with almost any text editor. The main body of the document – the section containing the actual score – could be edited with a graphic score editor. And finally, metadata can be edited with a special metadata editor – this is the project we are focusing on here. As you will see, catalogue data created in this way are by no means dependent on the metadata editor. It is merely an interface for convenient editing and handling, but you can just as well work with your data using other software, if you like.
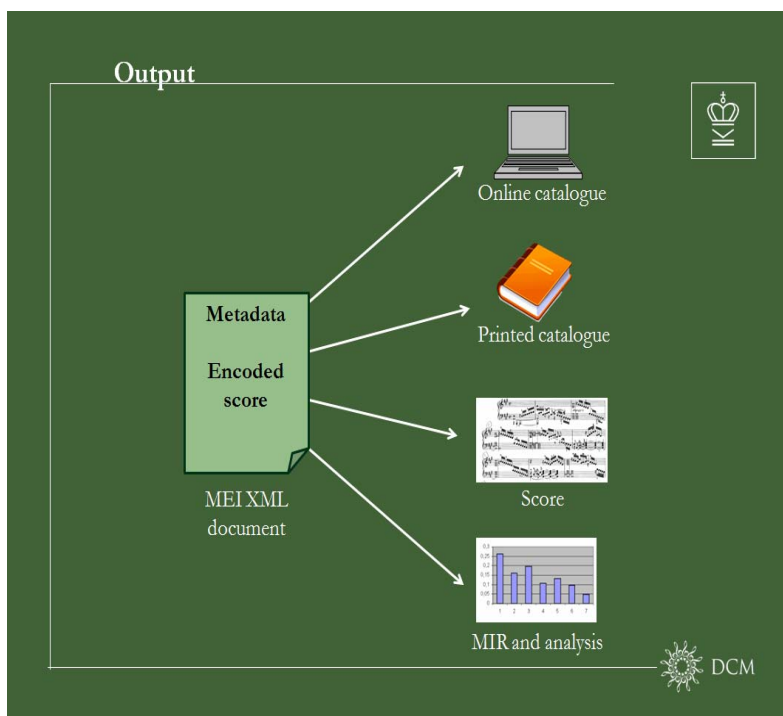
Likewise, on the output side, many different applications may draw on the same set of data to produce e.g. a catalogue – whether online or in print –, a score, or to provide data for various kinds of music information retrieval applications or computer-assisted analysis. Thus, with the data clearly separated from any mode of presentation, the process of creating the data is independent of the intended output medium (printed or digital).

Our metadata editor has been given the name MerMEId – short for Metadata Editor and Repository for MEI Data. The MEI documents are stored on a web server. The editor itself is basically a large HTML/Javascript form running in a web browser against some server-side software. The MerMEId-specific code as well as any third-party software needed on the web server is all open source and available for free.

Before we take a closer look at the metadata editor, let us see an example of what we can produce with the pre-release version we have running already.

[HTML preview: Carl Nielsen's Symphony No. 5]

CNW 29

Carl Nielsen

Symfoni nr. 5

[en:] Symphony No. 5

Opus 50
CNW 29
CNU II/5
CNS 66

Dedicatee: Vera and Carl J. Michaelsen.

See also: CNU Preface

Date of composition: 1920-1922.
Nielsen began working on the symphony in the autumn of 1922, concurrently with the composition of incidental music for Helge Rode's play *The Mother*, and the fair copy of the symphony was end-dated 15 January 1922. He had had to put aside the symphony during the summer of 1921 in order to finish the vocal work *Springtime on Funen*, which had been under way for a long time.
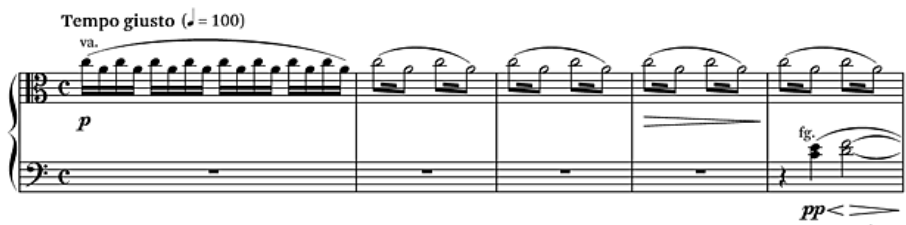**Instrumentation:** 2 fl., 1 fl. / fl.picc., 2 ob., 2 cl., 2 fg., 4 cor., 3 tr., 2 trb.t., 1 trb.b., tb., timp., ptti., tbno., trgl., tamb.picc., cel., vl.1, vl.2, va., vc., cb.

Edited score: CNU

⊞⊟ **Movements**

I. Tempo giusto. Adagio

Metre: **C**

II. Allegro. Presto. Andante tranquillo. Allegro (Tempo I)

Metre: **3/4**

903 bars

⊞ Performances

24.1.1922   The Music Society (Musikforeningen), Copenhagen (conductor: Carl Nielsen). First performance.
           Reviews: *København* (25.1.1922). *Ekstrabladet* (25.1.1922). *Nationaltidende* (25.1.1922). *Børsen* (25.1.1922).
           Berlingske Aftenavis (25.1.1922). *Kristeligt Dagblad* (25.1.1922). *Politiken* (26.1.1922). *Musik*, VI/2 (2.2.1922), p. 26.
8.3.1922   Göteborg Orkesterförening, Göteborg (conductor: Carl Nielsen).
1.12.1922   Beethoven-Saal, Berlin (Philharmonisches Orchester conducted by Carl Nielsen).
9.6.1923   Tivoli, Copenhagen (conductor: Frederik Schnedler-Petersen).
20.1.1924   Stockholm (Koncertföreningens Orkester conducted by Georg Lennart Schnéevoigt).
9.6.1925   Tivoli, København (conductor: Carl Nielsen).
21.10.1926   Maison Gaveau, Salle de Concerts, Paris (Orchestre de la Société des Concerts du Conservatoire conducted by
           Emil Telmányi).
4.11.1926   Filharmonisk Selskab, Oslo (conductor: Carl Nielsen).
1.7.1927   ISCM Festival, Frankfurt a.M. (Ochester des Frankfurter Opernhauses conducted by Wilhelm Furtwängler).
           Review: *Musikblätter des Anbruch*, IX/7, p. 271.
15.12.1927   Amsterdam (Concertgebouw conducted by Pierre Monteux).
11.11.1927   Königsberger Sinfonie-Konzerte, Königsberg (conductor: Jascha Horenstein).
           Review: Otto Besch: 'Königsberger Allgemeine Zeitung' (12.11.1927).
27.10.1927   Leipzig (Gewandhausorchester conducted by Wilhelm Furtwängler).

⊞ Sources

Score, autograph, printer's copy
[Source classification: music; manuscript; autograph; score; printer's copy]

DK-Kk, CNS 66a [CNU Source **B**]. Library record
Provenance: 1937: Carl Johan Michaelsen.
34.5x27 cm. 127 pages.
Written in ink (Carl Nielsen). Additions in red crayon (Emil Telmányi) and pencil (Engraver).
Title page: Symfoni No 5 / for / Orkester / af / Carl Nielsen. / op 50
Library binding. The score was used as a conducting score by CN and presumably also by other conductors, which is
reflected in corrections and additions in the score.

Score, draft
[Source classification: music; manuscript; autograph; score; draft]
DK-Kk, CNS 66b [CNU Source **C**].
34.5x27 cm. 115 pages.
Written in pencil (Carl Nielsen). Additions in blue crayon (Carl Nielsen) and ink (Carl Nielsen).
Title page: Cover: Carl Nielsen / Symfoni nr /2den DelTitle page (library addition): [Carl Nielsen : Symfoni nr. 5 Op. 50]
The cover originally only contained the second movement. Later, the first movement has been added. Added on back cover
in CN's hand: "De [crossed out]Dunkle, hvilende Kræfter / De [crossed out] Vaagne Kræfter" (Dark resting forces /
awakened forces).

Sketch (first movement)
[Source classification: music; manuscript; autograph; short_score; sketch]
DK-Kk, CNS 66c [CNU Source **E**]. Library record
Provenance: 1958: Irmelin Eggert Møller.
26x34.5 cm. 1 folio.

Written in pencil (Carl Nielsen).
Title page: Added in unknown hand: Carl Nielsen. 5te symfoni (Adagio)
Sketch for the 16 bar Adagio theme, first movement bb.268-283.

Sketches (first movement)
[Source classification: music; manuscript; autograph; short_score; sketch]
DK-Kk, CNS 16b [CNU Source **F**].
Provenance: 1935 (?): Margrethe Rosenberg.
34x26.5 cm. 7 folios.
Written in pencil (Carl Nielsen).
Title page: Suite for Klaver, op. 45
Three sketches for the first movement, contained in the autograph of piano suite opus 45; manuscript dated "Damgaard 20 August 19" and "Damgaard August 19".

Sketch (first movement)
[Source classification: music; manuscript; autograph; short_score; sketch]
DK-Kk, CNS 345l [CNU Source **G**].
34.5x26 cm. 1 folio.
Written in pencil (Carl Nielsen).
Title page: Grammofon-Vals
Rhythmic reworking of two bars of the Adagio theme of the fist movement, contained in manuscript with music for the play *Moderen*.

Parts, partly autograph
[Source classification: music; manuscript; partly autograph; parts]
DK-Kk, C II, 10 [CNU Source **D¹**.
34.5x26 cm. 170 parts.
Written in ink (Johannes Andersen), ink (Fred.V. Zenders (?)) and ink (NN). Additions in pencil (Carl Nielsen).
Title page: Printed title label: UNVERKÄUFLICHES LEIHMATERIAL :: EIGENTHUM DES VERLEGERS / CARL NIELSEN / SYMPHONIE NR. 5 OP. 50 / [...] / SKANDINAVISK OG BORUPS MUSIKFORLAG / AKTIESELSKAB / BREDGADE 31 KØBENHAVN K
Set of parts, some of which were used for the first edition and later, in 1926, as printing copies for the publication by Borups Musikforlag. In 1933 further copies were added to the set.The set was used as rental material until 1951, when it was given to The Royal Library.

Parts, manuscript copy/phototype
[Source classification: music; manuscript; copy; parts; complete]
DK-Kk, C II, 10 [CNU Source **D²**].

Printed score, first edition
[Source classification: music; print; score; first edition]
[CNU Source **A**].
Borups Musikforlag, København 1926. Plate no. MN. 2668.
23x16 cm. 184 pages.
Title page: Carl Nielsen. / SYMFONI No 5. / Op. 50 / Partitur. / Borups Musikforlag / Palægade 2. København. K. / -1926- / Tous droits réservés.Dedication on leaf after title page. "Til mine Venner / VERA og CARL JOHAN MICHAELSEN

Printed pocket score, posthumous edition
[Source classification: music; print; score; later edition]
[CNU Source **H**].
Skandinavisk Musikforlag, Copenhagen 1950.
19x14 cm. 172 pages.
Title page: Front page: CARL NIELSEN / SYMFONI no. 5 / PARTITUR / SKANDINAVISK MUSIKFORLAG / KØBENHAVN / IIITitle page: Til mine venner / Vera og Carl Michaelsen / CARL NIELSEN / SYMFONI no. V / OP. 50 / PARTITUR / SKANDINAVISK MUSIKFORLAG / KØBENHAVN
First printed edition, containing a preface by Emil Telmaányi and Erik Tuxen dated August 1950.

Printed score, posthumous edition
[Source classification: music; print; score; later edition]
[CNU Source **I**].
Skandinavisk Musikforlag, Copenhagen 1952.
29.5x23 cm. 172+6 pages.

Title page: CARL NIELSEN / SYMFONI no. 5 / SYMPHONY no. V / OP. 50 / PARTITUR / FULL SCORE / SKANDINAVISK MUSIKFORLAG / KØBENHAVN / III

Preface by Erik Tuxen dated August 1950. Including six pages of editorial notes.

Printed parts, posthumous edition

[Source classification: music; print; parts; later edition]

[CNU Source **I**].

Skandinavisk Musikforlag, Copenhagen 1952.

⊞⊟ Primary texts

Letters:

27.9.1920   from Carl Nielsen to Irmelin Eggert Møller, *DK-Kk* CNA IIIAa1 (CNB VI/453)
8.10.1920   from Carl Nielsen to Johannes Nielsen, *DK-Kk* CNA IAc (CNB VI/459, M & M 193)
9.10.1920   from Carl Nielsen to Helge Rode, *DK-Kk* CNA IAc (CNB VI/460, M & M 194)
9.10.1920   from Carl Nielsen to Vera Michaelsen, *DK-Kk* CNA IAc (CNB VI/467)
11.2.1920   from Carl Nielsen to Sigrid Rabe, *Statens musikbibliotek. Stockholm, Julius Rabes arkiv* (CNB VI/481)
15.2.1921   from Carl Nielsen to Rudolph Simonsen, *DK-Kk* CNA IAc (CNB VII/19)
17.2.1921   from Carl Nielsen to Emil og Anne Marie Telmányi, *DK-Kk* MTA CNS (CNB VII/21)
24.2.1921   from Carl Nielsen to Frants Buhl, *DK-Kk* NKS 4962 4° (CNB VII/25)
28.2.1921   from Carl Nielsen to Julius Rabe, *Statens musikbibliotek, Stockholm, Julius Rabes arkiv* (CNB VII/29)
4.3.1921   from Carl Nielsen to Anne Marie Carl-Nielsen, *DK-Kk* CNA IIAa (CNB VII/30, T Sch 440)
5.3.1921   from Anne Marie Carl-Nielsen to Irmelin Eggert Møller, *DK-Kk* CNA IIIAa2 (CNB VII/31)
12.3.1921   from Anne Marie Carl-Nielsen to Carl Nielsen, *DK-Kk* CNA IAa1 (CNB VII/35, T Sch 442)
23.3.1921   from Carl Nielsen to Emil Telmányi, *DK-Kk* MTA CNS (CNB VII/43)
31.3.1921   from Carl Nielsen to Anne Marie Carl-Nielsen, *DK-Kk* CNA IIAa (CNB VII/47, T Sch 442)
19.7.1921   from Carl Nielsen to Dagmar Borup, *DK-Kk* CNA IAc (CNB VII/89)
27.8.1921   from Carl Nielsen to Christian Christiansen, *DK-Kk* NKS 4166 4° (CNB VII/117)
3.9.1921   from Carl Nielsen to Anne Marie Carl-Nielsen, *DK-Kk* CNA IIAa (CNB VII/120, T Sch 446)
29.11.1921   from Carl Nielsen to Vera Michaelsen, *DK-Kk* CNA IAc (CNB VII/161)
9.12.1921   from Carl Nielsen to Vera Michaelsen, *DK-Kk* CNA IAc (CNB VII/171, M & M 210)
??.1.1922   from Carl Nielsen to Johannes Nielsen, *DK-Kk* CNA IAc (CNB VII/175)
17.1.1922   from Carl Nielsen to Julius og Sigrid Rabe, *Statens musikbibliotek, Stockholm, Julius Rabes arkiv* (CNB VII/179, M & M 210)
25.1.1922   from Victor Bendix to Carl Nielsen, *DK-Kk* CNA IAb (CNB VII/180)
26.1.1922   from Carl Nielsen to Victor Bendix, *DK-Kk* NKS 2040 2° (CNB VII/181)
27.1.1922   from Carl Nielsen to Wilhelm Stenhammar, *DK-Kk* CNA IAc (CNB VII/182)
7.2.1922   from Carl Nielsen to Charlotte Trap de Thygeson, *DK-Kk* CNA IAc (CNB VII/186)
10.2.1922   from Carl Nielsen to Vera Michaelsen, *DK-Kk* acc. 19995/55 (CNB VII/188)
2.3.1922   from Carl Nielsen to Anne Marie Carl-Nielsen, *DK-Kk* CNA IIAa (CNB VII/198, T Sch 449)
2.3.1922   from Alfred Nielsen to Carl Nielsen, *Statens musikbibliotek, Stockholm* (CNB VII/200)
3.3.1922   from Carl Nielsen to Cai Wendelboe Jensen, *DK-Kk* nbd 2. rk., acc. 1984/67 (CNB VII/201)
8.3.1922   from Carl Nielsen to Irmelin Møller, *DK-Kk* CNA IIIAa1 (CNB VII/202)
8.3.1922   from Carl Nielsen og Henriette Magnus to Lisa Mannheimer, *Privateje* (CNB VII/203)
29.6.1922   from Carl Nielsen to Rudolph Simonsen, *DK-Kk* CNA IAc (CNB VII/255, M & M 217)
23.8.1922   from Carl Nielsen to Anne Marie Carl-Nielsen, *DK-Kk* CNA IIAa (CNB VII/323, T Sch 458)
1.9.1922   from Rudolph Simonsen to Carl Nielsen, *DK-Kk* CNA IAb (CNB VII/329)
28.10.1922 from Carl Nielsen to Emil Telmányi, *DK-Kk* MTA CNS (CNB VII/345, M & M 222)
11.1.1923   from Carl Nielsen to Anne Marie og Emil Telmányi, *DK-Kk* MTA CNS (CNB VII/391)
24.7.1923   from Adolf Riis-Magnussen to Carl Nielsen, *DK-Kk* CNA IAb (CNB VII/529)
24.7.1923   from Wilhelm Hansen to Carl Nielsen, *DK-Kk* WHA (CNB VII/530)
30.12.1923 from Carl Nielsen to Lisa Mannheimer, *Privateje* (CNB VII/592)
22.1.1924   from Bror Beckman to Carl Nielsen, *DK-Kk* CNA IAb (CNB VIII/3)
24.1.1924   from Carl Nielsen to Emil Telmányi, *DK-Kk* MTA CNS (CNB VIII/4)
24.1.1924   from Carl Nielsen to Bror Beckman, *Statens musikbibliotek, Stockholm, Bror Beckmans arkiv* (CNB VIII/5)
1.2.1924   from Bror Beckman to Carl Nielsen, *DK-Kk* CNA IAb (CNB VIII/10)
24.2.1924   from Emil Telmányi to Carl Nielsen, *DK-Kk* CNA IAa3 (CNB VIII/18)
24.7.1924   from Carl Nielsen to Carl Johan Michaelsen, *DK-Kk* acc. 1995/55 (CNB VIII/102)
7.6.1925   from Paul Birr to Carl Nielsen, *DK-Kk* CNA IAb (CNB VIII/296)
9.6.1925   from Kristian Sandby to Carl Nielsen, *DK-Kk* CNA IAb (CNB VIII/358)
11.8.1925   from Carl Nielsen to Emil Telmányi, *DK-Kk* CNS (CNB VIII/408)

⊞⊟ Bibliography

Mark Devoto: *Non-classical Diatonicism and Polyfocal Tonality: The Case of Nielsen's Fifth Symphony, First Movement*, in: Comp., p. 257-288.

Michael Fjeldsøe: 'Organicism and Construction in Nielsen's Symphony No. 5', in: *Studies*, I (2003), p. 18-26.

Rudolph Simonsen: *"Sub specie æternitatis", Musikkulturelle Perspektiver*. København 1942, p. 177-186.

Dean Clarke Wilson: *An Analytical and Statistical Study of the Harmony in Carl Nielsen's Six Symphonies* (= UMI Dissertation Services 68-4235). UMI Bell & Howell, Ann Arbor 1968, p. 282-323

Robert Simpson: *Carl Nielsen, Symphonist 1865-1931*. London 1952, p. 84-104.

Morten Kristensen: *The "Nielsen Symphonic Allegro": Thematic Integration and Musical Cohesion* (= Honors Paper, Mary Washington College). Mary Washington College 1992

David Fanning: *Nielsen: Symphony No. 5* (= Cambridge Music Handbooks). Cambridge University Press, Cambridge 1997

Michael Fjeldsøe: 'Carl Nielsens 5. symfoni. Dens tilblivelse og reception i 1920erne', in: *Dansk Årbog for Musikforskning*, xxiv (1996), p. 51-68.

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Some screenshots may give you an idea of what the metadata editor interface looks like so far:
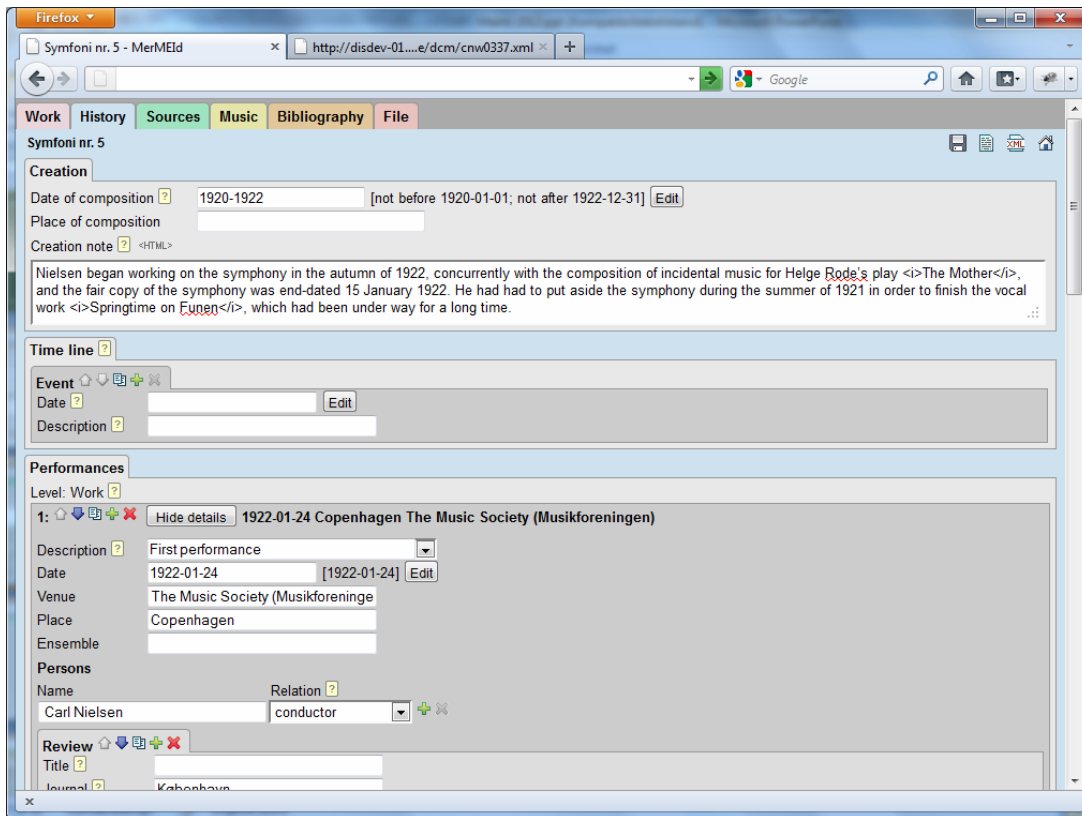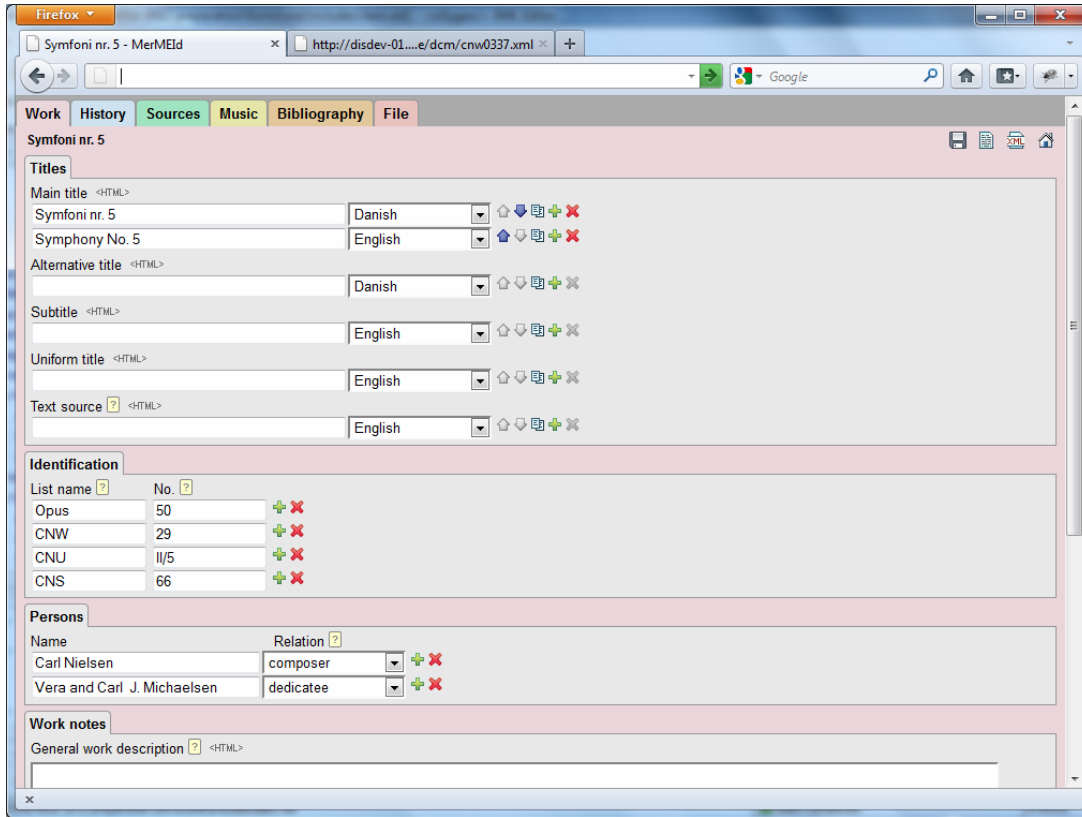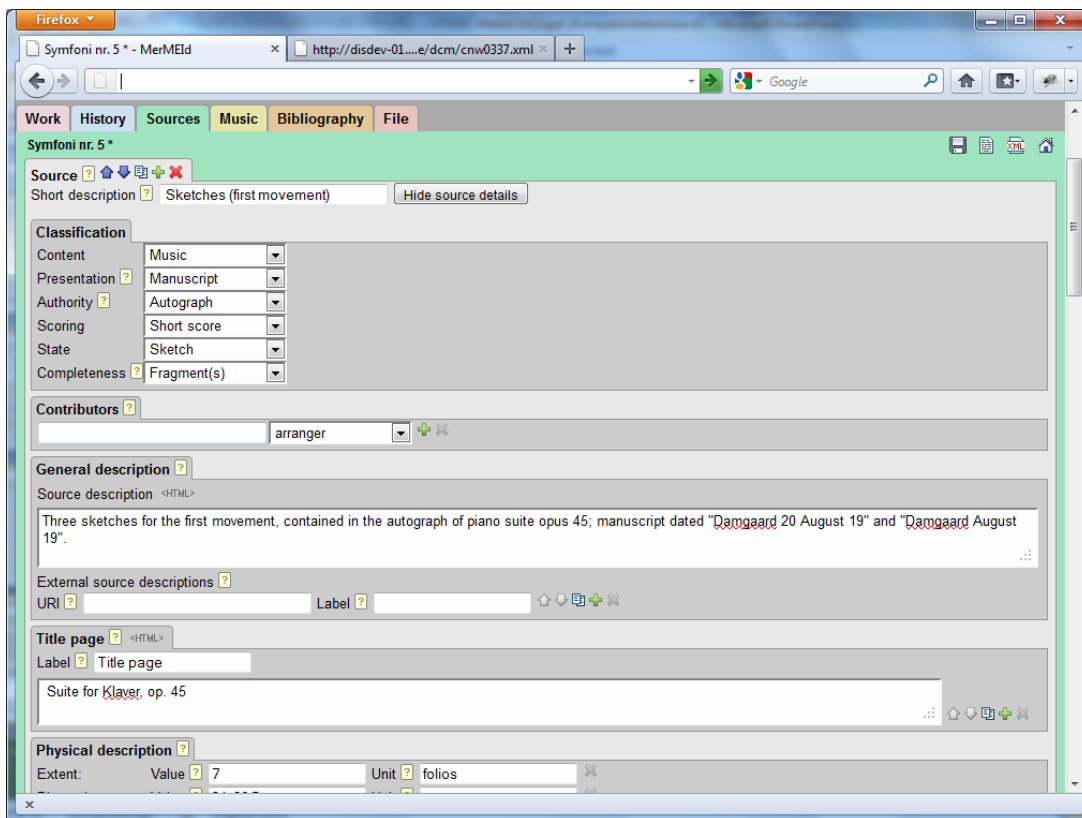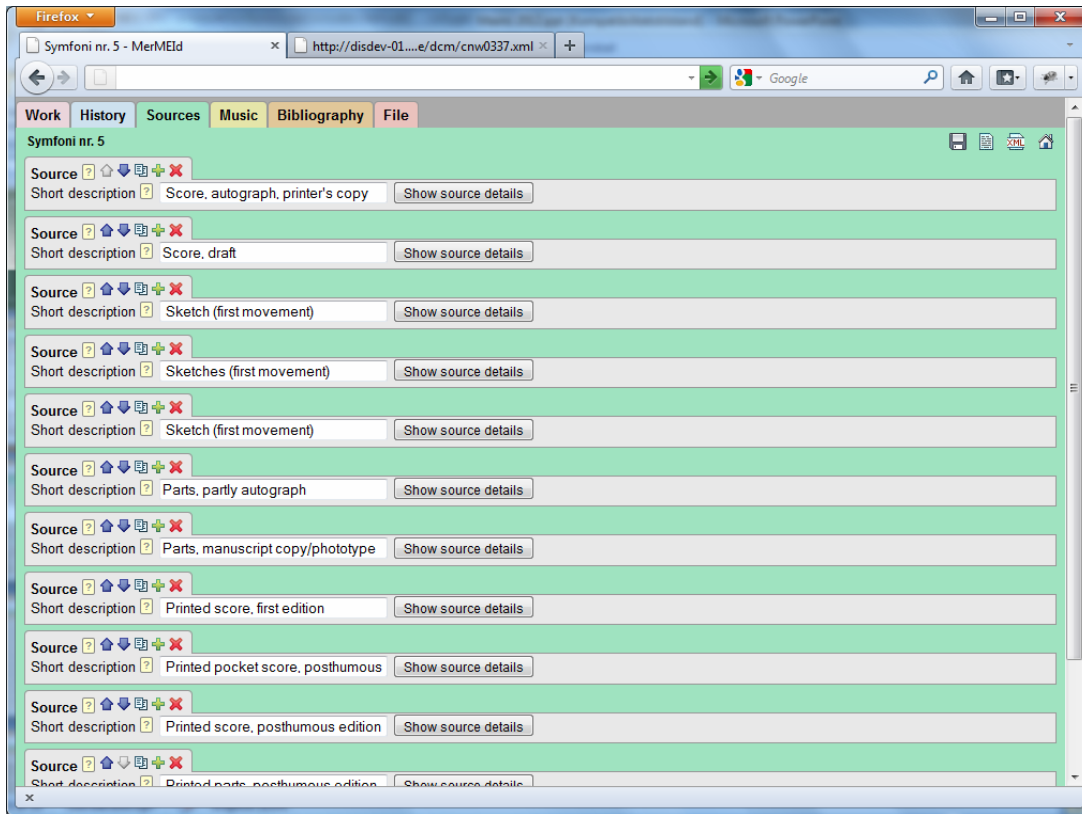
To do

Some of the things we are working on right now:

As the amount of our data grew, we realized that the editor needed to be split up into smaller parts in order to reduce the amount of information to be handled by the browser. With large documents, the system is becoming slow, as it is. We will take each of these tabs and make them a separate editor.

This problem becomes even more apparent with the release of a new MEI schema later this year. The range of metadata supported by the next release is even greater, and there are some structural changes, requiring substantial re-coding the editor interface.

On the other hand, the extended metadata features of MEI 2012 will enable us to handle quite complex situations such as composite sources and different versions of the same work.

Another issue is the handling of formatted text. Both the encoding and the editing facilities for longer texts need improving.

We hope to be able to publish a full version of MerMEId for download this fall. If you would like to see the prototype in action, please contact me and I will show it to you on my laptop. Of course, we would also be pleased to hear from anyone who might be interested in using it.

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