Beethoven in the House
Annotating Digital Sources to Contextualise Musicology Studies

Andrew Hankinson
RISM Digital Center, Switzerland

Kevin Page
University of Oxford, United Kingdom

David Lewis
University of Oxford, United Kingdom

Elisabete Shibata
Beethoven-Haus Bonn, Germany

Mark Saccomano
Paderborn University, Germany

Beethoven in the House
Annotating Digital Sources to Contextualise Musicology Studies

1. Motivations

2. Project Approach

Prices of admission to the theatres, and the number of seats in each.

At the Grand-Opéra	from 3 fr. 60 c. to 10 fr.	» c.	Seats 1,937
At the Théâtre-Français	from 1	80	to 6	60	do : 1,520
At the Opéra-Comique	from 1	65	to 6	60	do : 1,720
At the Italian-Opera	from 2	»	to 12	»	do : 1,282
At the Odéon	from 1	50	to 6	»	do : 1,628
At the Gymnase	from 2	»	to 5	»	do : 1,040
At the Nouveautés	from 1	25	to 5	»	do : 1,250
At the Vaudeville	from 1	50	to 5	»	do : 1,257
At the Variétés	from 1	25	to 5	»	do : 1,240
At the Porte-St.-Martin	from »	75	to 5	»	do : 1,803
At the Gaîté	from »	60	to 4	»	do : 1,254
At the Ambigu-Comique	from »	70	to 4	»	do : 1,800
At the Equestrian Circus	from 1	25	to 5	»	do : 1,800
At M. Comte's Theatre	from 1	»	to 5	»	do : 1,000

(At this theatre the performers are children, from 5 to 9 years of age.)

Daily income of a family of five, workers: 2.35fr

Numbers from around 1831, Paris

Michael Walter: *Das Opernpublikum im 19. Jahrhundert*, in: LiTheS Jg. 2 (2009), Nr. 2, p. 75.
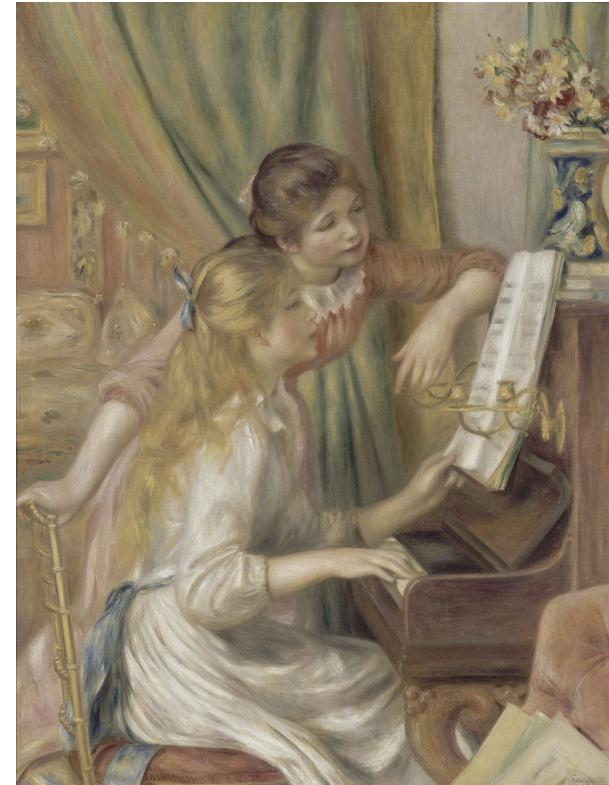
Motivation - Domestic Music Arrangements in the 19th Century

George Hamilton Barrable, https://commons.wikimedia.org/w/index.php?curid=6904104

Silvestro Lega, https://commons.wikimedia.org/w/index.php?curid=1549934

Pierre-Auguste Renoir, https://commons.wikimedia.org/w/index.php?curid=21857233

Two perspectives:

1) A study of Steiner editions of Beethoven's 7th and 8th Symphonies and Wellingtons Sieg will make a detailed comparison between arrangements, systematically identifying a core common to multiple versions, and asking if this reflects the stated values of the publisher.

2) A survey for patterns of arrangement across a larger sample of lesser-known and often poorly catalogued scores, collating emergent indicators of arrangers' motivations within a narrative of the domestic market - the music industry of its day.

Motivation - A study of Beethoven arrangements using digital encodings

Sigmund Anton Steiner

Frühdruck, op. 91, Bearbeitung für 2 Klaviere, Steiner, 2362, C 91 / 8

Frühdruck, op. 92, Bearbeitung für 2 Oboen, 2 Klarinetten, 2 Hörner, 2 Fagotte und Kontrafagott, Stimmen, Steiner, 2563, C 92 / 10

Frühdruck, op. 92, Bearbeitung für 2 Violinen, 2 Violen, Violoncello, Stimmen, Steiner, 2564, C 92 / 23

Frühdruck, op. 92, Bearbeitung für Violine, Violoncello und Klavier, Stimmen, Steiner, 2565, C 92 / 30

Frühdruck, op. 92, Bearbeitung für Klavier zu 4 Händen von Anton Diabelli, Steiner, 2566, C 92 / 27

Frühdruck, op. 93, Bearbeitung für 2 Violinen, 2 Violen, Violoncello, Stimmen, Steiner, 2574, C 93 / 26

Frühdruck, op. 93, Bearbeitung für Klavier zu 4 Händen, Steiner, 2576, C 93 / 16

Frühdruck, op. 93, Bearbeitung für 2 Klaviere von Carl Czerny, Steiner, 2578, C 93 / 21

Two perspectives:

1) A study of Steiner editions of Beethoven's 7th and 8th Symphonies and Wellingtons Sieg will make a detailed comparison between arrangements, systematically identifying a core common to multiple versions, and asking if this reflects the stated values of the publisher.

2) A survey for patterns of arrangement across a larger sample of lesser-known and often poorly catalogued scores, collating emergent indicators of arrangers' motivations within a narrative of the domestic market - the music industry of its day.

Motivation - A study of musicological patterns in domestic arrangements

Beethoven in the House
Annotating Digital Sources to Contextualise Musicology Studies

1. Motivations

2. <u>Project Approach</u>

Contributing technologies - sources - IIIF

https://iiif.io

Interoperability: IIIF offers a standardized way to access image and AV resources

Contributing technologies - sources - Digital Bodleian

Main digitization platform for Bodleian Libraries

Sources digitized as part of the project will be published here

Delivers IIIF images and manifests

Digitized sources are available beyond this project

Frontend

Edirom Online

2011–2016
but still active
development

ExtJS, XQuery
eXist, Digilib
Verovio

MEI, TEI, Audio, IIIF,
proprietary Edirom
data format

25+ active editions
online

https://github.com/Edirom/Edirom-Online

Backend

Edirom Backend

2020–
but some predecessors

XQuery, eXist
Swagger, OpenAPI

REST
JSON, XML

MEI, TEI, Audio,
proprietary Edirom
data format

https://github.com/Edirom/Edirom-Online-Backend

AH

Contributing technologies - Edirom

Measure Detector
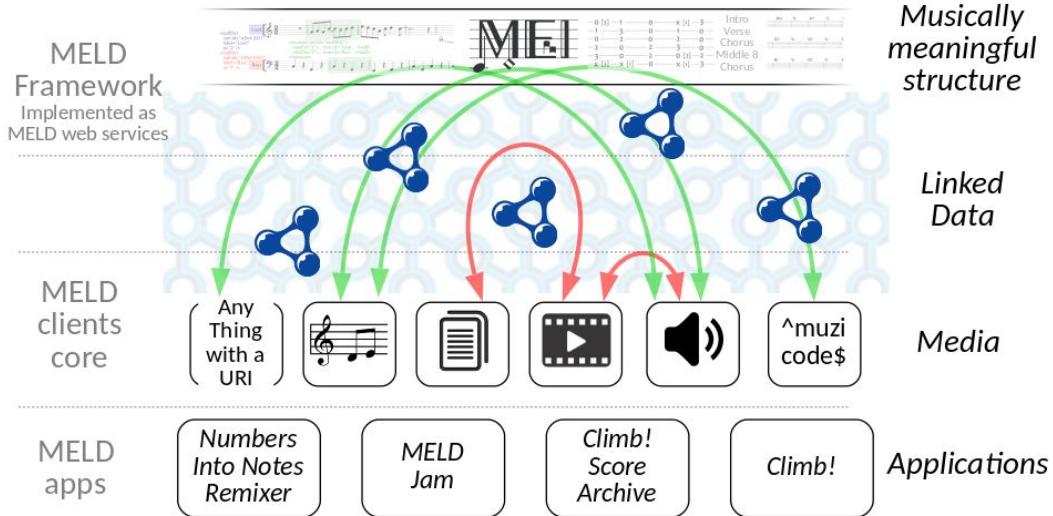
Tensorflow
Python, Javascript

MEI

Contributing technologies - Music Encoding and Linked Data (MELD)

Annotations: a framework for combining annotations of multiple formats of music-related material

- MELD provides the framework for annotations which reference multiple sources.
- We will extend MELD with the ontological modelling necessary to represent complex musicological relationships *in the data.*
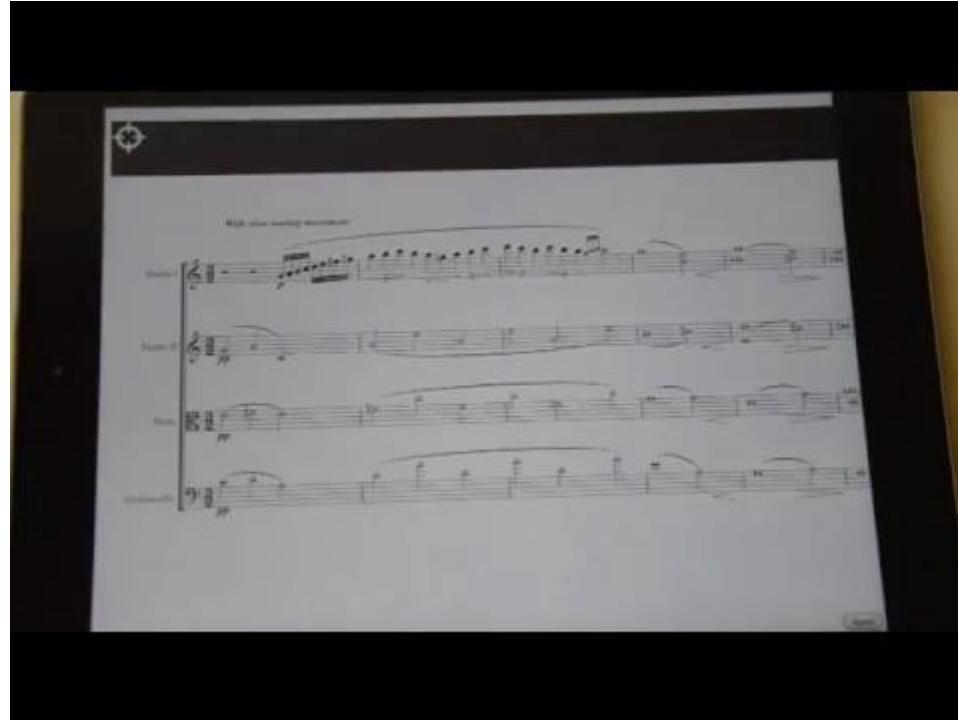
Contributing technologies - MELD

Authoring annotations: the Delius quartet app is a very simplistic annotation authoring tool
- Other, more sophisticated, MELD apps are presentational only (e.g. Lohengrin TimeMachine).
- This current project will create an authoring environment to gather annotations relating to domestic music arrangement, compatible with MELD.

Contributing technologies - MELD - Delius quartet annotation

Contributing technologies - MELD - Delius in Performance article

Contributing technologies - MELD - Lohengrin Digital Companion
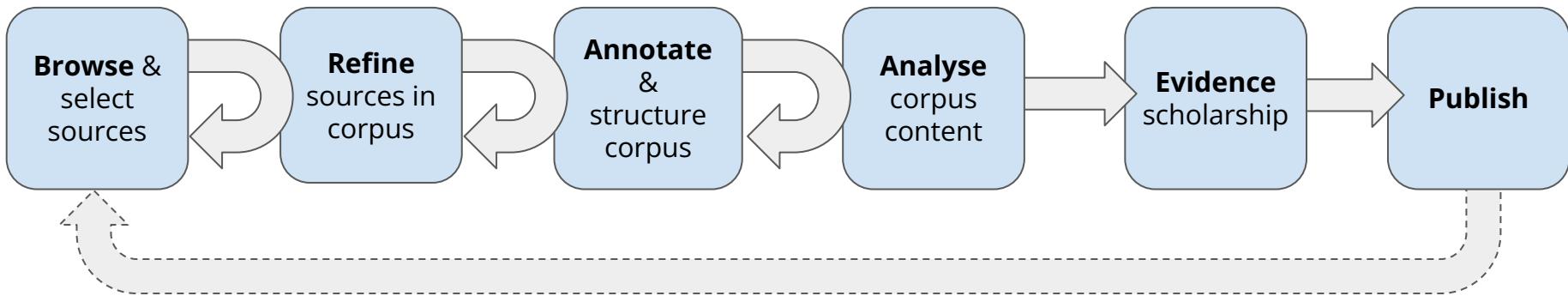
https://um.web.ox.ac.uk/lohengrin
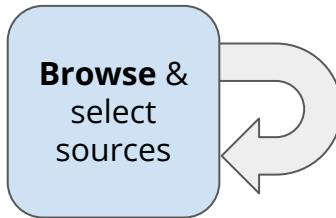
Project goal: a prototype digital environment

An iterative sequence of interactions...
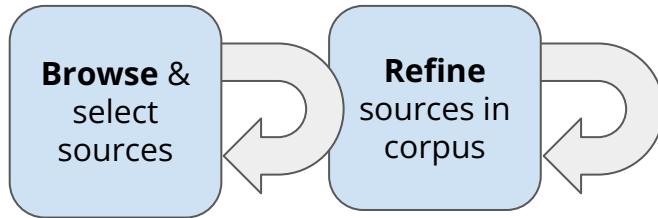
| **Browse** & select sources | **Refine** sources in corpus | **Annotate** & structure corpus | **Analyse** corpus content | **Evidence** scholarship | **Publish** |

Realising our proposed digital environment

Browse & select sources
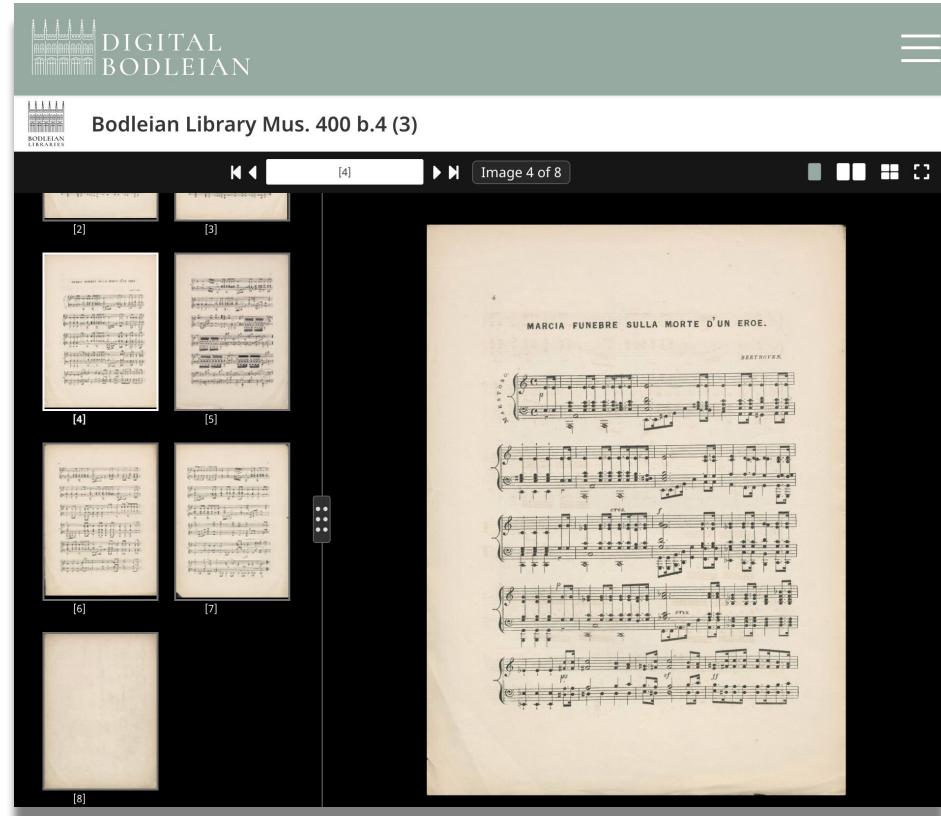
Explore Bodleian and Beethoven-Haus catalogues for vocal arrangements

Realising our proposed digital environment
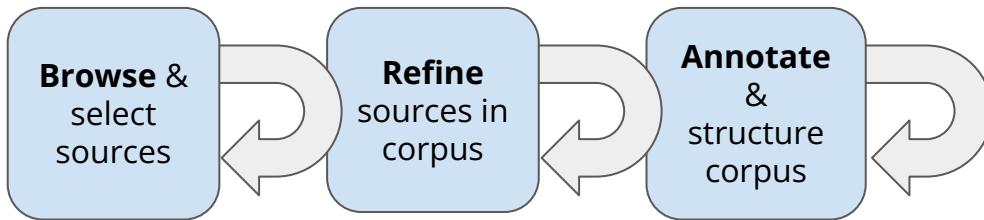
Browse & select sources

Refine sources in corpus

Explore Bodleian and Beethoven-Haus catalogues for vocal arrangements

Browse IIIF images of scores and catalogue information enriched from GND for promising items

Realising our proposed digital environment
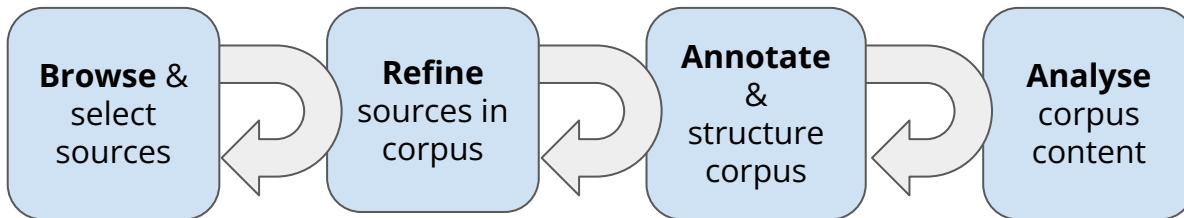
Browse & select sources → **Refine** sources in corpus → **Annotate** & structure corpus

Explore Bodleian and Beethoven-Haus catalogues for vocal arrangements

Browse IIIF images of scores and catalogue information enriched from GND for promising items

Annotate parallel passages for rapid comparison (over images or digital notation)

Realising our proposed digital environment
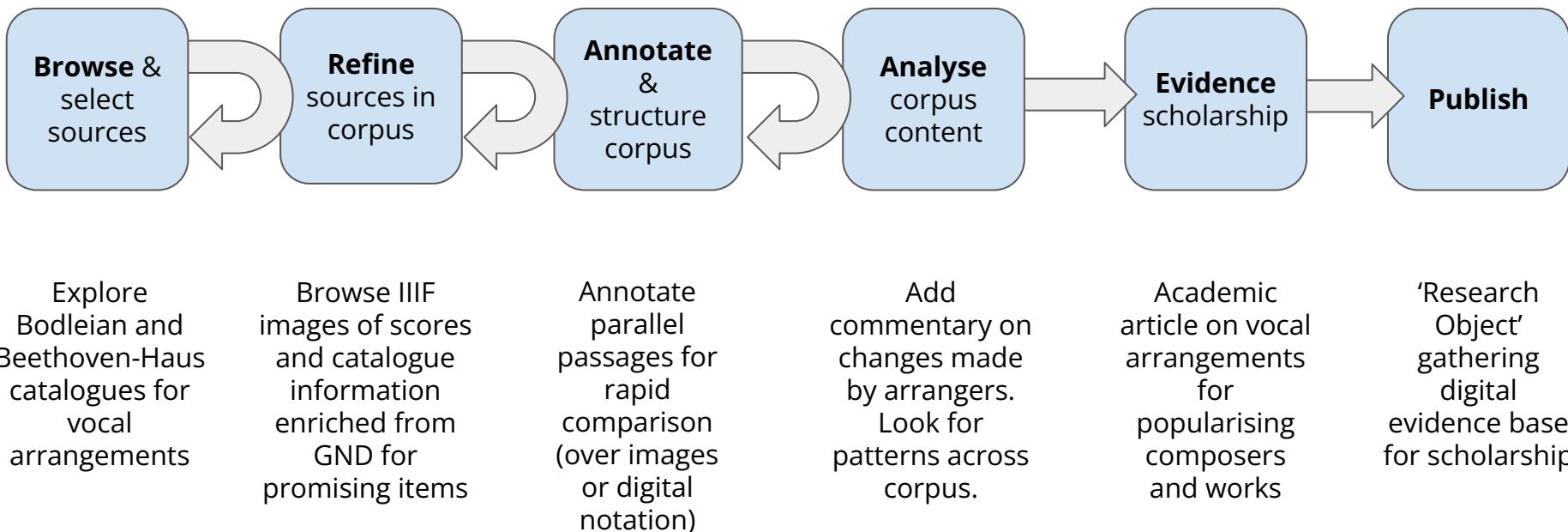
Browse & select sources → **Refine** sources in corpus → **Annotate** & structure corpus → **Analyse** corpus content

| Explore Bodleian and Beethoven-Haus catalogues for vocal arrangements | Browse IIIF images of scores and catalogue information enriched from GND for promising items | Annotate parallel passages for rapid comparison (over images or digital notation) | Add commentary on changes made by arrangers. Look for patterns across corpus. |

Realising our proposed digital environment

Browse & select sources → **Refine** sources in corpus → **Annotate** & structure corpus → **Analyse** corpus content → **Evidence** scholarship → **Publish**

| Browse & select sources	Refine sources in corpus	Annotate & structure corpus	Analyse corpus content	Evidence scholarship	Publish
Explore Bodleian and Beethoven-Haus catalogues for vocal arrangements	Browse IIIF images of scores and catalogue information enriched from GND for promising items	Annotate parallel passages for rapid comparison (over images or digital notation)	Add commentary on changes made by arrangers. Look for patterns across corpus.	Academic article on vocal arrangements for popularising composers and works	'Research Object' gathering digital evidence base for scholarship

# Goals - what will we have at the end of the project?
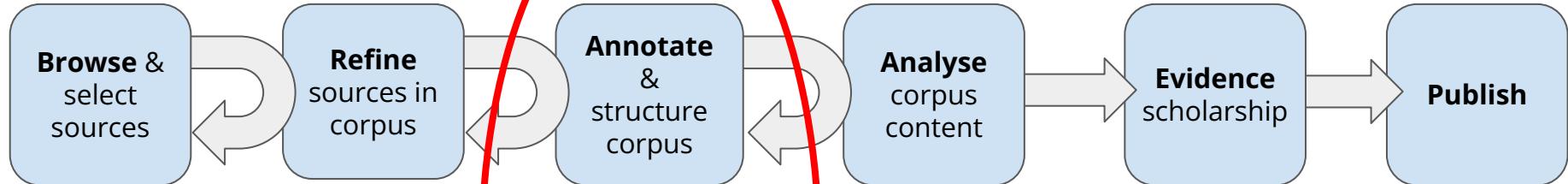
- The two musicology studies:
  - A study of Beethoven arrangements using digital music encodings
  - A study of musicological patterns in domestic arrangements

- A prototype digital environment for musicological exploration of digital material

- Innovative digital methodologies supporting musicological studies

But wait…

Not as simple as it might sound!
This requires a semantic model to annotate between and across sources…
…our DLfM paper on Thursday will discuss the details!
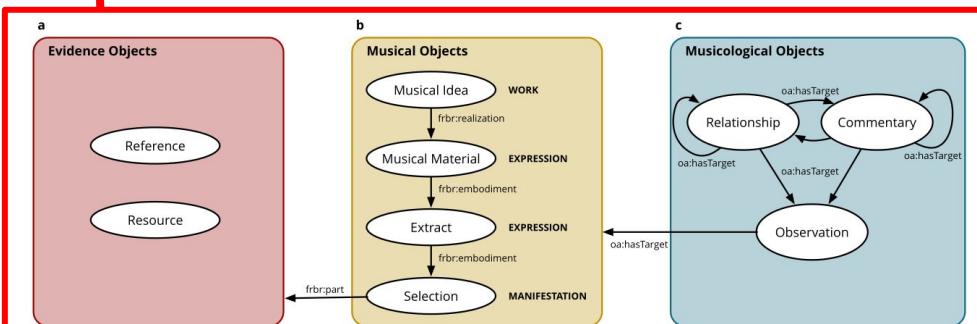
Browse & select sources	**Refine** sources in corpus	**Annotate** & structure corpus	**Analyse** corpus content	**Evidence** scholarship	**Publish**

Explore Bodleian and Beethoven-Haus catalogues for vocal arrangements

Browse IIIF images of scores and catalogue information enriched from GND for promising items

Annotate parallel passages for rapid comparison (over images or digital notation)

27

Beethoven in the House
Annotating Digital Sources to Contextualise Musicology Studies

https://domestic-beethoven.eu/

Thank you!

Find out more about our annotation model during DLfM
Thursday, 11am, Hall B