



Music Encoding and Linked Data (MELD)

Kevin Page & David Lewis - University of Oxford e-Research Centre

David Weigl - mdw - University of Music and Performing Arts Vienna

LinkedMusic project meeting, Montreal, November 2022

Approaches to Linked Data use in (music) research

To support research, we wish to bring together (digital) musical contexts

Linked Data should be great for this
...in theory

Two possible approaches to Linked Data in (music) research:

1. Convert and Link the Data. Once we have the data we can do the research.
2. Undertake musicological research, developing tools and data as we go.
Build common tools and frameworks to make this easier where we can

MELD

MELD not-modelling

Many forms and formats of music materials

- A big (huge) job to encode everything in Linked Data
- So... are there any existing well-structured, thoughtfully conceived, music representations?
- **MEI**
 - XML (including IDs)
 - Transformation to other digital formats (persisting IDs)
 - E.g. SVG via Verovio
 - An active community and a huge amount of work already completed

MELD 'apps'

Different MELD apps are specific:

- In their data
 - Dynamic/static
 - Local/remote
 - Multimedia formats
- In their visualisation/presentations

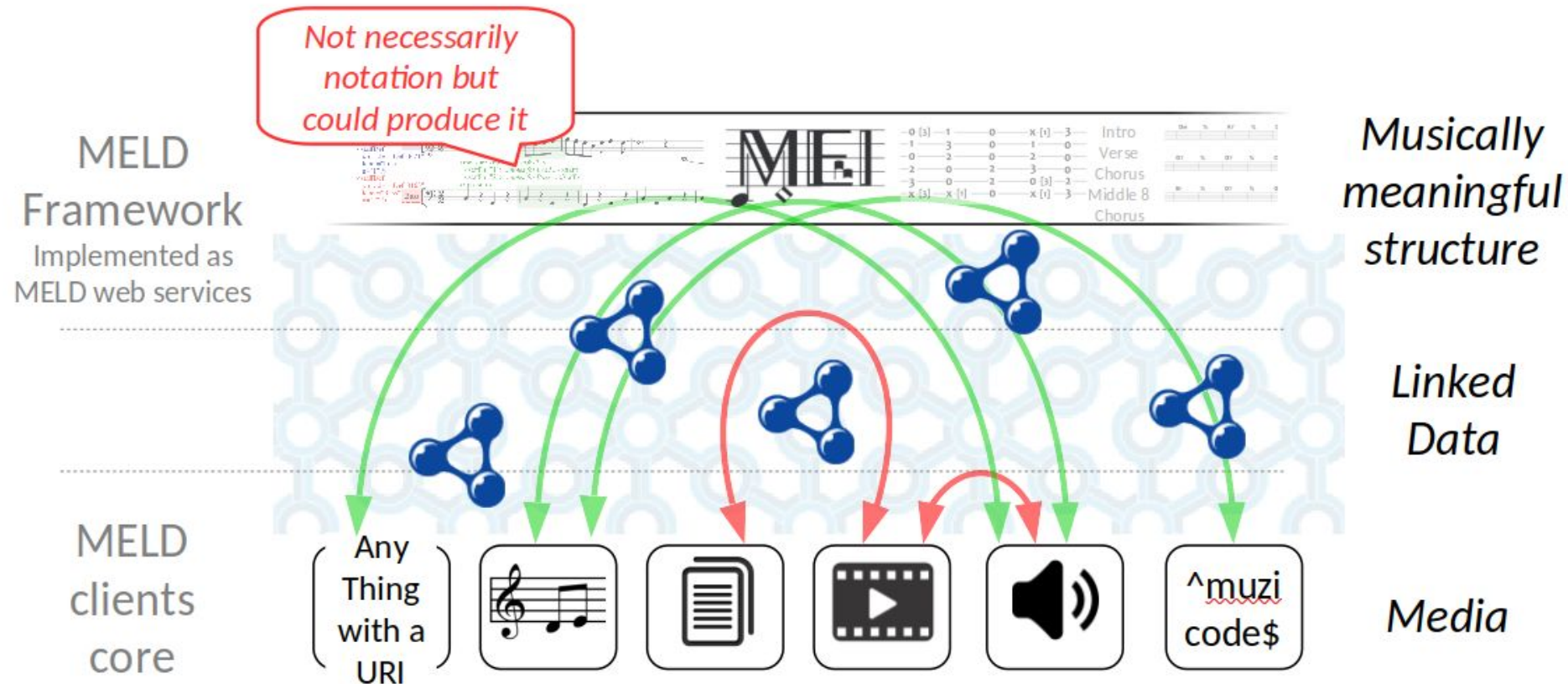
MELD framework

Common elements to all apps:

- Triples are always gathered
 - There must be some intersection or connectivity in the data for this to be a useful exercise
 - Sometimes we need 'stop' rules
- The gathered graph is traversed to build the app interface/environment

As multiple apps develop, refactor reusable software components from apps into the framework for reuse

Music Encoding and Linked Data - 'MELD'



<https://meld.web.ox.ac.uk>

MELD apps

Some 'apps'

- *Climb!* <https://meld.web.ox.ac.uk/apps#collapse2913856>
- Delius annotation <https://meld.web.ox.ac.uk/apps#collapse2913846>
- Lohengrin TimeMachine <https://meld.web.ox.ac.uk/apps#collapse2913651>

MELD modelling

MELD doesn't solve any modelling problems* *per se*

- MELD is a framework within which we can *usefully* solve modelling problems for particular applications
- As, or if, needed

However (assisted) creation of authoritative data is difficult (impossible?) without models...

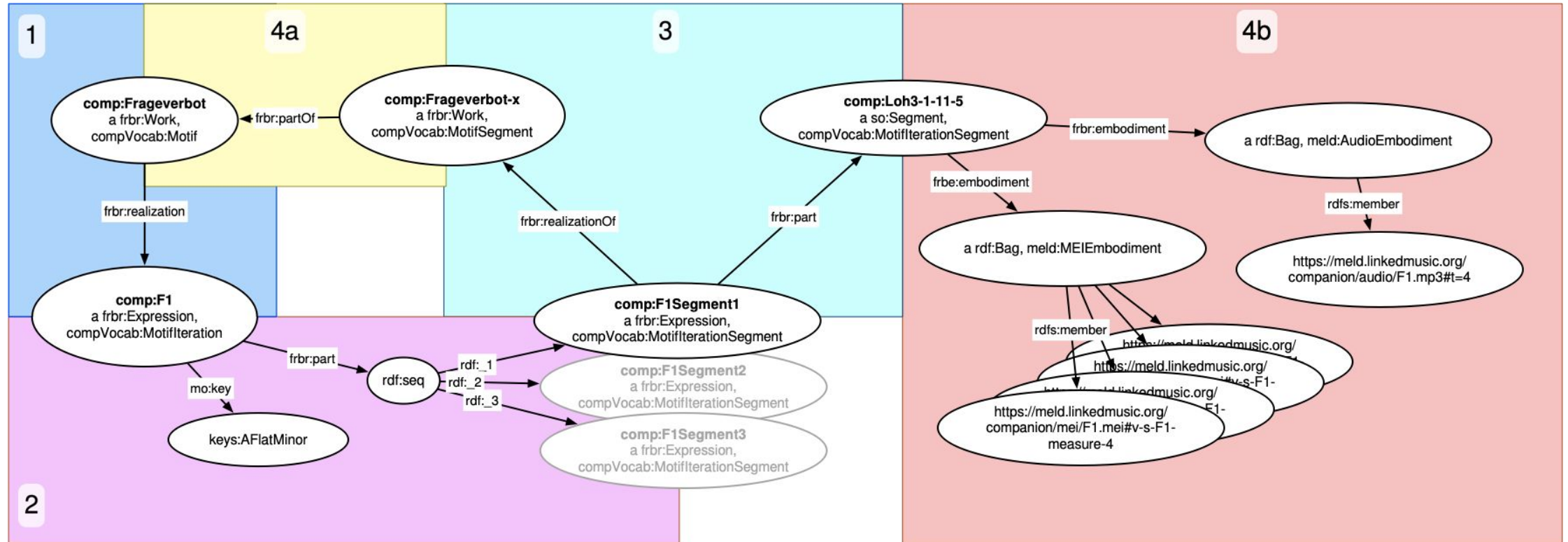
* This is a lie. There's a bunch of helpful glue/structural modelling.

MELD modelling

What do we need from modelling in MELD?

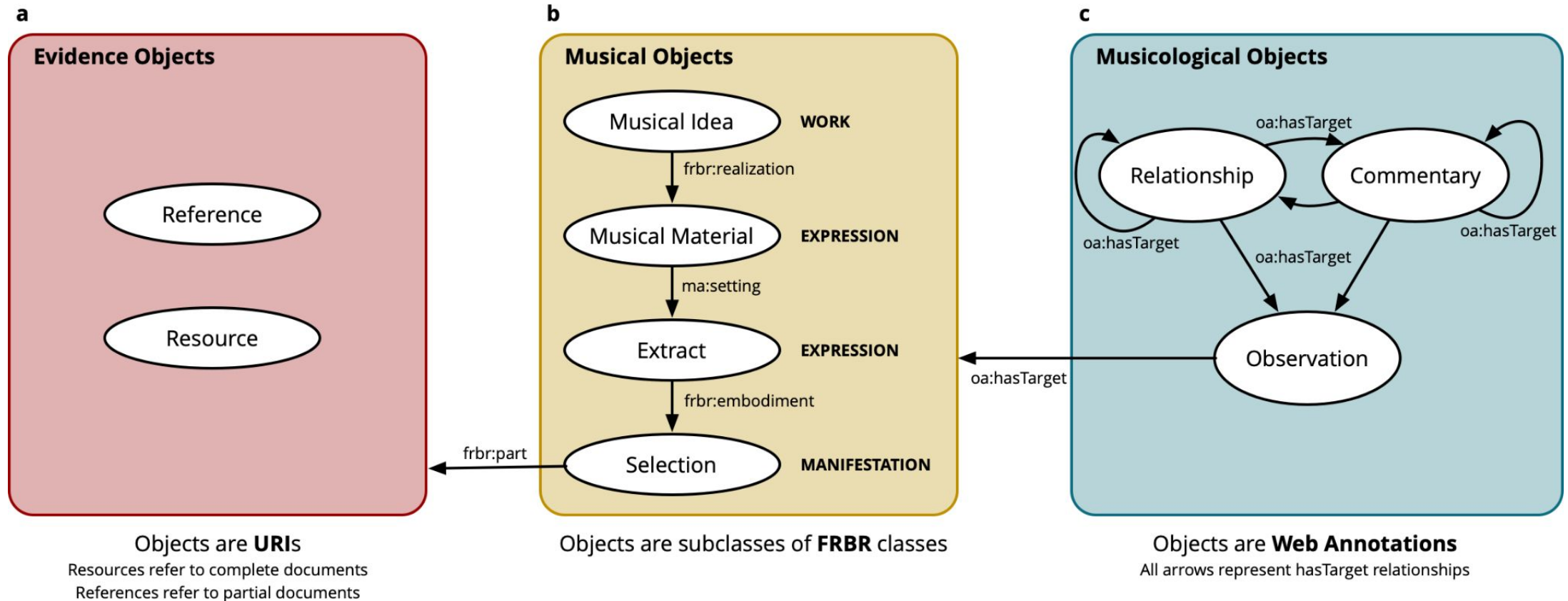
- Juxtaposition of items?
- Annotation during emergent research?

MELD modelling - Lohengrin



David Lewis, Kevin Page, and Laurence Dreyfus. 2021. *Narratives and exploration in a musicology app: Supporting scholarly argument with the Lohengrin TimeMachine*. In 8th International Conference on Digital Libraries for Musicology (DLfM '21). Association for Computing Machinery, New York, NY, USA, 50–58. <https://doi.org/10.1145/3469013.3469020>

Next step modelling - Beethoven in the House



David Lewis, Elisabete Shibata, Mark Saccomano, Lisa Rosendahl, Johannes Kepper, Andrew Hankinson, Christine Siegert, and Kevin Page. 2022. *A model for annotating musical versions and arrangements across multiple documents and media*. In Proceedings of the 9th International Conference on Digital Libraries for Musicology (DLfM '22). Association for Computing Machinery, New York, NY, USA, 10–18. <https://doi.org/10.1145/3543882.3543891>

MELD and LinkedMusic

How will LinkedMusic help make more MELD apps?