

SWIB17

Semantic Web in Libraries

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Hamburg, Germany

BIBFRAME



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BIBFRAME Pilot

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Library of Congress, United States of America

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Extensions

ArtFrame *Columbia University.*

Art objects - paintings, photographs, sculptures, ceramics

Cartographic *Harvard*

printed maps, atlases, geospatial datasets

Moving Image *Harvard*

Performed Music *Stanford, MLA, ARSC, LC, and the PCC*
modeling of performers, medium of performance, and events

Rare Materials *Cornell*

model the complexity of rare materials, particularly item-level description. Provenance, physical description. Partnering with ArtFrame.

Bibliotek-o LD4P

How BIBFRAME Interacts with some of these external ontologies

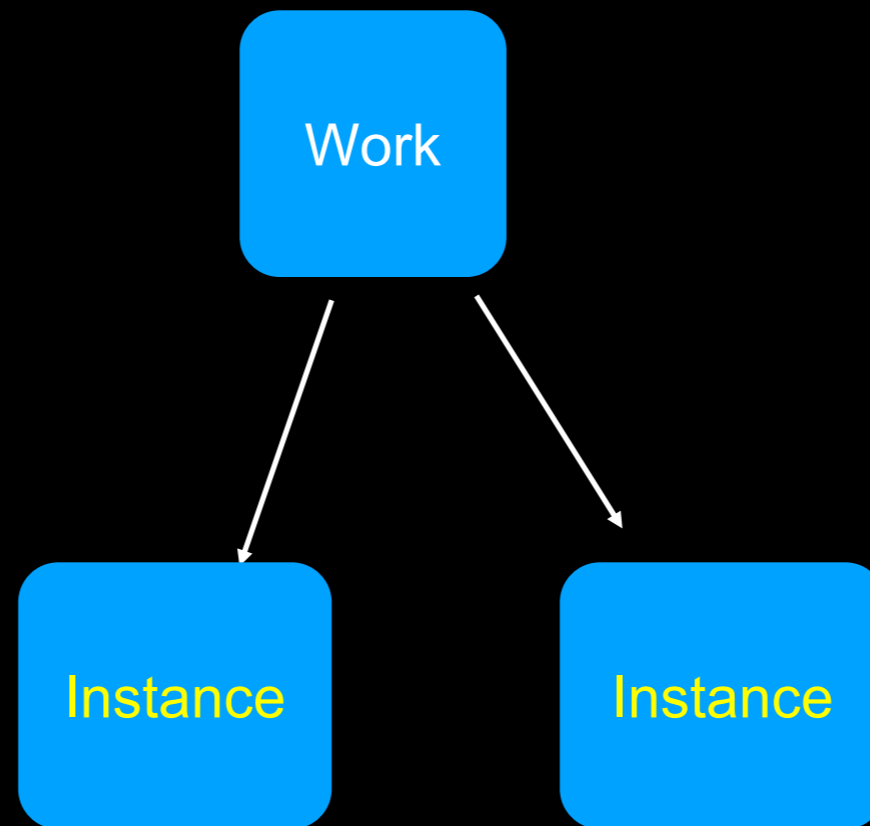
.... First, a quick review of the basic BIBFRAME model

basic BIBFRAME model

... begins with Work



a Work may have one or more instance



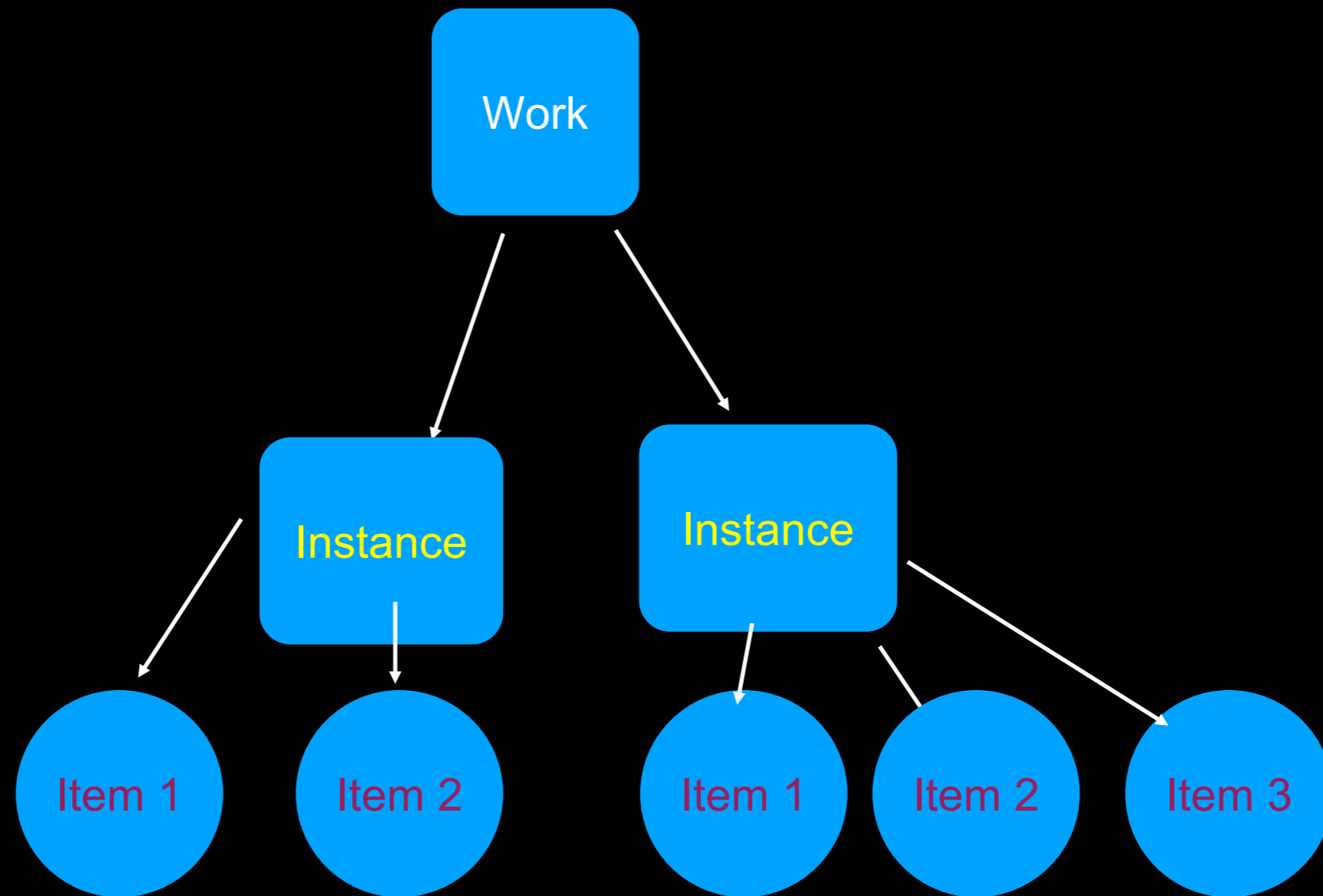
Work:
Candide,
the book

```
graph TD; A[Work: Candide, the book] --> B[Instance 1, Print]; A --> C[Instance 2, Electronic];
```

Instance 1,
Print

Instance 2,
Electronic

an Instance may have one or more Items



Work to Work Relationships

Another Work: the play “Candide”

Work:
the book
“Candide”

Work:
the play
“Candide”

Another Work: the play “Candide”

Work:
the book
“Candide”

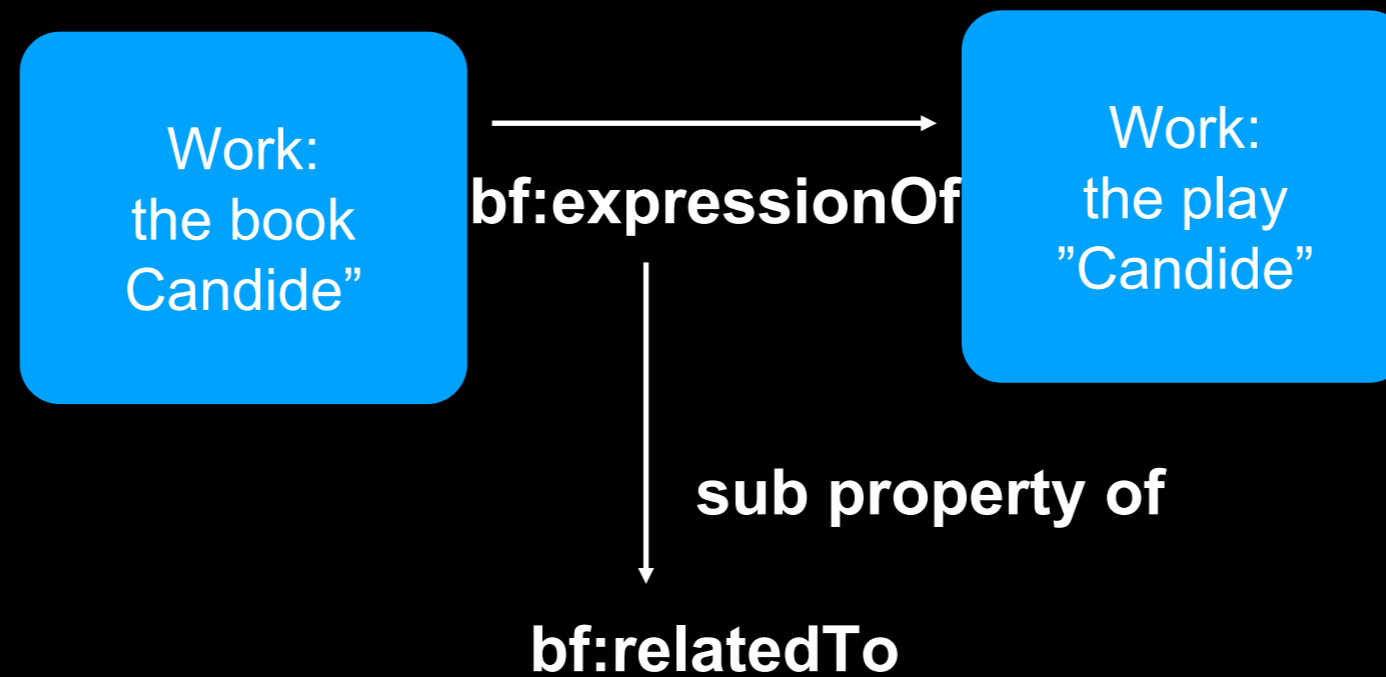
Work:
the play
“Candide”

These are two distinct Works

distinct but “related”



More specifically, the play is an expression of the book
and the relationship `expressionOf` is a subproperty
of the property `relatedTo`



bf:Work has subclasses:

bf:cartography

bf:Audio

bf:NotatedMusic

bf:Text

bf:StillImage

bf:MovingImage

Music Extension

bf:Work has subclasses:

bf:cartography
bf:Audio
bf:NotatedMusic
bf:Text
bf:StillImage
bf:MovingImage

In particular, two subclasses
related to music

bf:cartography

bf:Audio

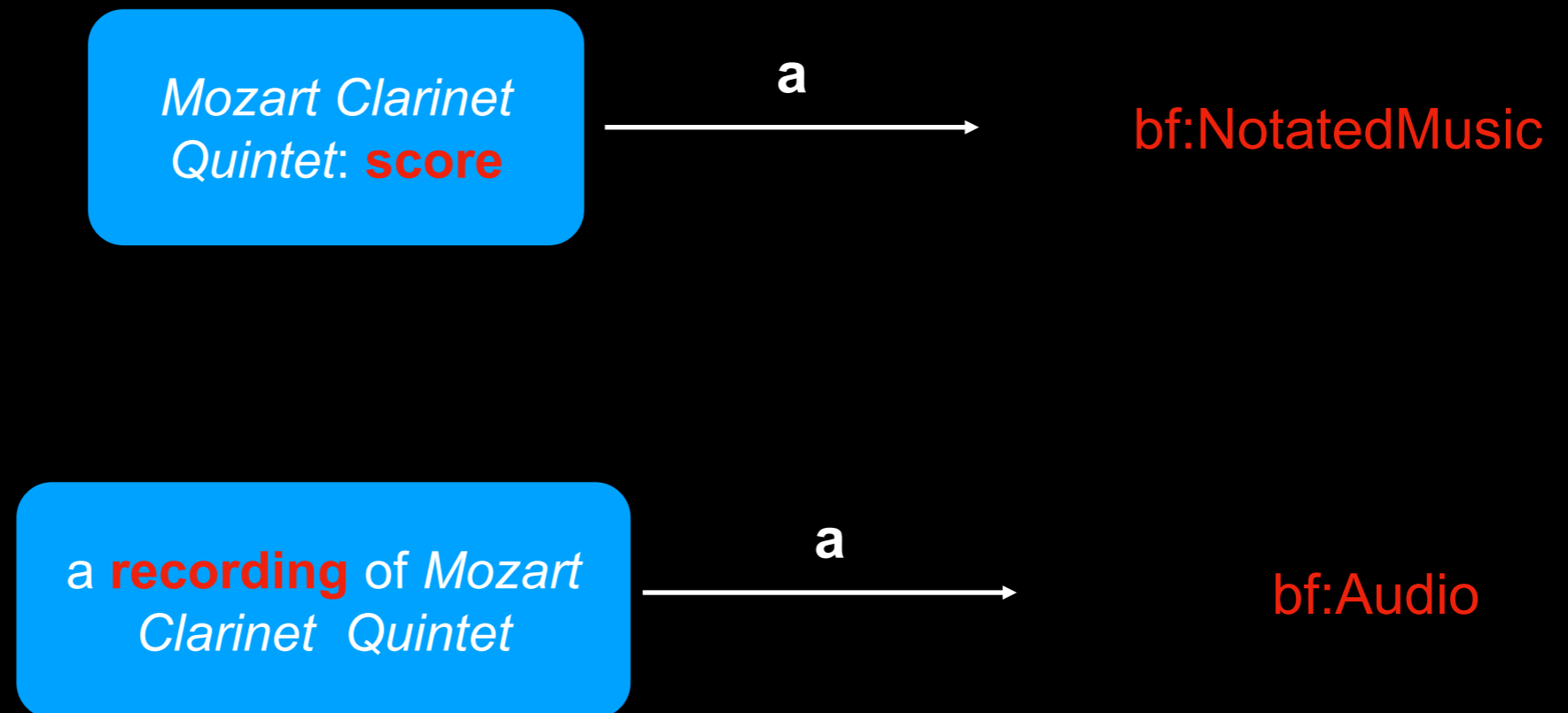
bf:NotatedMusic

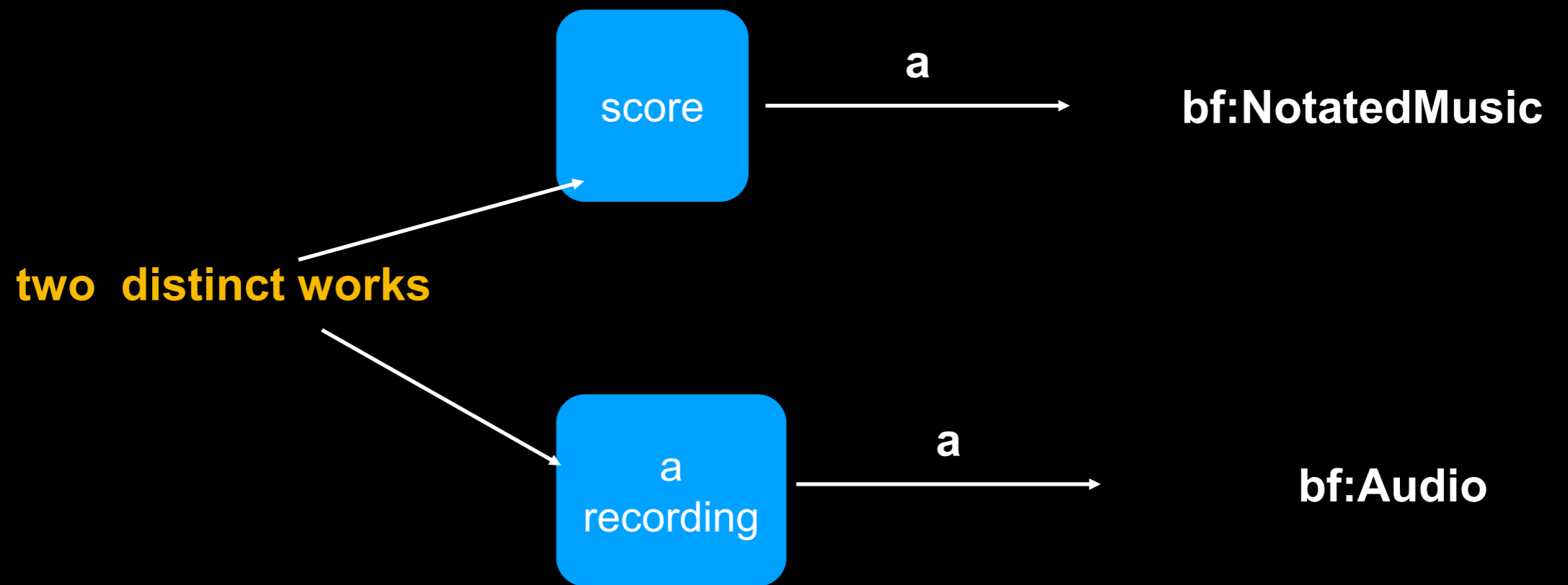
bf:Text

bf:StillImage

bf:MovingImage

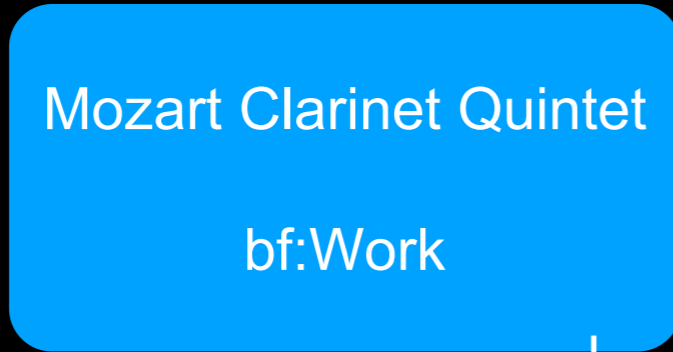
Mozart Clarinet Quintet





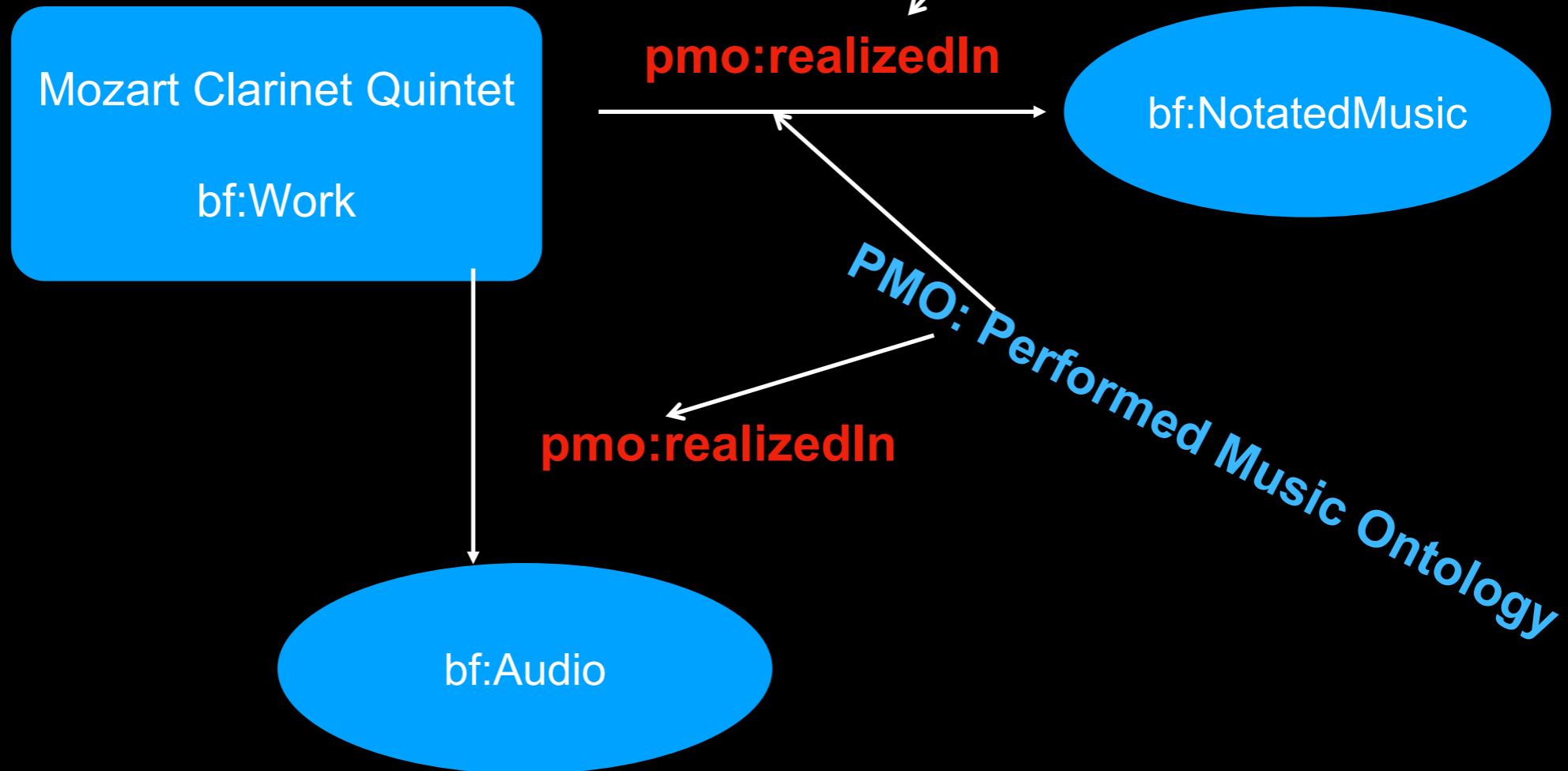
Music extension adds a
layer of abstraction to the
basic model

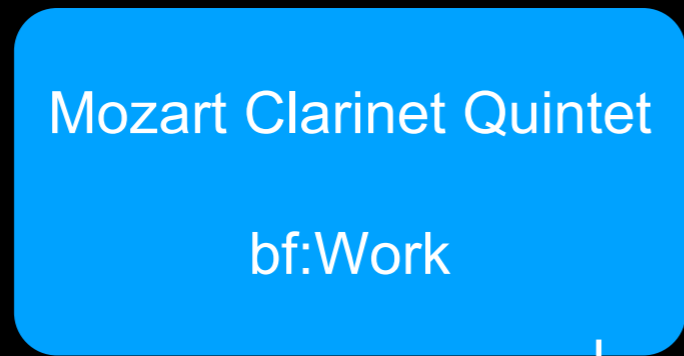
**music extension
invents an “abstract”
work**



... and adds relation to relate the abstract work to the two existing works

Work to Work relation, subproperty of bf:relatedTo





pmo:realizedIn

pmo:hasRecording

Work to Event relation

Event to Work relation

BIBFRAME Events

BIBFRAME Events

class bf:Event another core class

- There is a concert.
- The concert is recorded.
- A book is written about the concert.

- There is a concert. The concert is an **Event**.
- The concert is recorded. The recording is a **Work**.
- A book is written about the concert. the book is a **Work**,
and the concert is the
subject of the book.

Brief digression: BIBFRAME Subjects

Person as subject

bf:subject [

a **bf:Person** ;

rdfs:label “Booth, John Wilkes, 1838-1865”]

Place as subject

```
bf:subject [
```

```
  a      bf:Geographic ;
```

```
  rdfs:label "France." ] .
```

Work as subject

bf:subject [

a

bf:Work ;

rdfs:label “the life and times of winston churchill ”] .

Event as subject

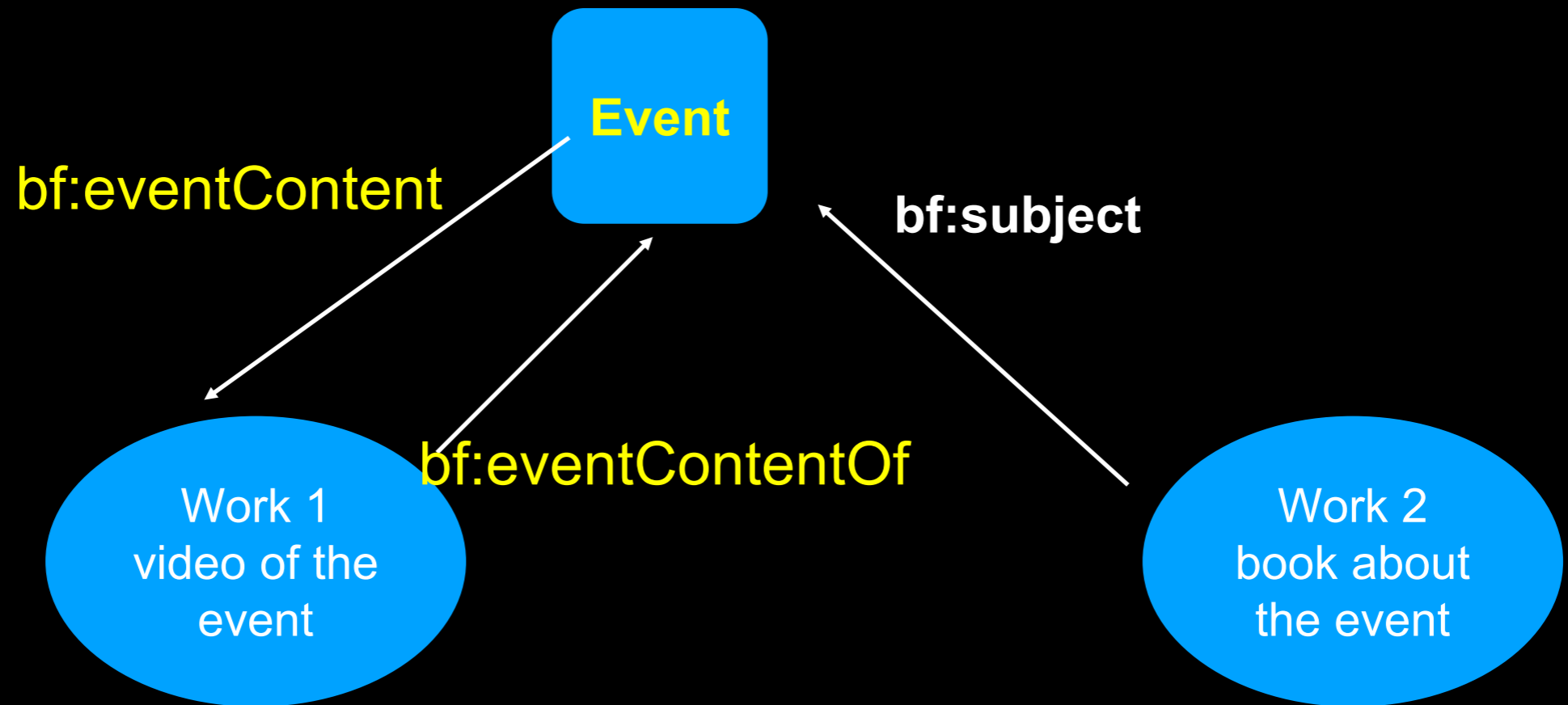
bf:subject [

a

bf:Event ;

rdfs:label ““1964 U.S. Presidential Inauguration” ”] .

- There is a concert. The concert is an **Event**.
- The concert is recorded. The recording is a **Work**.
- A book is written about the concert. the book is a **Work**,
and the concert is the
subject of the book.





Property pmo:createdFor

a motet celebrating the inauguration of a pope



Pmo:createdFor supproperty of **bf:relatedTo**

Additional pmo properties

- hasEventName
- hasInspiration
- hasPerformance Event that is the performance of a Work. Subproperty of eventContentOf
- recordingOf Subproperty of eventContentOf

Additional pmo Classes

- pmo:Concert
- pmo:Performance
- pmo:Festival

All subclasses of bf:Event

... and further subclassed:

- **Concert**
 - BenefitConcert
 - ConcertSeries
 - ConcertTour
- **Performance**
 - CommandPerformance
 - FirstPerformance
 - LivePerformance<
 - OpenMicPerformance
 - RecordingSession
 - Rehearsal
 - Audition
- **Festival**
 - MusicFestival

Rare Materials: CustodialEvent

- **ex:CustodialEvent**
 - **ex:Accessioning**
 - **ex:Auction**
 - **ex: Request**
 - **ex: ClaimOfOwnership**
 - **ex: Deposit**
 - **ex: Destruction**
 - **ex: Donation**
 - **ex: Inheritance**
 - **ex: Loan**
 - **ex: Loss**
 - **ex: Offer**
 - **ex: Recovery**
 - **ex: Repatriation**
 - **ex: Sale**
 - **ex: Theft**
 - **ex: Transfer**

Subclass of bf:Event



BIBFRAME Titles

Consider this title:

“Penguin atlas of media and information - key issues and global trends”

“Penguin atlas of media and information - key issues and global trends”

Main Title

subtitle

100 1 Balnaves, Mark

245 14 **The Penguin atlas of media and information
:|b[key issues and global trends]**

Stephanie Hemelryk Donald

246 30 Atlas of media and information

246 30 Media and information

260 New York, N.Y. :|bPenguin Putnam,|c2001

300 128 pages :|bcolor illustrations, chiefly color maps ;|c25
cm

336 text|btxt|2rdacontent

337 unmediated|bn|2rdamedia

338 volume|bnc|2rdacarrier

500 **Subtitle from cover**



Cataloger indicates the source of the subtitle.

How do we reflect this in RDF?

```
bf:title [  
  bf:mainTitle "Penguin atlas of media and information" ;  
  bf:subtitle "key issues and global trends" ]
```

bf:mainTitle and bf:subtitle are datatype properties

Define an object property:

ex:subtitle

.... And class:

ex:Subtitle

bf:title [

bf:mainTitle **"Penguin atlas of media and information"** ;

bf:subtitle **"key issues and global trends"**]

```
bf:title [  
  bf:mainTitle "Penguin atlas of media and information" ;  
  bf:subtitle "key issues and global trends" ]  
ex:Subtitle [rdfs:label "key issues and global trends" ;  
              bf:note [rdfs:label "from cover"] ]
```



```
bf:title [  
  bf:mainTitle "Penguin atlas of media and information" ;  
  bf:subtitle "key issues and global trends" ]  
ex:Subtitle [rdfs:label "key issues and global trends" ;  
              bf:note [rdfs:label "from cover"] ]
```

But this isn't very linked-data friendly

A more linked-data friendly approach ...

```
bf:title [  
  bf:mainTitle "Penguin atlas of media and information" ;  
  bf:subtitle "key issues and global trends" ;  
  ex:Subtitle [rdfs:label "key issues and global trends" ;  
    ex:titleSource ex:cover ]
```

Object property

Named individual

```
bf:title [  
  bf:mainTitle "Penguin atlas of media and information" ;  
  bf:subtitle "key issues and global trends" ]  
ex:subtitle [rdfs:label "key issues and global trends" ;  
             ex:titleSource ex:cover ] ]
```

Subtitle is expressed twice. Once using the bibframe datatype property, and again using the external, object property. If the latter is not supported by the client, it will at least know the subtitle if not the source.