How are dependent works realized?

Jacob Jett & David Dubin

How do editions relate to works?

- When a work of authorship is published in a new edition, what exactly is the relationship between the edition and the contribution of the author or authors?

- Just giving the relationship a name (like realization or embodiment) doesn't explain much.

- Could it be a kind of *mereological* (whole/part), *instantiation* (type/exemplar), or *intentional* (language/topic) relationship?

What it is vs. how we shall

- Five years ago we presented here on the role of models and architectures in information standards.
- On the one hand they present theories of how one should understand an application domain, and on the other hand they promote uniformity of practice via stipulative definitions.
- Models always simplify, but must offer enough descriptive power to include stakeholders' use cases.

Use of scholarly digital editions

- Humanities scholarship is becoming more distributed and collaborative. Digital edition projects proceed along trends predicted by van Zundert in 2011:
  - drawing from widely distributed digital resources;
  - combining even more heterogeneous data types (including demographic and geographic data);
  - developing as versioned, rather than fixed-state documents;
  - involving more widely distributed teams of scholars, collaborating with each other remotely.
- A small number of scholars could just decide among themselves how to tag the properties, relationships, and distinctions they care about.
- But to support reuse, integration, and extension over time, markup vocabularies should be based on conceptual models with good descriptive power.

Scholarly Editions May Include

- Editorial remarks on
  - The work
  - The text
  - The artifact
- Refences
  - To other works
  - To other text
  - To other artifacts

Frameworks for Understanding Scholarly Editions (Sahle & Vogeler 2014)

- Subject & Content (to which FRBR can be applied)
  - Selection
    - Relevance
    - Selection principles
    - Broader topical context
  - Previous/Project Achievements
    - Contributions to topic
    - Material taken from earlier works
  - Content
    - Quantification & characterization of information presented
    - Characterization of omissions (when present)

Frameworks for Understanding Scholarly Editions (Sahle & Vogeler 2014)

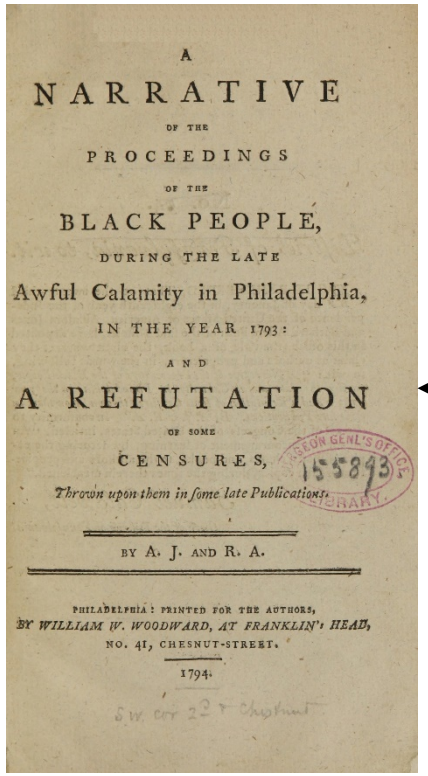
- Aims & Methods
  - Documentation
  - Scholarly objectives
  - Mission
  - Method
  - Representation of Dodcuments & text
  - Text criticism, indexing, & commentary
  - Data modelling

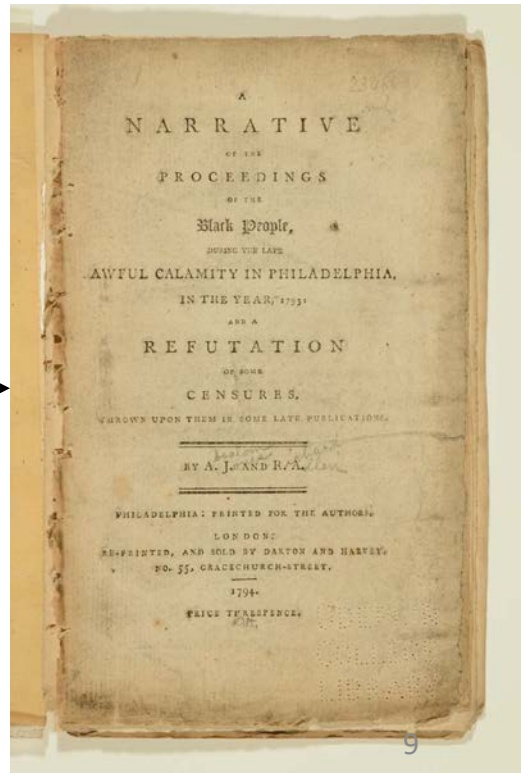
Jones and Allen's 1794 Narrative

- Our example for discussion is Molly O'Hagan Hardy's TEI edition of Absalom Jones and Richard Allen's account of the 1793 yellow fever epidemic in Philadelphia.
- Hardy's markup includes tags for typographic features of two separate paper editions.
- She has linked in demographic and geographic data sourced from contemporary city directories.
- Jones and Allen respond in the text to specific editions of Mathew Carey's account of the epidemic.
- So Hardy's tags pick out references to works, editions, textual quotations, people, and places.

A Narrative of the Proceedings of the Black People, During the Late Awful Calamity in Philadelphia, in the Year 1793

- A pamphlet by Absalom Jones & Richard Allen
- Responding to a pamphlet by Mathew Carey
- Transcribed and encoded in TEI by Molly Hardy
  - Reconciles the original edition with the London reprint
  - Adds a personography of people mentioned (many of who were victims of the epidemic)


A
NARRATIVE
OF THE
PROCEEDINGS
OF THE
BLACK PEOPLE,
DURING THE LATE
Awful Calamity in Philadelphia,
IN THE YEAR 1793:
AND
A REFUTATION
OF SOME
CENSURES,
Thrown upon them in some late Publications.
BY A. J. AND R. A.
PHILADELPHIA: PRINTED FOR THE AUTHORS,
BY WILLIAM W. WOODWARD, AT FRANKLIN'S HEAD,
NO. 41, CHESNUT-STREET.
1794.


A
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Black People,
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AWFUL CALAMITY IN PHILADELPHIA,
IN THE YEAR 1793:
AND A
REFUTATION
OF SOME
CENSURES,
THROWN UPON THEM IN SOME LATE PUBLICATIONS.
BY A. J. AND R. A.
PHILADELPHIA: PRINTED FOR THE AUTHORS.
LONDON:
RE-PRINTED, AND SOLD BY DARTON AND HARVEY,
NO. 55, GRACECHURCH-STREET.
1794.
PRICE TWOPENCE.

Encoded Snippet from Hardy's Transcription

- <p>
<lb ed="ed1"/>We feel ourselves hurt most by a partial, censorious
<lb ed="ed1"/>paragraph, in <persName ref="#mathew_carey">Mr. Carey's</persName> second edition, of his ac-
<lb ed="ed1"/>count of the sickness, &c. in Philadelphia; pages 76
<lb ed="ed1"/>and 77, where he asperses the blacks alone, for having
<lb ed="ed1"/>taken the advantage of the distressed situation of the
<lb ed="ed1"/>people. That some extravagant prices were paid, we
<lb ed="ed1"/>admit; but how came they to be demanded? the
<lb ed="ed1"/><fw type="catch">reason</fw> <pb ed="ed2" facs="009.jpg"/>
<fw type="title_heading">A NARRATIVE,&c.</fw> <fw type="page_number">7</fw>
<lb ed="ed1"/>reason is plain. It was with difficulty persons could be
<lb ed="ed1"/>had to supply the wants of the sick, as nurses;-ap-

Uncertainties

- Is Hardy describing two different *manifestations* embodying the same *expression*?
  - Assuming that “the text” and FRBR’s *expression* are the same thing.
- Is Hardy describing two different *expressions* realizing the same *work*?
- Is Hardy’s markup dependent on Jones & Allen’s *work*?
  - Is it reconciling multiple *expressions* of their *work*?
  - Or is it reconciling multiple *manifestations* of the *expression* of their *work*?
- What is the relationship of the personography Hardy provides to Jones & Allen’s *work*?

Dependent works and the FRBR family of standards

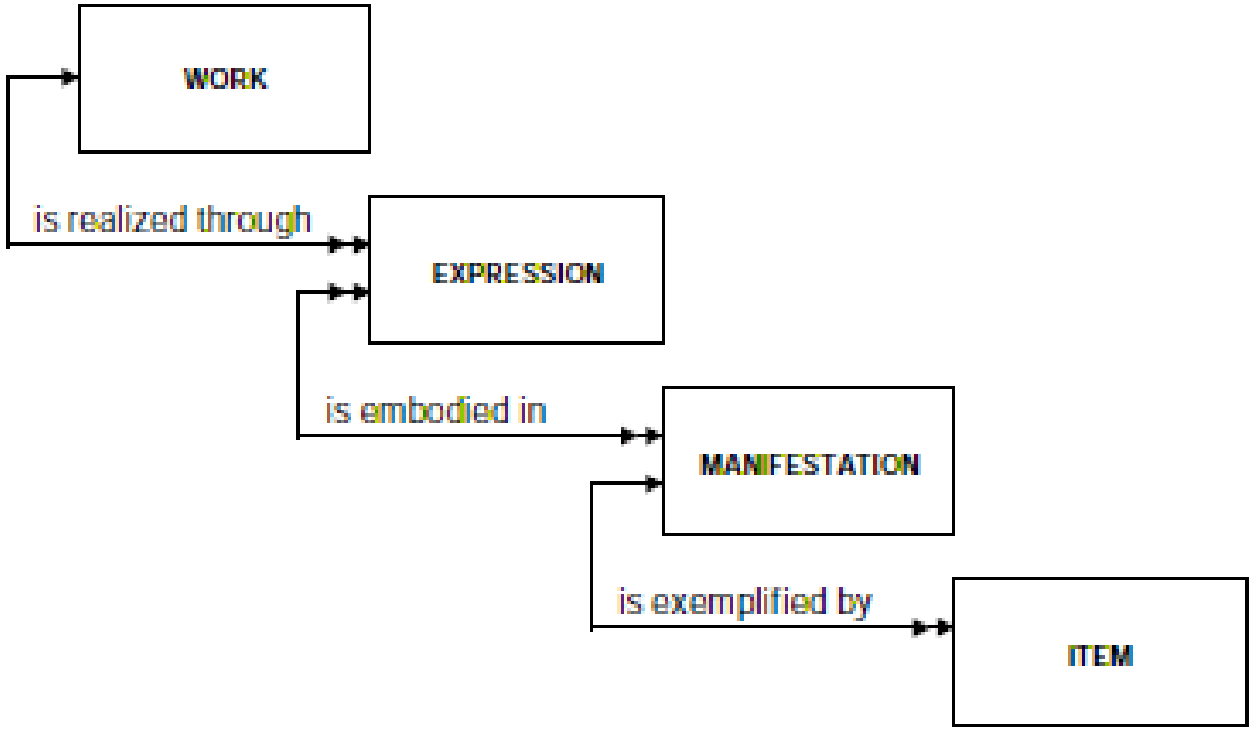
- The FRBR family of specifications offer the most well-developed accounts of bibliographic aggregates and complex works.
- But they differ significantly on what aggregates actually are.
- So we see considerable diversity in explaining these relationships, even within the community that takes the WEMI Group 1 entities as a starting point.

FRBR Family of Conceptual Models

- Functional Requirements for Bibliographic Records (FRBR)
- Object-Oriented FRBR ($FRBR_{OO}$)
- IFLA's Library Reference Model (IFLA-LRM)

WEMI Model

Figure 3.1: Group 1 Entities and Primary Relationships



From IFLA's FRBR Report (1998 [rvsd. 2008]) – p 14.

For instance

- FRBR *expressions* can only realize a single *work*.
  - This makes it difficult to relate Hardy's contribution (the personography) to Jones & Allen's *work* without resorting to part-talk

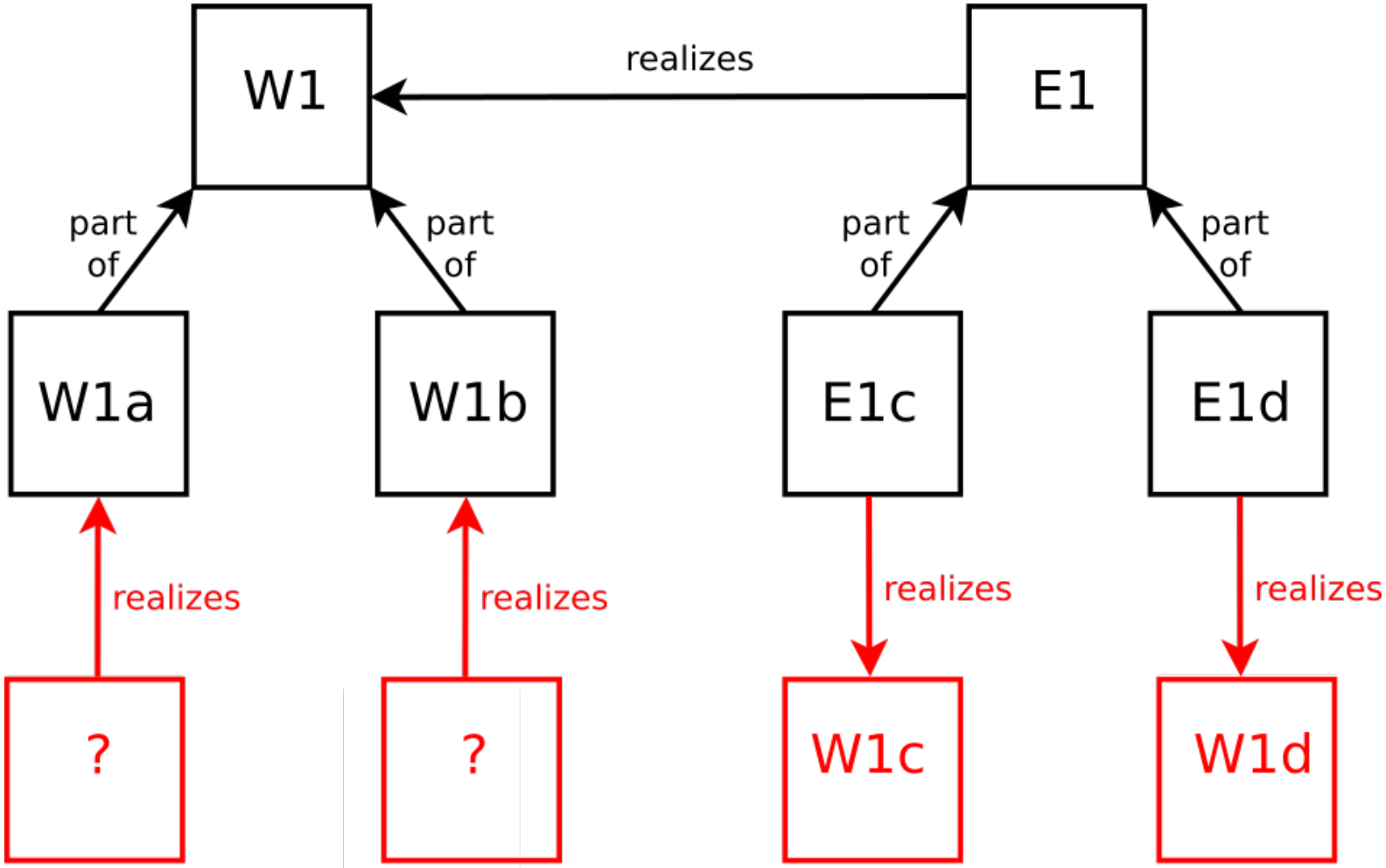
- FRBR does provide a meronymous approach
  - But the FRBR documentation fails to clarify the relationship between parts of *expressions* and parts of *works*.

Similarly,

- $FRBR_{OO}$ provides a different account that focuses on *expressions realizing* multiple *works*
  - But that seems to disagree with the original FRBR model

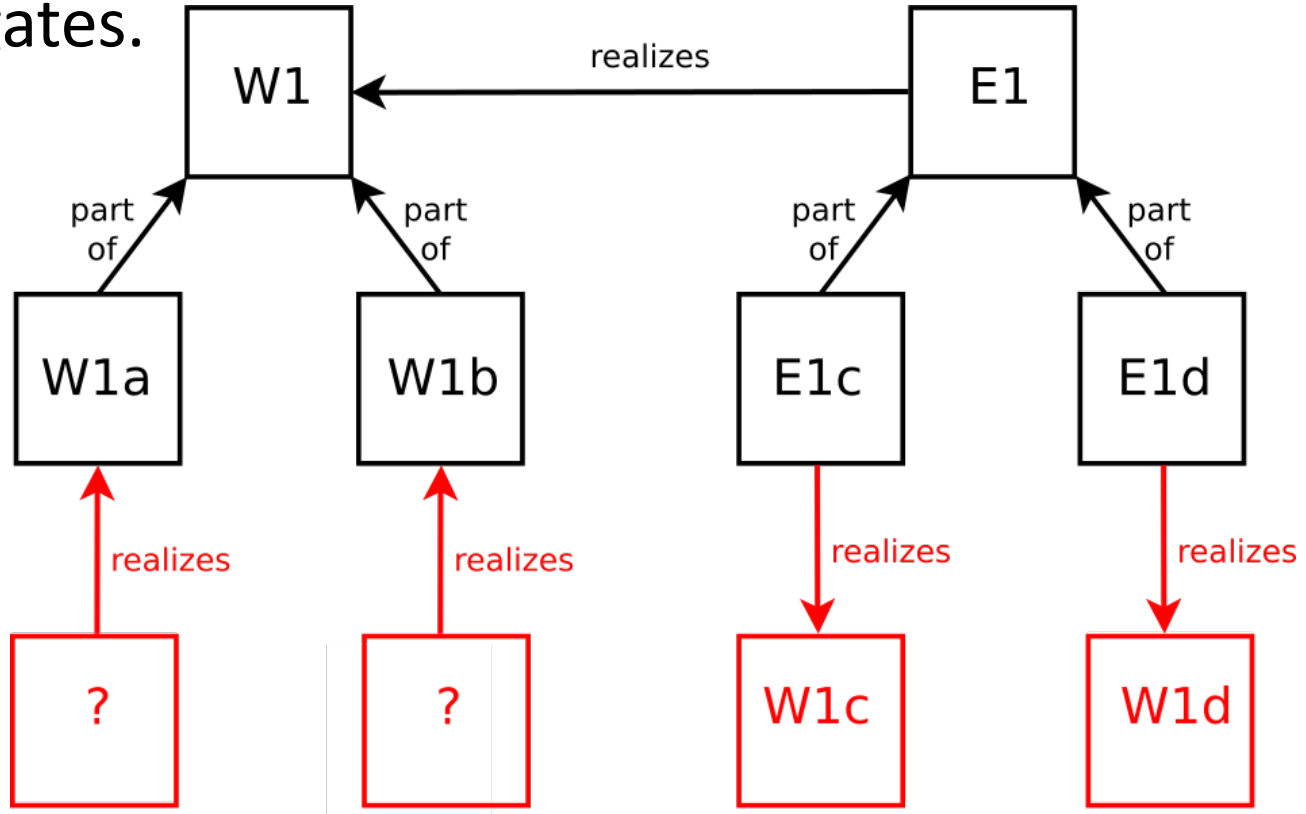
- IFLA-LRM provides another different account that doesn't rely on the meronymous approach
  - But it calls into question exactly what kind of relation *embodies* is and why its scope is so different from *realizes* and *exemplifies*
    - Is it *intention*? Is it *instantiation*?

Parts of Works – the FRBR Way

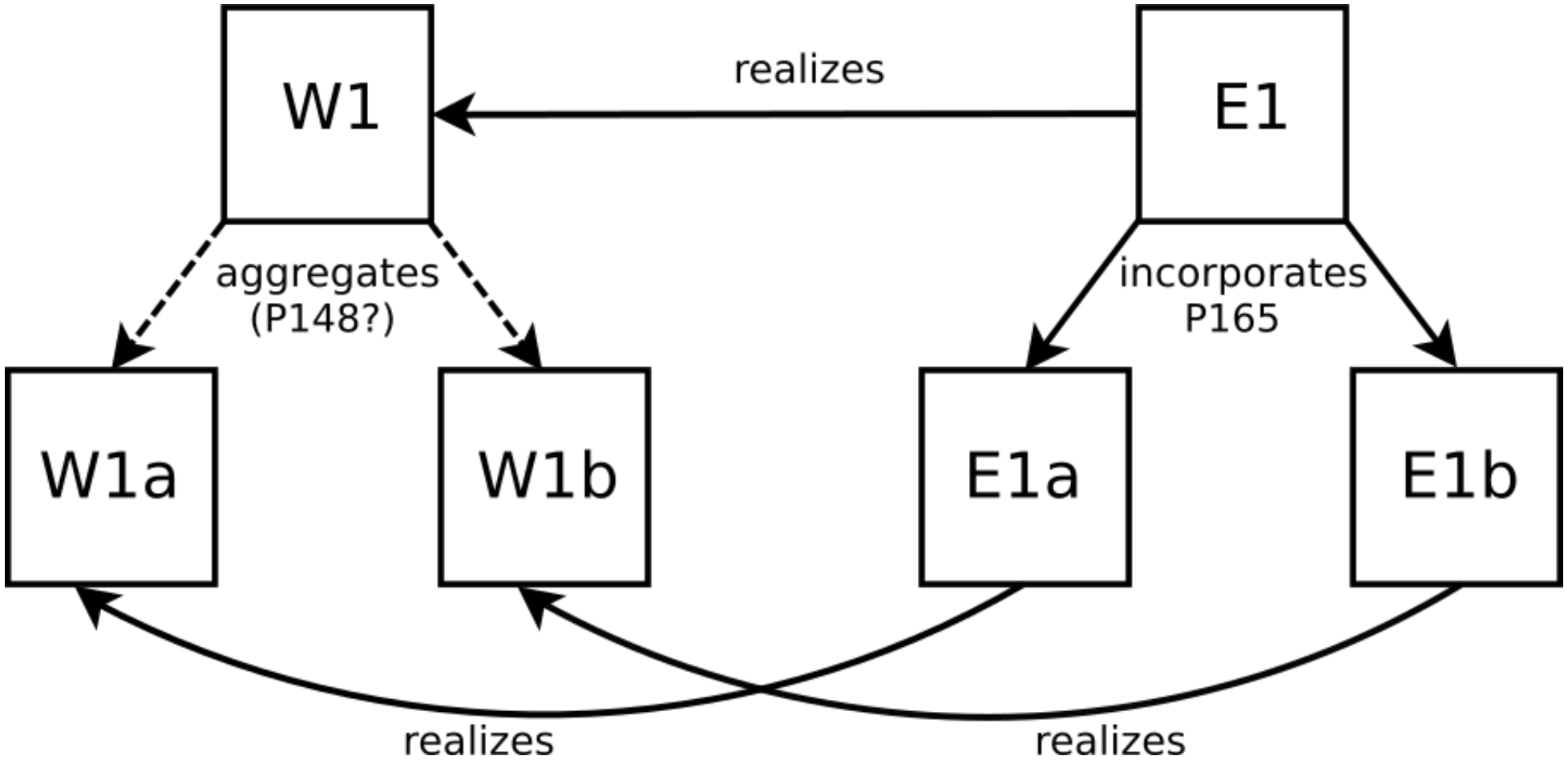


Parts of Works – the FRBR Way

Missing the link between the parts comprising the aggregates.



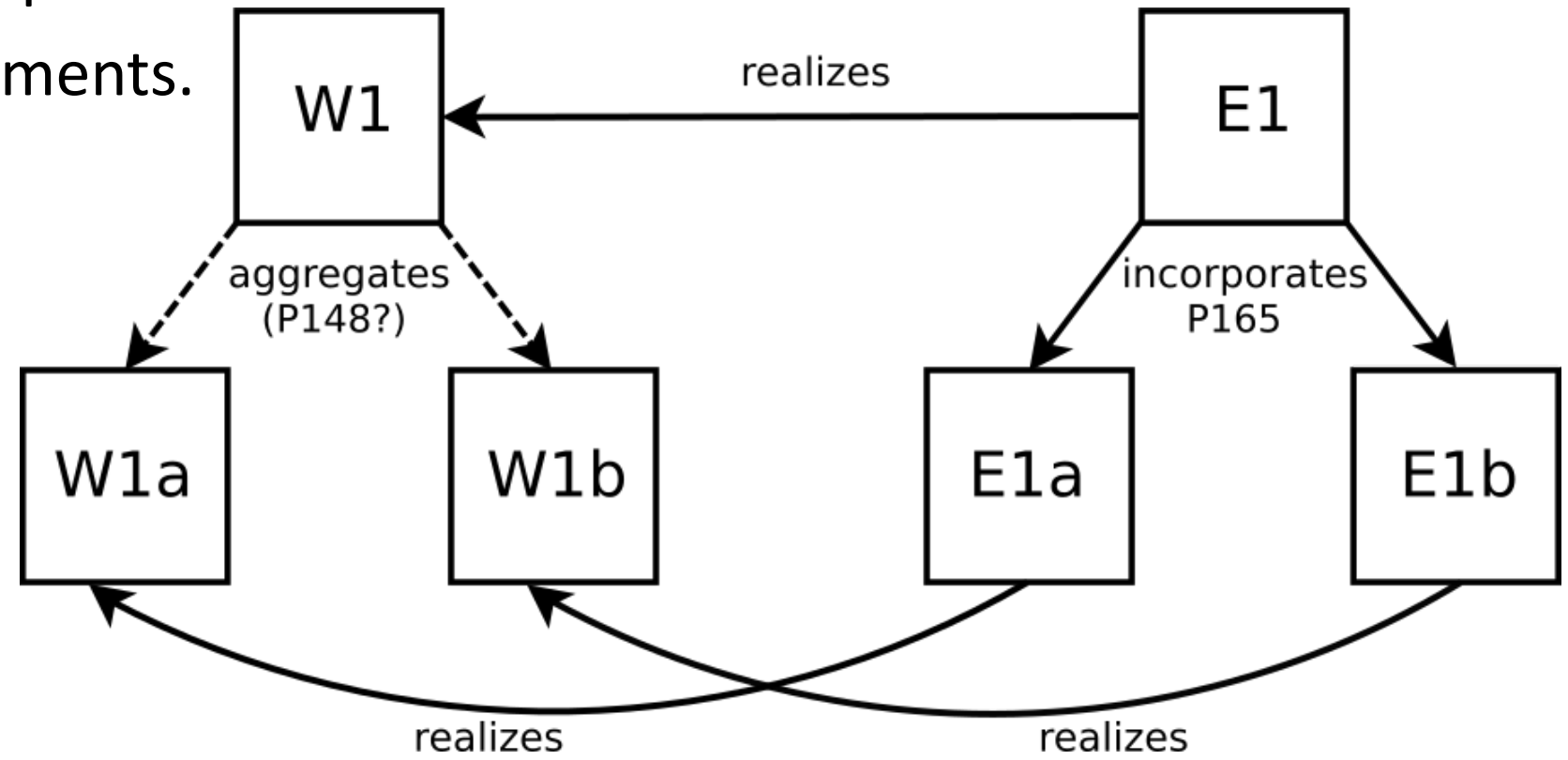
Parts of Works – the $FRBR_{OO}$ Way



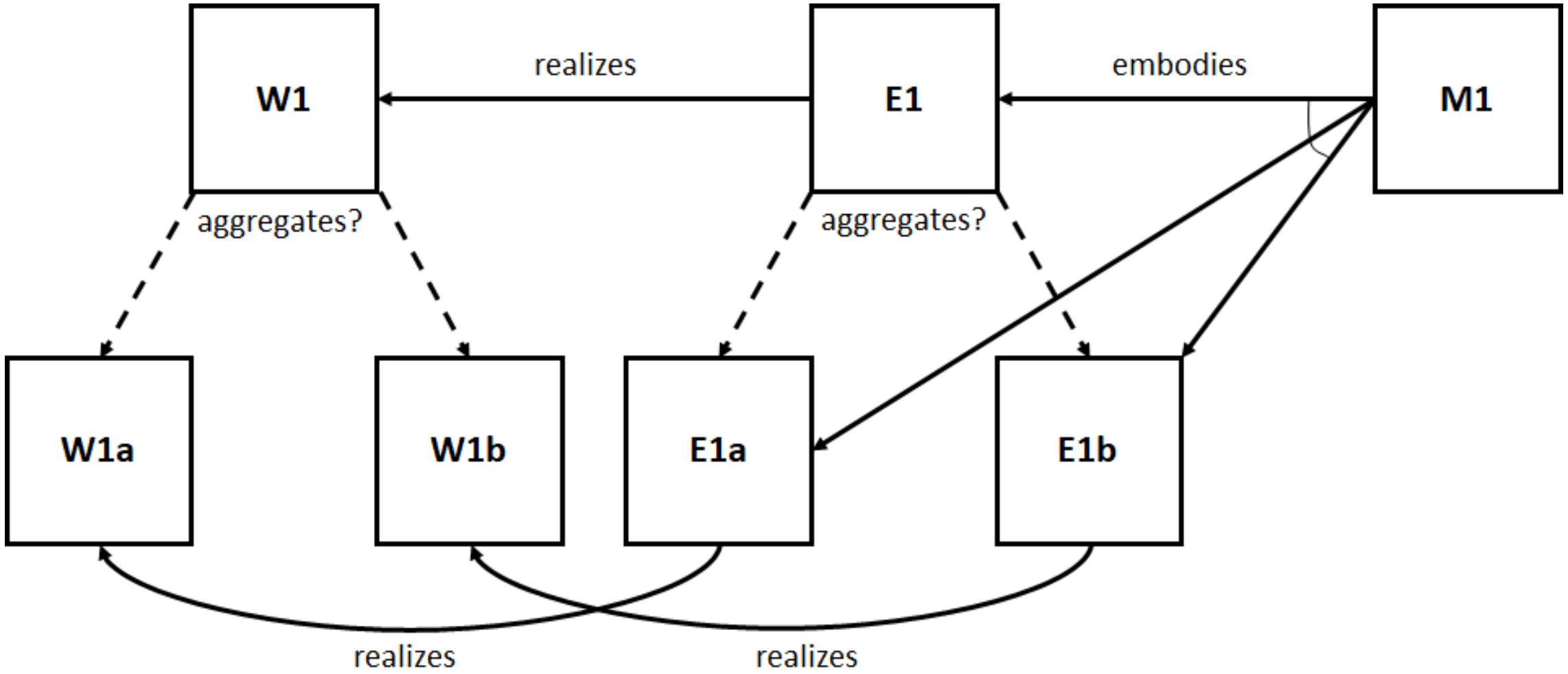
Parts of Works – the $FRBR_{OO}$ Way

Works don't have parts.

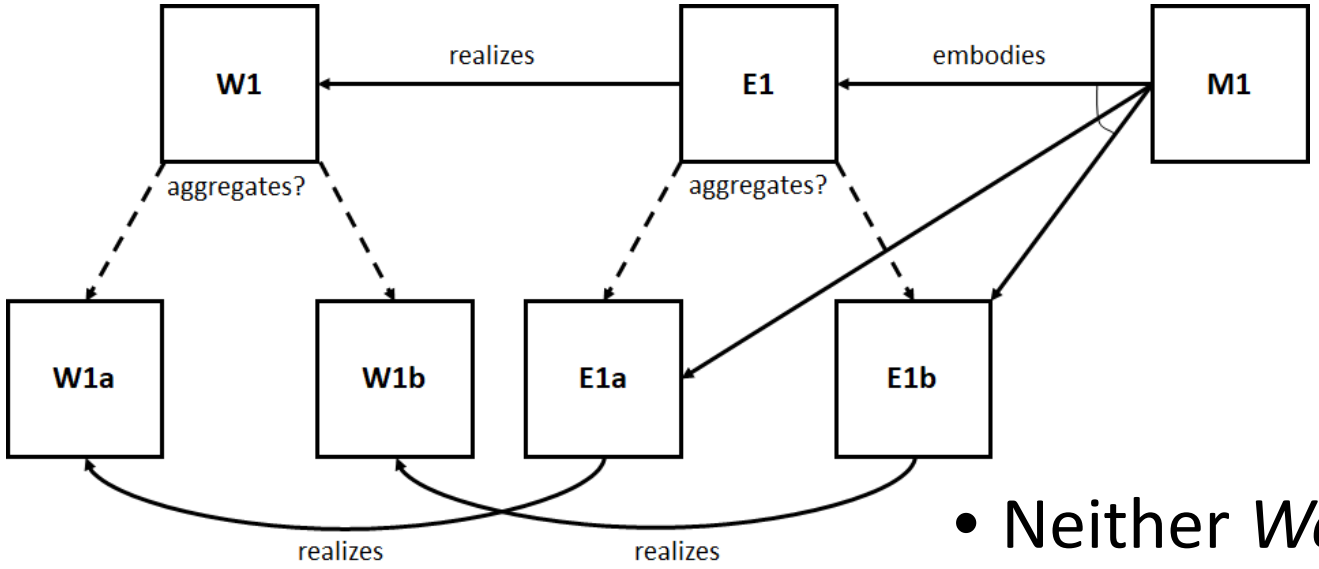
They have supplements.



Parts(?) of Works – the IFLA-LRM Way



Parts(?) of Works – the IFLA-LRM Way



- Neither *Works* nor *Expressions* have parts!
- *Works* have supplements…
- Further, the act of aggregation is [a] *work*
- Not clear how these look at the *expression level*
- *Manifestations* embody multiple *expressions*

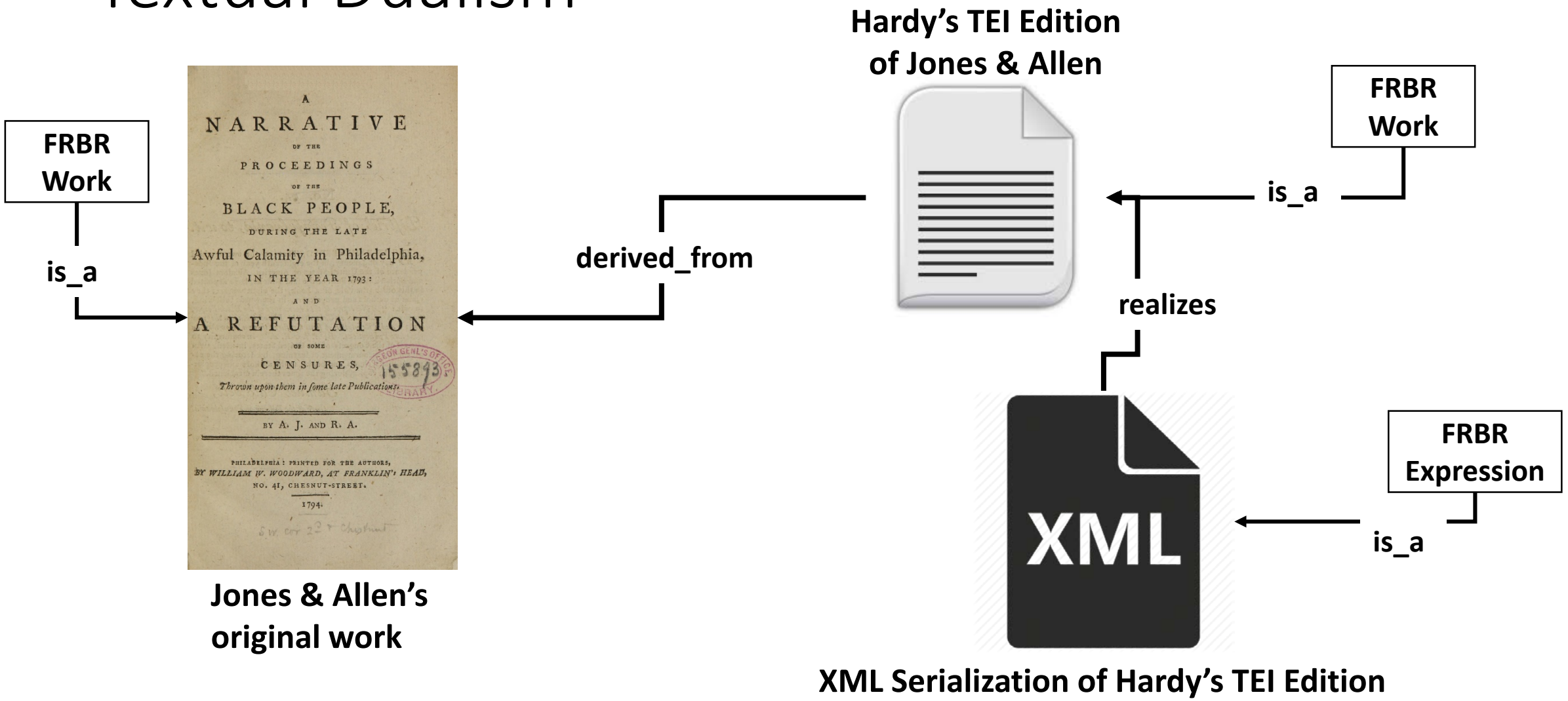
Dual aspect proposal for texts

- Renear et al. (2003) propose a “dual aspect” theory for markup: it can cue either presentation effects or content object assertions, depending on the context.

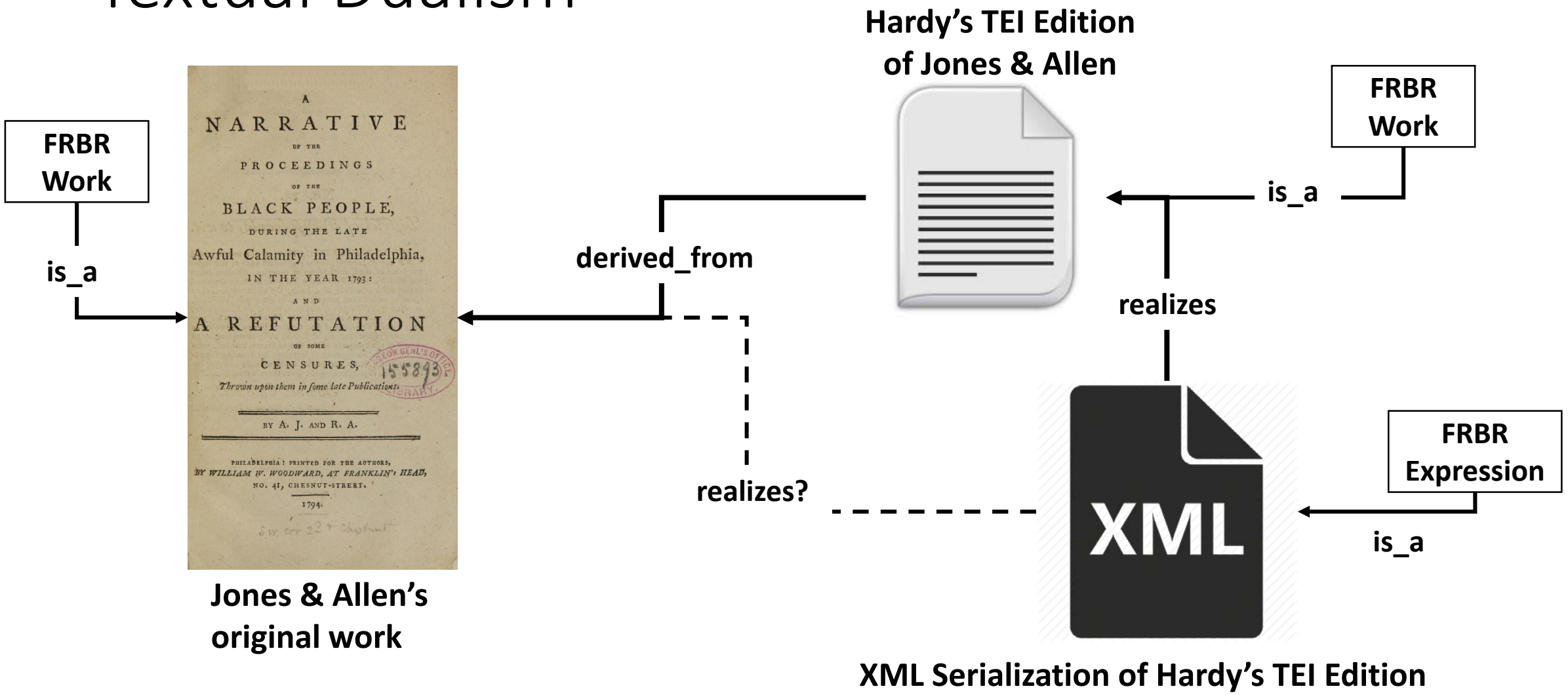
- We propose a dual aspect theory for text: in an authorial context, text realizes a work of authorship, but in an editorial context the very same text expresses claims about what the earlier authors wrote.

- The second role is most obvious when an encoder’s tag expresses uncertainty about a word.

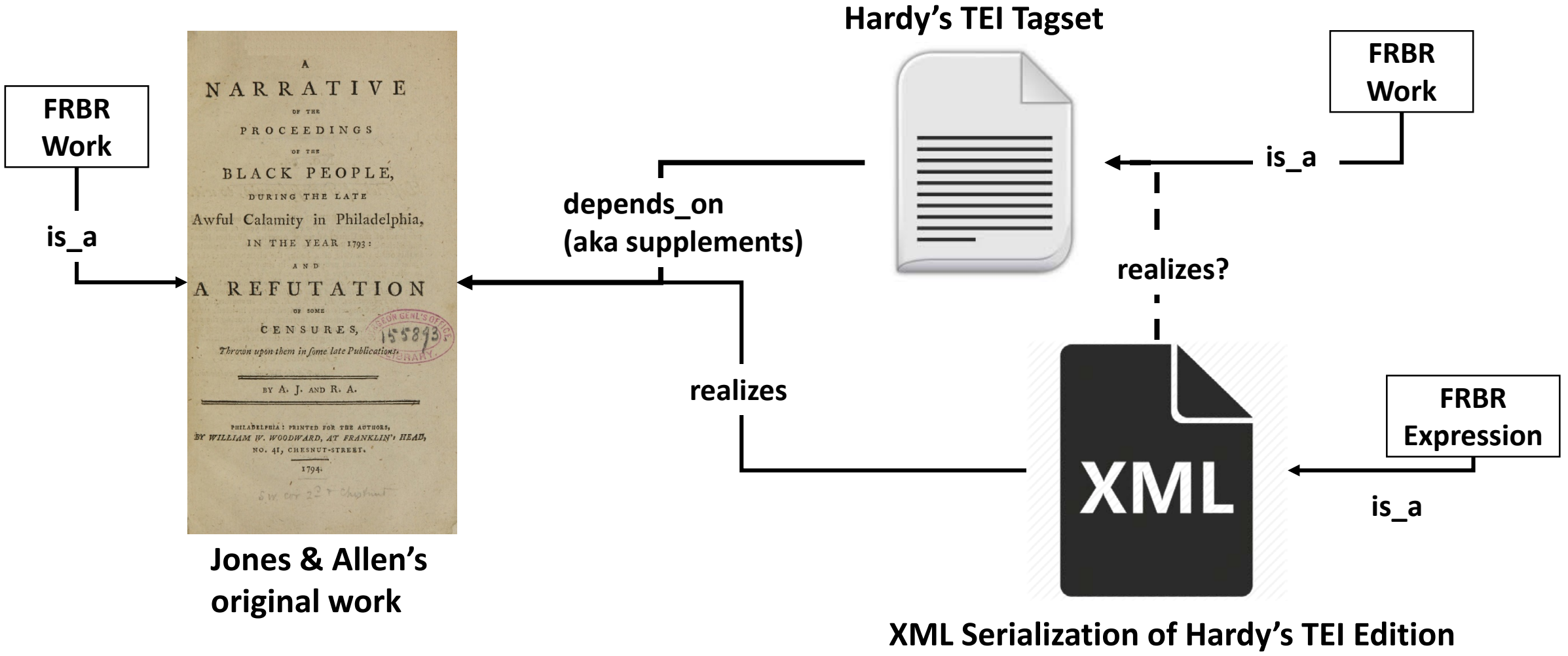
Textual Dualism



Textual Dualism



Textual Dualism

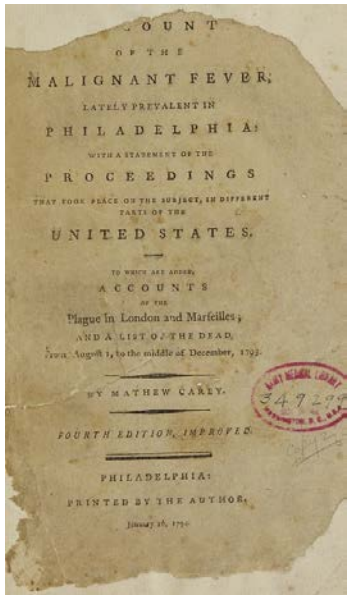


(~3 >
u pie to the bilious fever*." The fame idea prevailed for a confiderable time in Philadelphia; but it was erroneous. They did not efcape the diSorder ; howe-ver, there were Scarcely any of them feized at firft, and the number that were finally affeded, was not great 5 and, as I am informed by an eminent dodor, " it " yielded to the power of medicine in them more ea-" fily than in the whites." The error that prevailed on this fubjed had a very Salutary effect; for, at an early period of the diforder, hardly any white nurfes could be procured ; and, had the negroes been equal-ly terrified, the Sufferings of the fick, great as they adually were, would have been exceedingly aggrava-ted. At the period alluded to, the elders of the Afri-can church met, and offered their affiftance to the mayor, to procure uurfes for the fick, and aid In burying the dead. Their offers were accepted; and Abfalom Jones, Richard Allen, and William Gray, undertook the management of thefe two-Several fervices. The great demand for nurfes, afforded an opportunity for impofition, which was eagerly feized by fome of the vileft of the blacksf. They extorted two, three, four, and even five dollars anight for fuch attendance, as would have been well paid by a fingle dollar. Some of them were even deteded in plun-dering; the houfes of the fick. But it is uniufc to caft a cenfure on the whole, for this fort of condud, as many people have done. The fervices of Jones, Al-len, and Gray, and others of their colour, have been very great, and demand public gratitude.

On examining the books of the hofpital at. Bufh-hill, it appears, that there were nearly twenty blacks received there, of whom about three-fourths died.

This issue is not limited to markup

-- a text snippet from Carey's *Account of the Malignant Fever Lately Prevalent in Philadelphia*



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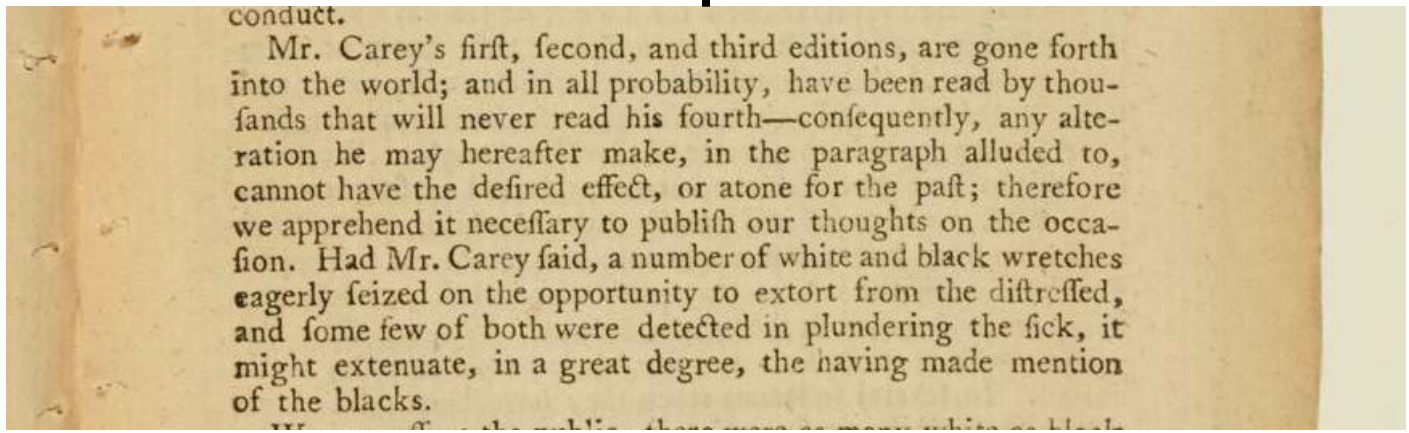
many people have done. The fervices of Jones, Al-
len, and Gray, and others of their colour, have been
very great, and demand public gratitude.

Carey's Account – 1st, 2nd, 3rd, & 4th editions

responding_to

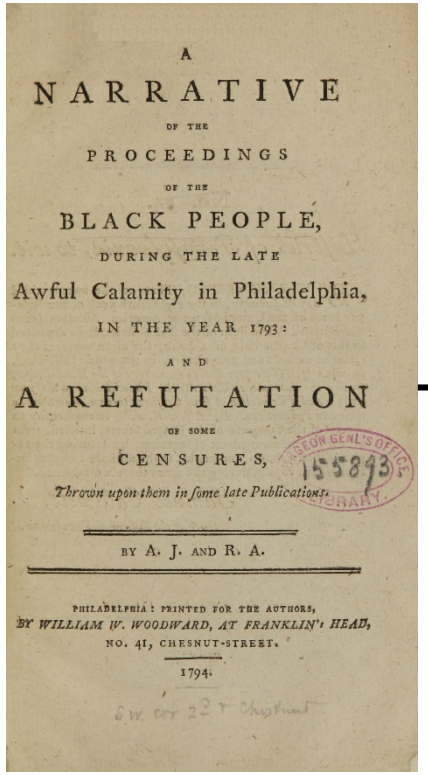
Jones & Allen's response



conduct.

Mr. Carey's firſt, ſecond, and third editions, are gone forth into the world; and in all probability, have been read by thouſands that will never read his fourth—conſequently, any alteration he may hereafter make, in the paragraph alluded to, cannot have the defired effect, or atone for the paſt; therefore we apprehend it neceſſary to publiſh our thoughts on the occaſion. Had Mr. Carey ſaid, a number of white and black wretches eagerly ſeized on the opportunity to extort from the diſtreſſed, and ſome few of both were detected in plundering the ſick, it might extenuate, in a great degree, the having made mention of the blacks.

Different Senses of *derived-from*


A
NARRATIVE
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Awful Calamity in Philadelphia,
IN THE YEAR 1793:
AND
A REFUTATION
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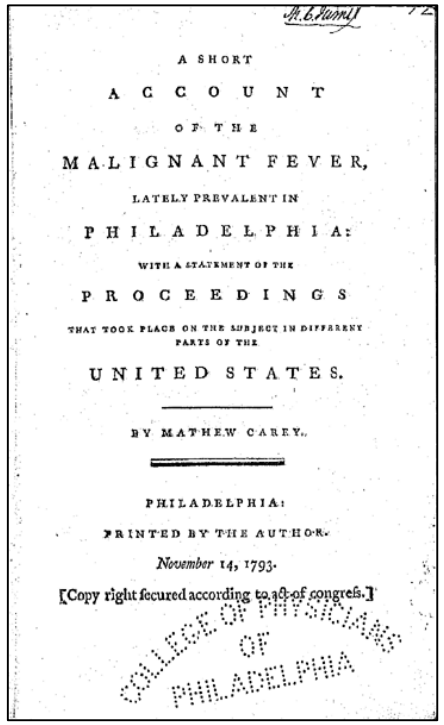
BY WILLIAM W. WOODWARD, AT FRANKLIN'S HEAD,
NO. 41, CHESNUT-STREET.
1794.

Jones & Allen's Work

derived_from


A SHORT
ACCOUNT
OF THE
MALIGNANT FEVER,
LATELY PREVALENT IN
PHILADELPHIA:
WITH A STATEMENT OF THE
PROCEEDINGS
THAT TOOK PLACE ON THE SUBJECT IN DIFFERENT PARTS OF THE
UNITED STATES.
BY MATHEW CAREY.
PHILADELPHIA:
PRINTED BY THE AUTHOR.
November 14, 1793.
[Copy right secured according to act of congress.]
COLLEGE OF PHYSICIANS OF PHILADELPHIA

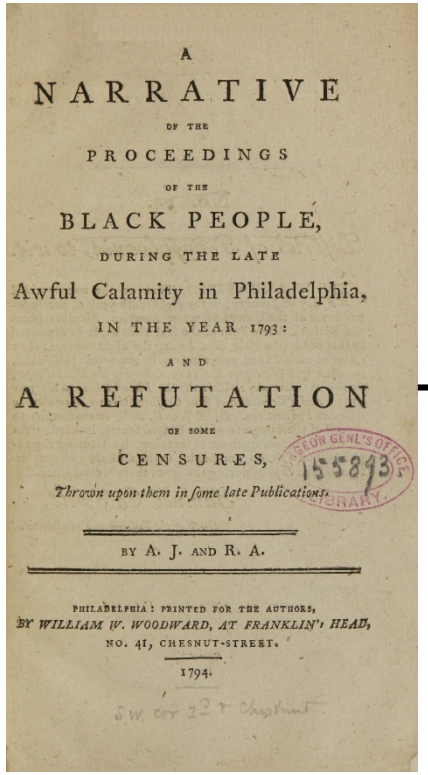
Carey's 1st Ed. Work

A SHORT
ACCOUNT
OF THE
MALIGNANT FEVER,
LATELY PREVALENT IN
PHILADELPHIA:
WITH A STATEMENT OF THE
PROCEEDINGS
THAT TOOK PLACE ON THE SUBJECT IN DIFFERENT PARTS OF THE
UNITED STATES.
BY MATHEW CAREY.
SECOND EDITION.
PHILADELPHIA:
PRINTED BY THE AUTHOR.
November 23, 1793.

Carey's 2nd Ed. Work

Carey's 3rd Ed. Work (no images were available)

Different Senses of *derived-from*



A
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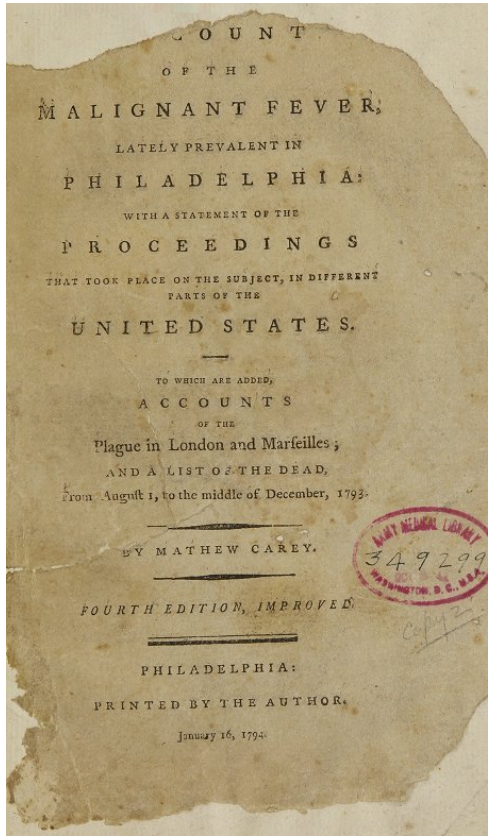
1794.

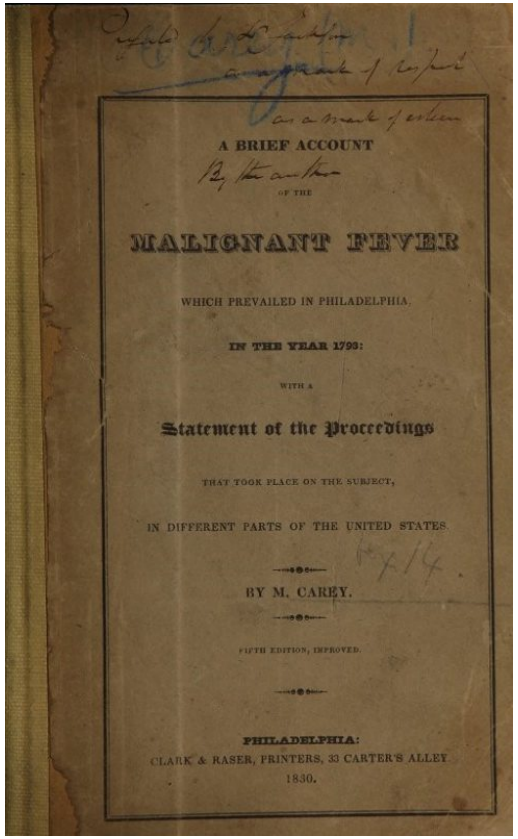
Jones & Allen's Work

derived_from?



OUNT
OF THE
MALIGNANT FEVER,
LATELY PREVALENT IN
PHILADELPHIA:
WITH A STATEMENT OF THE
PROCEEDINGS
THAT TOOK PLACE ON THE SUBJECT, IN DIFFERENT
PARTS OF THE
UNITED STATES.
TO WHICH ARE ADDED,
ACCOUNTS
OF THE
Plague in London and Marseilles;
AND A LIST OF THE DEAD,
From August 1, to the middle of December, 1793.
BY MATHEW CAREY.
FOURTH EDITION, IMPROVED.
PHILADELPHIA:
PRINTED BY THE AUTHOR.
January 16, 1794.

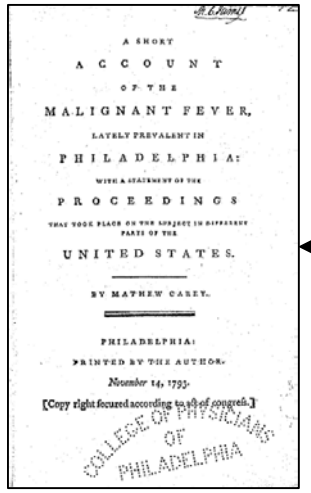
Carey's 4th Ed. Work



A BRIEF ACCOUNT
OF THE
MALIGNANT FEVER
WHICH PREVAILED IN PHILADELPHIA
IN THE YEAR 1793:
WITH A
Statement of the Proceedings
THAT TOOK PLACE ON THE SUBJECT,
IN DIFFERENT PARTS OF THE UNITED STATES.
BY M. CAREY.
FIFTH EDITION, IMPROVED.
PHILADELPHIA:
CLARK & RASER, PRINTERS, 33 CARTER'S ALLEY.
1830.

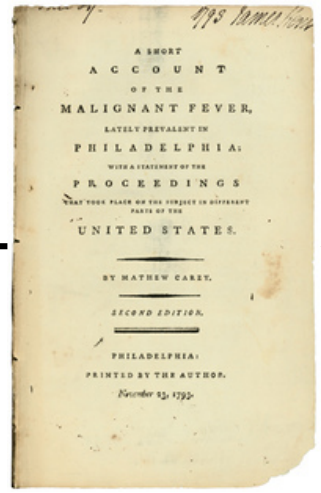
Carey's 5th Ed. Work

Different Senses of *derived-from*



Carey's 1st Ed. Work

derived_from



Carey's 2nd Ed. Work

derived_from

Carey's 3rd Ed. Work (no images were available)

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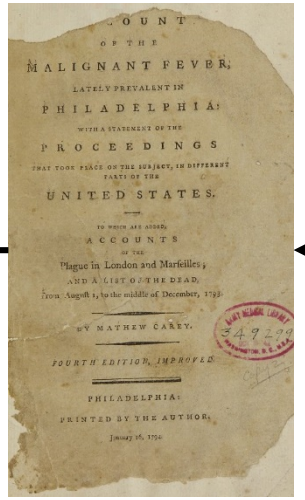

Carey's 4th Ed. Work

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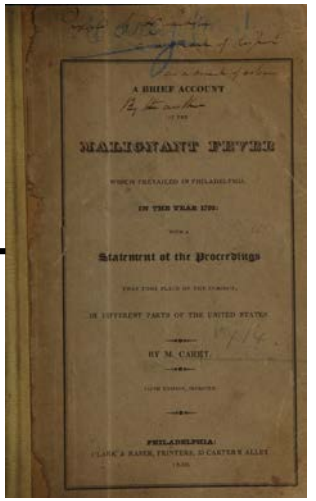
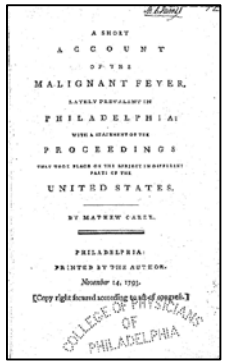


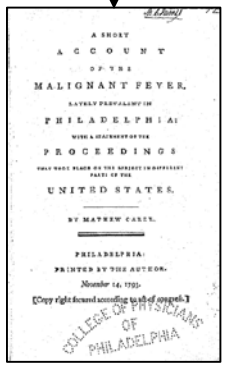
Carey's 5th Ed. Work

WEMI's *realized-by* relation

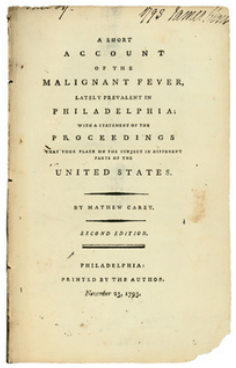


Carey's 1st Ed. Work

realized_by

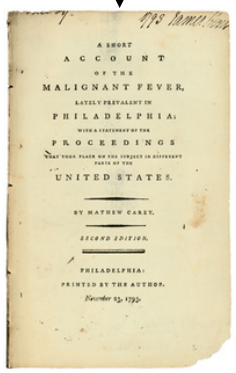


Carey's 1st Ed. Expression



Carey's 2nd Ed. Work

realized_by



Carey's 2nd Ed. Expression

Carey's 3rd Ed. Work
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Carey's 3rd Ed. Expression
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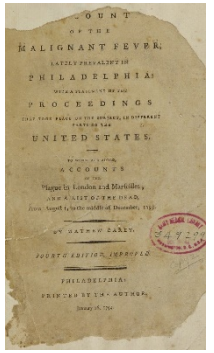

Carey's 4th Ed. Work

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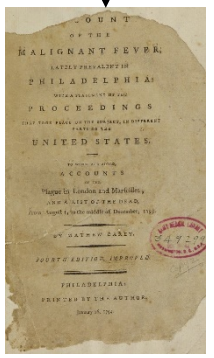

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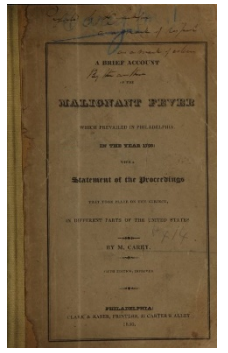

Carey's 5th Ed. Work

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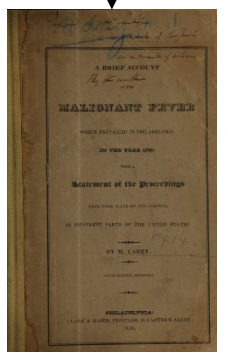
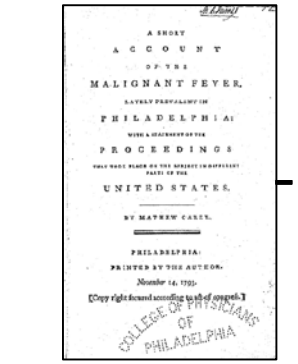


Carey's 5th Ed. Expression

WEMI's *realized-by* relation



Carey's 1st Ed. Work

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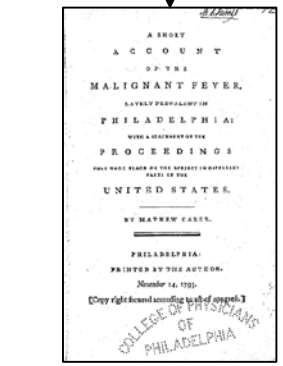

Carey's 1st Ed. Expression

realized_by?

Carey's 2nd Ed. Work

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Carey's 2nd Ed. Expression

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Carey's 3rd Ed. Work
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Carey's 3rd Ed. Expression
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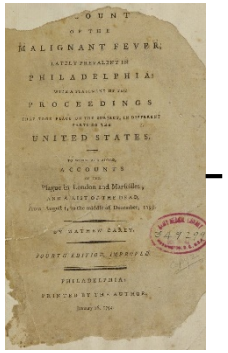

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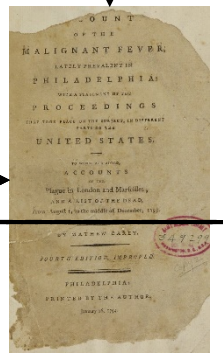
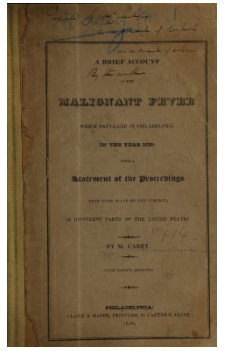


Carey's 4th Ed. Expression



Carey's 5th Ed. Work

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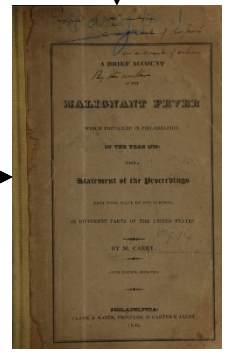

Carey's 5th Ed. Expression

Implications and moving forward

- We hope our analysis will help to make processing of digital resources more consistent and integrable across widely distributed and increasingly heterogeneous projects.
- But just recognizing the puzzles may be as useful as proposals for one account or another
- All our intuitions concerning complex and dependent works may be difficult to reconcile in a single consistent model.
- For example, works maintain their identity across multiple editions, *and* editorial labor brings a distinct new work into existence.

What it is vs. How we shall

- Competing explanations of texts and works complicate attempts to model relationships across abstraction levels like the WEMI/Group 1 entities.

- In the medium term, stipulative approaches to standards development can at least attend to the descriptive complexities:
  - scoping: avoid trying to handle too many use cases;
  - recognize when definitions are overloaded;
  - make distinctions precise.