# Linking Resources in the Humanities: Using OpenURL to Cite Canonical Works

2009 DLF Spring Forum

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Cornell University Library

### Planning grant overview

- Mellon Foundation funding
- Three components
  - Canonical citation
  - OpenURL quality metrics and evaluation
  - L'Annee interface enhancements



### L'Année philologique

- >> New search
- >> History
- >> Results
- >> Record

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- Logoff
- Search strategies
- Browse the last volume

APh records

Result 1/1

### Record



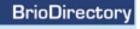
Hinds, Stephen. - Essential epic: genre and gender from Macer to Statius. Matrices of genre: 221-244. • Some of epic's recurring features are treated in ancient literature as threatening the essence of the genre rather than as helping to constitute it. Augustan and post-Augustan poets affect surprise at the fact that women and love can have a place in epic. The role of the female never becomes canonized within stereotyped descriptions of epic, but a case can be made that surprise at the role of the female in epics does become so canonized. Examples include Ovid, Rem. 372-382; Her. 3, 87-90; Am. 2, 18, 1-12; Propertius 1, 7, 1-6; 2, 10, 7-8; Statius, Achilleid 1, 325-337.

[76-07556

Link(s) to book : Get It! Cornell
Link(s) to article : Get It! Cornell









### PERSEUS DIGITAL LIBRARY

GREGORY R. CRANE, EDITOR-IN-CHIEF TUFTS UNIVERSITY

Search

("Agamemnon", "Hom. Od. 9.1", "denarius") All Search Options [view abbreviations]

Home

Collections/Texts

**Open Source** 

#### Welcome to Perseus 4.0, also known as the Perseus Hopper.

Read more on the Perseus version history. Looking for the old version of the Perseus Digital Library? Click here.

#### Announcements

- March 16, 2009:
  - New job announcement: Perseus is seeking a Greek Treebank Editor to supervise the creation of a syntactic database for classical Greece with 1.000.000 words - one of the most promising instruments ever produced for the study of Greek linguistics, literary style, and lexicography. We encourage graduate students who could build their dissertation work on this project, as well as classicists with PhD in hand, to consider applying.
  - Updates to Perseus Digital Library:
    - Many improvements to the Art & Archaeology data and interface. You can now search the A&A data and image captions.
    - Euclid's Elements have been added, as well as a large number of Plutarch texts, edited by Bernadotte Perrin. Links to these texts can be found on the Greek and Roman collection page.
- September 23, 2008:
  - Updates to Perseus Digital Library:
    - The first release of the Arabic Collection.
    - Search tools have been refined.
    - Navigation in 4.0 has been updated.
    - Art & Archaeology data has been updated. The A & A Artifact Browser can now be found under the Collections tab
    - General information on the Perseus Project has been added: Research, Grants, Research Opportunities, and Job Opportunities.
    - A dedicated Open Source section.
    - Our list of Publications has been moved to the About section.
    - 4.0 Help pages have been updated.
    - Additional hardware has been added to the Perseus backend servers.
- May 13, 2008:

#### Popular Texts

- Caesar, Gallic War (English, Latin)
- Catullus, Carmina (English, Latin)
- Cicero, In Catilinam I (English, Latin)
- Vergil, Aeneid (English, Latin)
- Herodotus, Histories (English, Greek)
- Homer, Odyssey (English, Greek)
- Plato, Republic (English, Greek)
- · Tom Martin, Overview of Classical Greek History from Mycenae to Alexander (English)

### Art and Archaeology





Aegina, Temple of Aphaia Silver obol from Athens



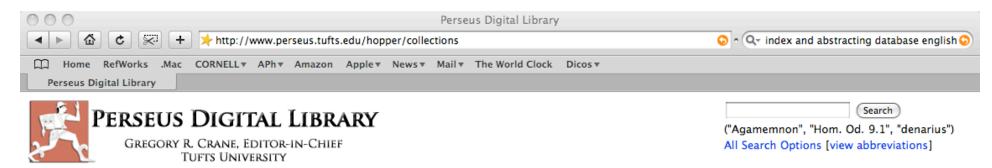


Satyr on Attic red figure vase

The Barlett Head

#### Exhibits





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Research

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About

Help

#### Browse the Collections

#### Greek and Roman Materials

Primary and secondary sources for the study of ancient Greece and Rome

#### Art & Archaeology Artifact Browser

Look through a massive library of art objects, sites, and buildings. The library's catalogs document 1305 coins, 1909 vases, 2003 sculptures, 179 sites, 140 gems, and 424 buildings. Each catalog entry has a description of the object and its context; most have images. Descriptions and images have been produced in collaboration with many museums, institutions, and scholars. Catalog information and keywords have been taken from standard sources, which are cited in the entries for each object.

#### Arabic Materials

Arabic language documents

#### Germanic Materials

Materials for the study of the Germanic Peoples

#### 19th-Century American

Sources on the history of the 19th-century United States.

#### Renaissance Materials

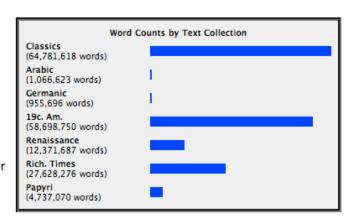
Primary and secondary sources in early modern English literature

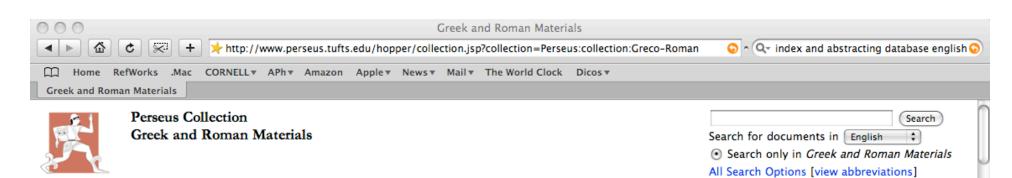
#### Richmond Times Dispatch

Issues of the Richmond Times Dispatch.

#### Duke Databank of Documentary Papyri

Non-literary papyri, Greek and Latin, from the Ptolemaic and Roman periods





Home Collections/Texts Research Grants Open Source About Help

Greek and Roman Arabic Germanic 19th-Century American Renaissance Richmond Times DDBDP

### **Documents:**

Frank Frost Abbott. Commentary on Selected Letters of Cicero. (English) search this work

J. Adam, A. M. Adam. Commentary on Plato, Protagoras. J. Adam & A. M. Adam. (English) search this work

James Adam. The Republic of Plato. (English) search this work

- Aeschines.
- Aeschylus.

Allen and Greenough's New Latin Grammar for Schools and Colleges. J. B. Greenough, G. L. Kittredge, A. A. Howard, Benj. L. D'Ooge. (English) search this work

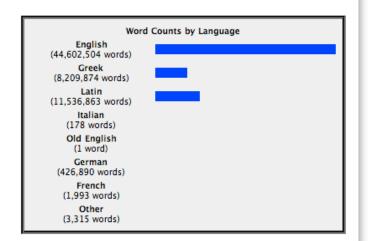
Thomas W. Allen, E. E. Sikes. Commentary on the Homeric Hymns. (English) search this work

- Andocides.
- Antiphon.
- Apollodorus.

Apollonius Rhodius. Argonautica. George W. Mooney. (Greek) [Apollon.] search this work

- Appian.
- Aretaeus.
- Aristophanes.
- Aristotle.

Caesar Augustus. Res Gestae Divi Augusti. (Latin) [Aug. Anc.] search this work





P. Ovidius Naso.

Amores. Christopher Marlowe. (English) [Ov. Am.] search this work

Amores, Epistulae, Medicamina faciei femineae, Ars amatoria, Remedia amoris. R. Ehwald. (Latin) search this work

- Amores [Ov. Am.]
- Ars Amatoria [Ov. Ars]
- Epistulae [Ov. Ep. Sapph.]
- Medicamina Faciei Femineae [Ov. Med.]
- Remedia Amoris [Ov. Rem.]

Art of Love, Remedy of Love, Art of Beauty, Court of Love, History of Love, Amours. various. (English) search this work

- Amores [Ov. Am.]
- · Ars Amatoria [Ov. Ars]
- · Art of Love, Remedy of Love, Art of Beauty, Court of Love, History of Love, Amours
- · Art of Love, Remedy of Love, Art of Beauty, Court of Love, History of Love, Amours
- Medicamina Faciei Femineae [Ov. Med.]
- · Remedia Amoris [Ov. Rem.]
- · Art of Love, Remedy of Love, Art of Beauty, Court of Love, History of Love, Amours

The Epistles of Ovid. (English) [Ov. Ep. Sapph.] search this work

Metamorphoses. Brookes More. (English) [Ov. Met.] search this work

Metamorphoses. Hugo Magnus. (Latin) [Ov. Met.] search this work

Metamorphoses. Arthur Golding. (English) [Ov. Met.] search this work

- Michael Padgett.
  - F. A. Paley. Select Private Orations of Demosthenes. (English) search this work
- Pausanias.

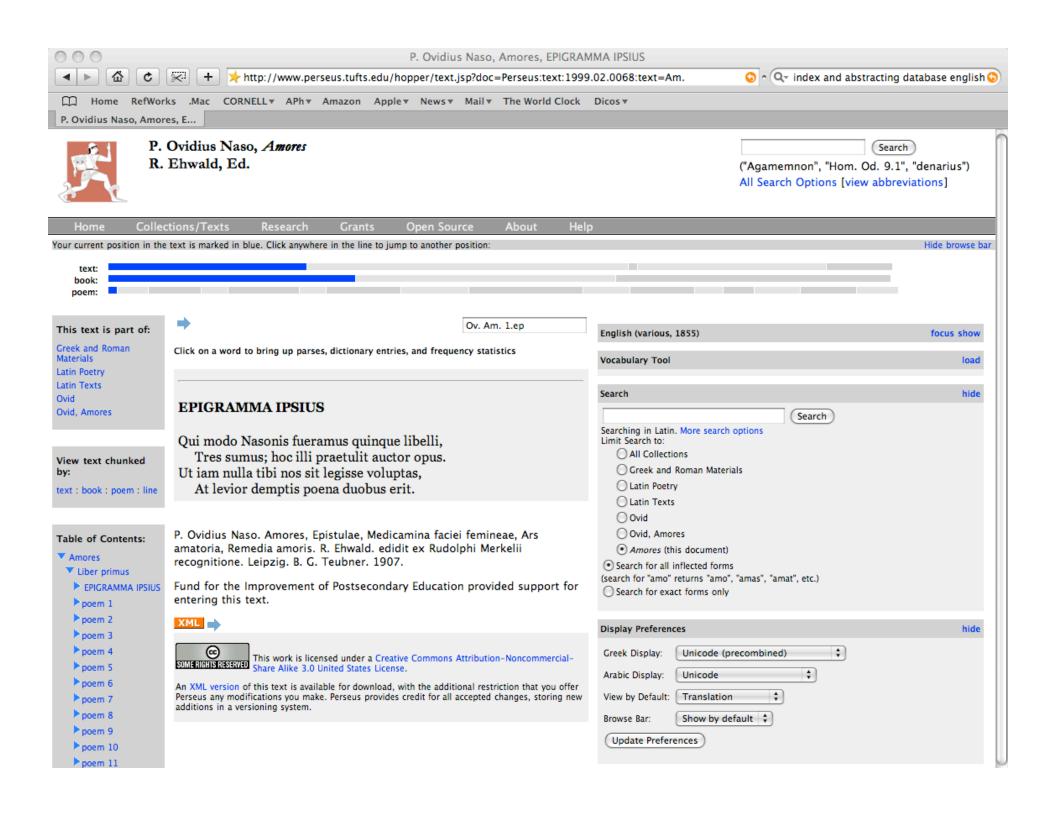
Harry Thurston Peck, Harpers Dictionary of Classical Antiquities (1898), (English) search this work

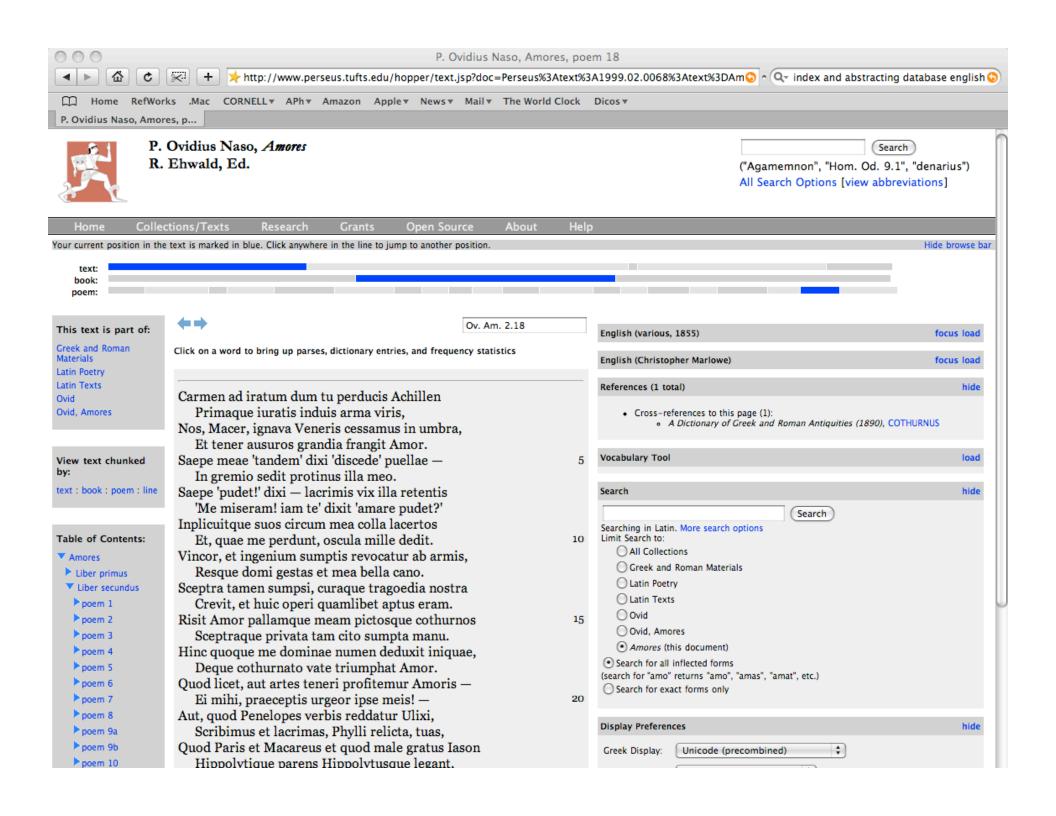
Perseus Encyclopedia. (English) search this work

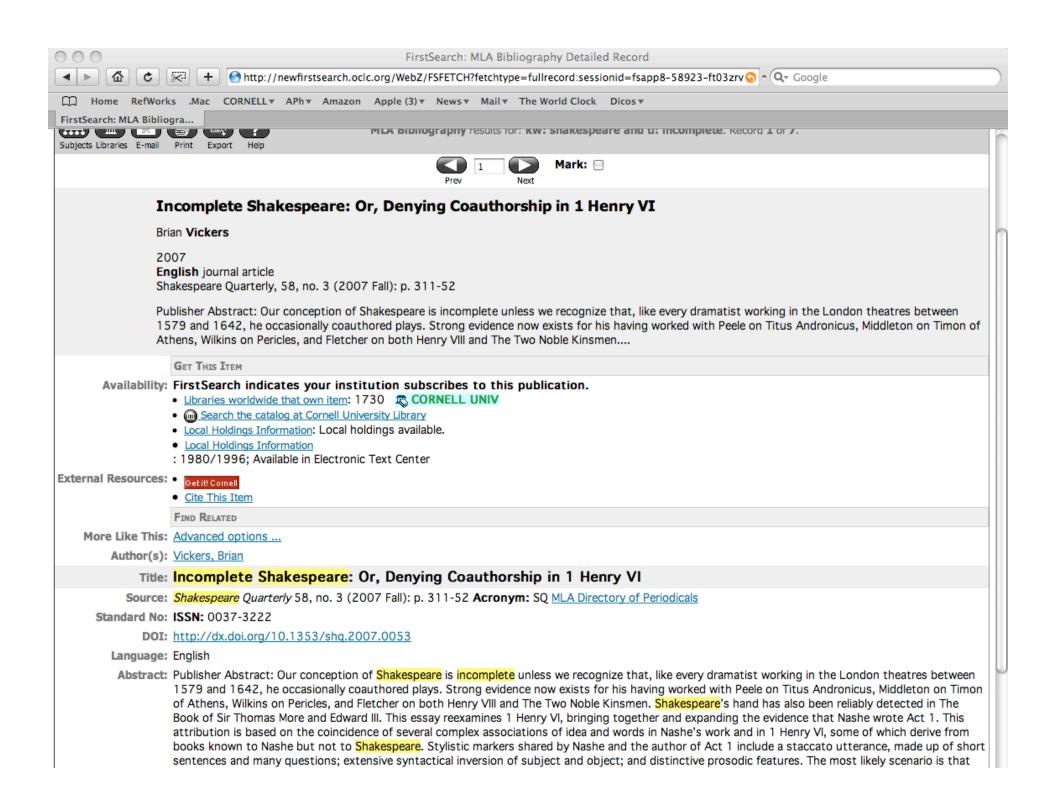
- Phaedrus.
- Pindar.

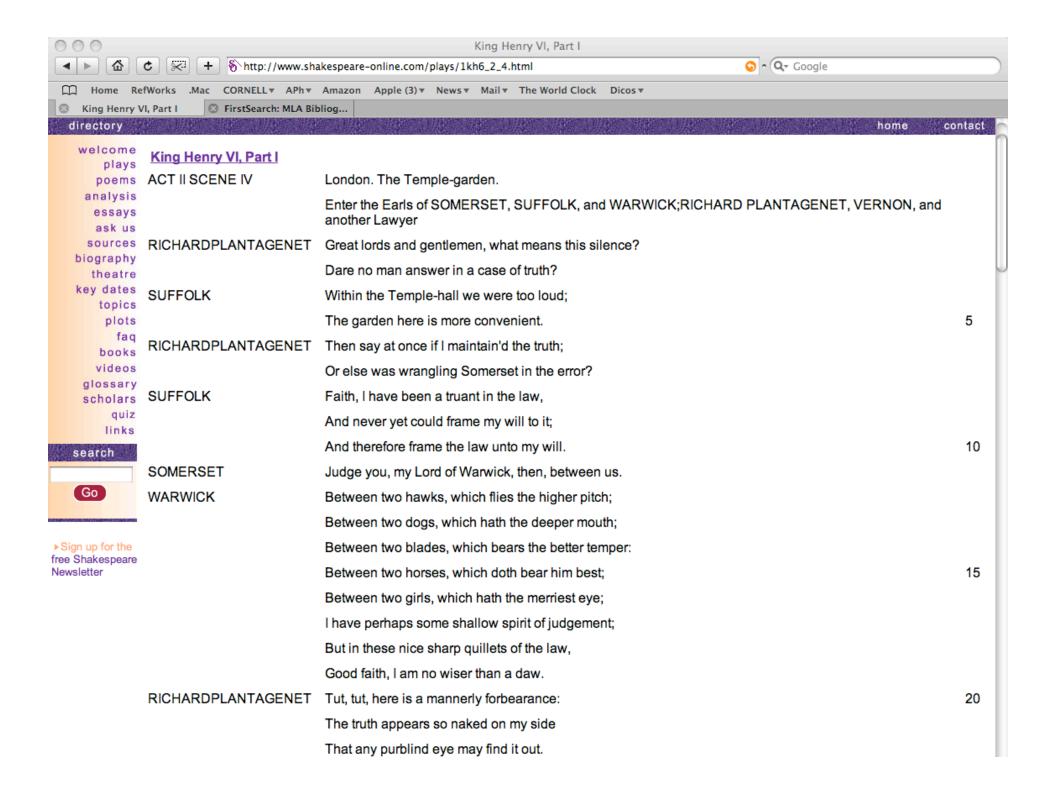
Samuel Ball Platner, Thomas Ashby. A Topographical Dictionary of Ancient Rome. (English) search this work

- Plato.
- T. Maccius Plautus.



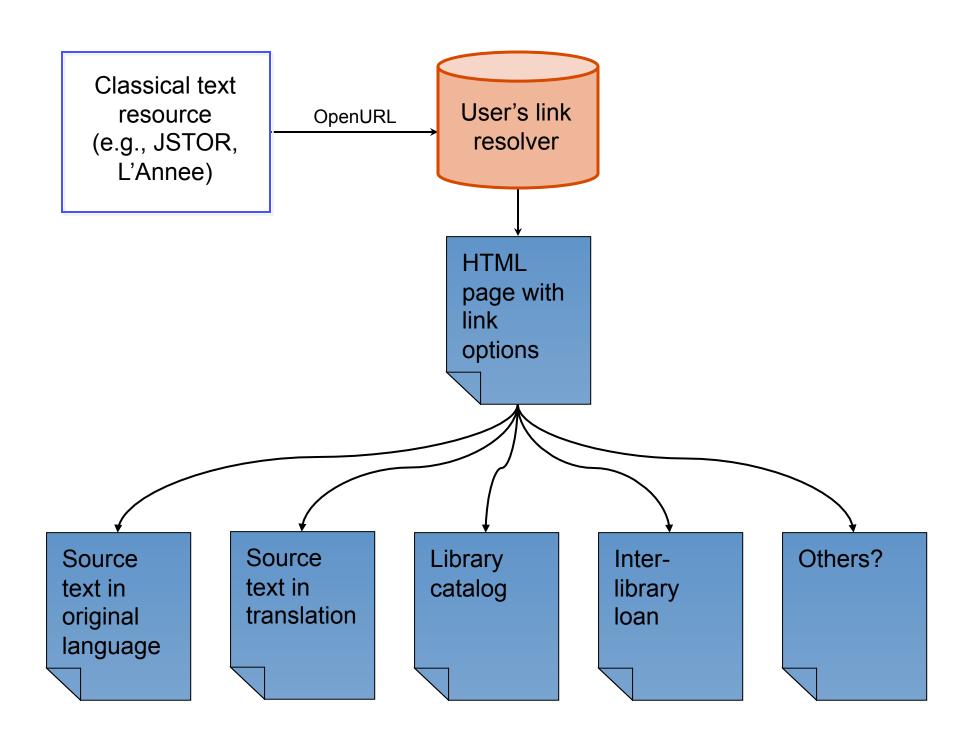






### Linking solutions

- Bilateral, direct vendor links
  - Costly to implement and maintain
  - Unstable
  - Does not easily allow one-to-many relationships
  - Does not address 'appropriate copy' problem
- A method with more indirection, such as OpenURL



### Advantages of using OpenURL

- System/vendor independent
- Uniform linking syntax
- Minimizes cost of creating and maintaining links
- Easily allows one-to-many linking
- Allows for appropriate copy linking

### Project tasks

- Define a metadata format that can reliably reference canonical citations
- Work through implementation challenges
- Build a prototype

### Metadata format: Identifying the work

- Canonical citations are at the level of the FRBR work
- Very little metadata (a title, possibly an author name)
- Metadata format includes an undefined work identifier
  - Community defined
  - Possibly ISTC

### Metadata format: Author names

- Existing OpenURL metadata formats expect modern, western names (aufirst, aulast)
- How to capture ancient author names?
  - Allowing multiple ways to encode author forms,
     which may depend on era of author

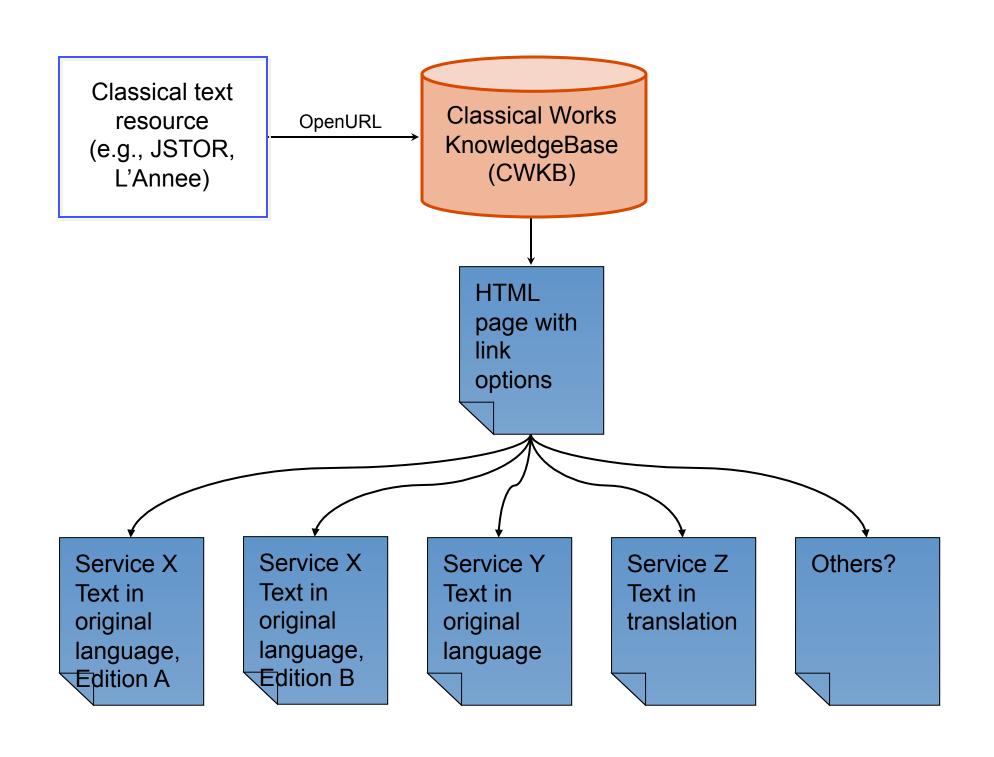
aufirst auform1 aulast auform2

# Metadata format: Citation components

- Two possible approaches:
  - Try to define every component
    - Book, section, canto, stanza, act, scene, etc.
  - A more abstract approach, recognizing the typical hierarchical structure of works
    - level\_1, level\_2, level\_3
- Second approach adopted, as more generally applicable across heterogeneous material

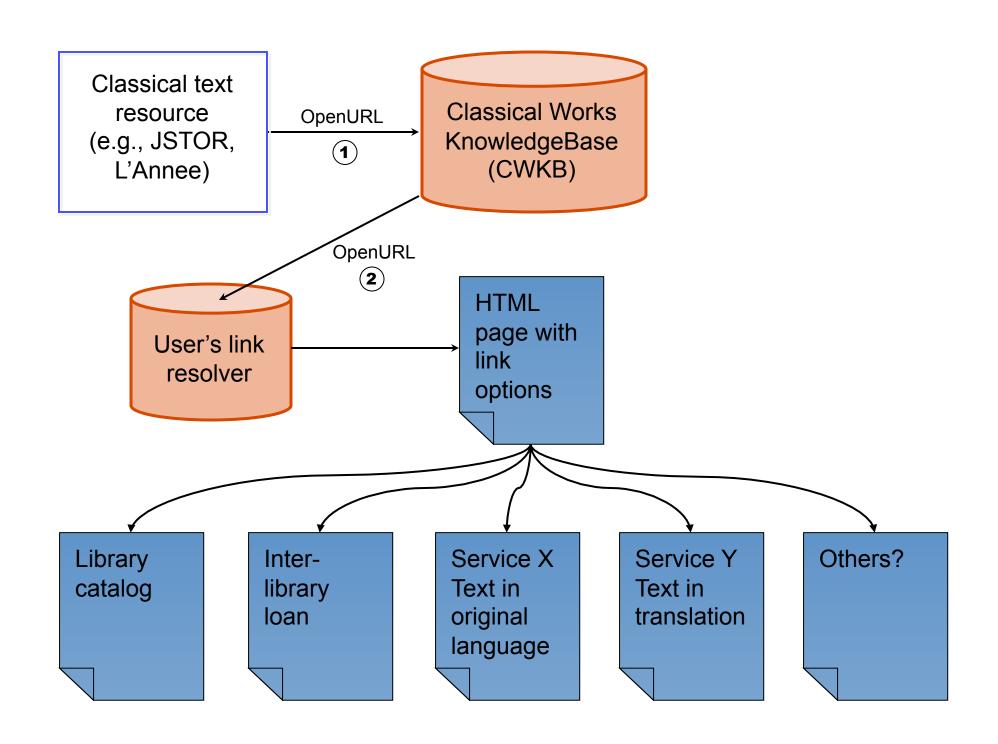
### Implementation challenge

- Normally, resolution to resource is left to local link resolver
- And yet:
  - Detailed and specialized knowledge
  - Uncertain commercial incentive for link resolver vendors
- Proposed solution: domain-specific, community-supported knowledge bases



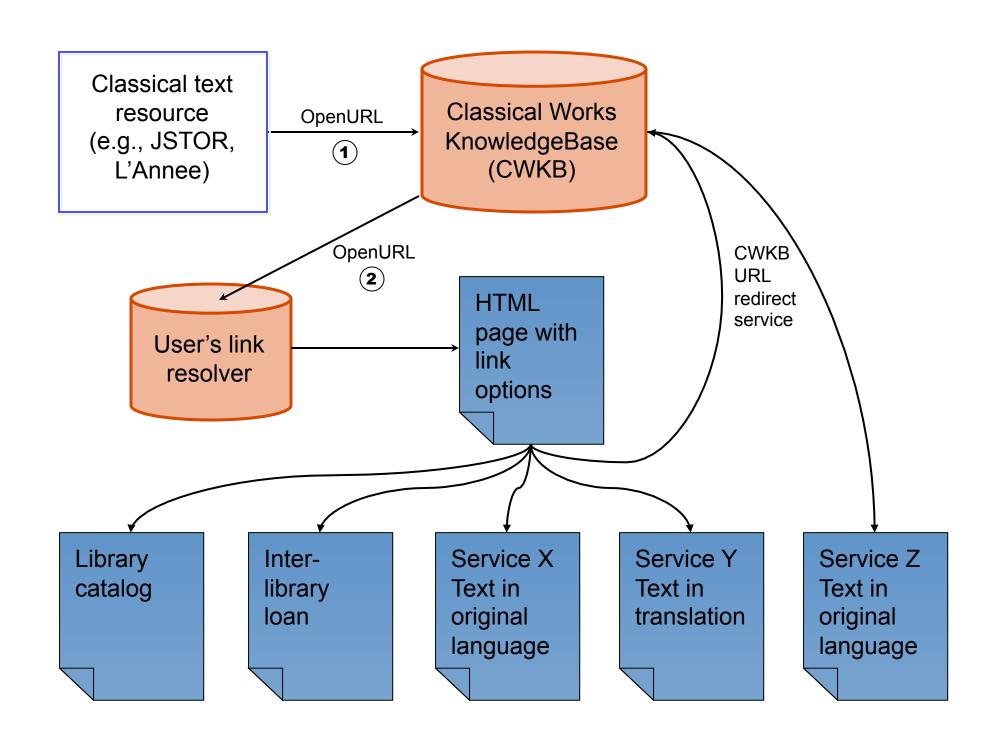
### Problems with this approach

- Doesn't solve appropriate copy problem
- Doesn't allow for institutional branding, presentation, page layout
- Doesn't allow for local options (library catalog search, etc.)



# Advantages of intermediate resolver / knowledge base

- Domain specific knowledge base can augment and/or normalize metadata values
- Can provide specialized linking information
- Can allow direct access to targeted resources for users without a local link resolver
- Could provide other potential services to community



### OpenURL 1 (to CWKB)

Baseurl: cwkb.org/in/r.php?

OpenURL version: ctx\_ver = Z39.88-2004

Metadata format: rft\_val\_fmt = info:ofi/fmt:kev:mtx:canonical\_cit

Citation: rft.auform1 = Aeschylus

rft.titleform1 = Suppliants

rft.slevel1 = 40 rft.elevel1 = 57

User's resolver: res\_id = http://resolver.library.cornell.edu/net/openurl/?

Referrer ID: rfr\_id = info:sid/aph

### OpenURL 1 (to CWKB)

Baseurl: cwkb.org/in/r.php?

OpenURL version: ctx\_ver = Z39.88-2004

Metadata format: rft\_val\_fmt = info:ofi/fmt:kev:mtx:canonical\_cit

Citation: rft.auform1 = Aesch.

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User's resolver: res\_id = http://resolver.library.cornell.edu/net/openurl/?

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### OpenURL 1 (to CWKB)

Baseurl: cwkb.org/in/r.php?

OpenURL version: ctx\_ver = Z39.88-2004

Metadata format: rft\_val\_fmt = info:ofi/fmt:kev:mtx:canonical\_cit

Citation: rft.work-id = info:cwkb/tlg:0085.014

rft.slevel1 = 40 rft.elevel1 = 57

User's resolver: res\_id = http://resolver.library.cornell.edu/net/openurl/?

Referrer ID: rfr\_id = info:sid/aph

### **CWKB** actions

- Identifies the work
- Provides a normalized authority form of author and title
- Provides a list of services pertaining to the work
  - Service package identifier
  - URL directly to citation

### OpenURL 2 (to local resolver)

Baseurl: http://resolver.library.cornell.edu/net/openurl/?

OpenURL version: ctx ver = Z39.88-2004

Metadata format: rft val fmt = info:ofi/fmt:kev:mtx:canonical cit

Citation: rft.auform1 = Aeschylus

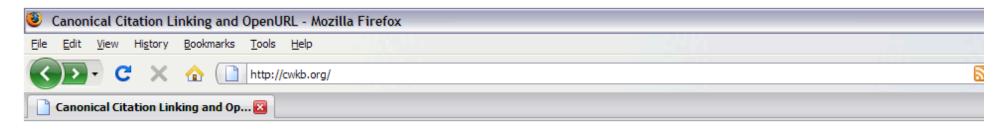
rft.titleform2 = Supplices

rft.slevel1 = 40 rft.elevel1 = 57

Available services: svc\_id=info:sid/cwkb.org:perseus\_eng:url: <a href="http://www.perseus">http://www.perseus</a>. tufts.edu/hopper/text.jsp?doc=Perseus:text:1999.01.0016: line=40

svc\_id=info:sid/cwkb.org:tlg\_demo:url:http://cwkb.org/in/tlgpost.php?package\_id=tlg\_demo%26local\_package\_id=0085001%26scheme=z%26hidden z=40

Referrer ID: rfr\_id = info:sid/cwkb.org



### Summary

This domain specific resolution service is called the Classical Works Knowledge Base (CWKB). This service allows for the assembly and maintenance of special and about online resources that can provide services related to those works. It understands the linking heuristics used by online text resources within its domain a citation one or many URLs that can take users to specific texts within these resources, and ideally to specific passages. Although our example, and the focus of a domain specific knowledge bases would operate in the same way for other disciplines.

### Demonstration

- User is affiliated with an institution that has an OpenURL link resolver
- Aeschylus. Supplices 40-57
- 2. Euripides. Phoenissae 676-689
- 3. Thucydides 4.8.3-9
- 4. Xenophon. Cyropaedia 3.1.14-31
- User is NOT affiliated with an institution that has an OpenURL link resolver
- Aeschylus. Supplices 40-57
- 2. Euripides. Phoenissae 676-689
- Thucydides 4.8.3-9
- Xenophon. Cyropaedia 3.1.14-31

### **Documents**

- Matrix defining the KEV Format to represent a canonical citation (html)
- Project Description, 21 pp. (pdf)
- Project Summary, 2 pp. (pdf)



cwkb.org

### **CWKB Demo**

#### Notice (1/3)

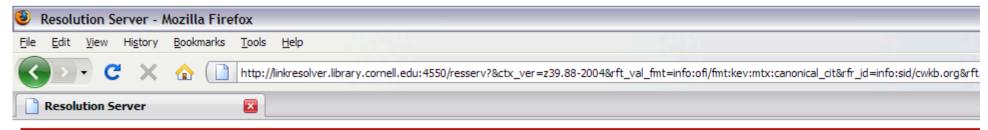
Willink, Charles William. -The invocations of Epaphus in Aeschylus, « Supplices » 40-57 and Euripides, « Phoenissae » 676-89. Mnemosyne 2002 Ser. 4 55 (6): 711-719. • Textual and metrical issues. [73-00082

### Notice (2/3)

Samons, Loren J. -Thucydides' sources and the Spartan plan at Pylos. Hesperia 2006 75 (4): 525-540 ill. • Thucydides' account of the Spartan-Athenian conflict at Pylos (4, 8, 3-9) contains topographical inaccuracies that demonstrate that the historian had not visited the site. Emendation is unwarranted, in part because Thucydides' erroneous account of the topography harmonizes with his account of the Spartans' plan to block the entrances to Navarino Bay. The actual topography, however, makes the reported plan impossible. The Spartans apparently intended to fight a naumachia with the Athenians inside the bay and therefore stationed hoplites on the island of Sphakteria. Thucydides' misconceptions stem from his failure to visit the site and his reliance on tendentious Peloponnesian sources. [77-06529]

### Notice (3/3)

Lendon, Jon E. -Xenophon and the alternative to realist foreign policy: Cyropaedia 3.1.14-31. JHS 2006 126: 82-98. • The dialogue Xenophon stages at Cyr. 3, 1, 14-31 constitutes a sophisticated theoretical treatment of Greek foreign-policy motivations and methods, and offers an implicit rebuttal to Thucydides' realist theses about foreign relations. Comparison of this passage to the historians and Attic orators suggests that Xenophon was attempting to systematize conventional Greek conceptions: the resulting theoretical system, in which hubris is regarded as the main obstacle to interstate quiet, and control of other states depends not only upon fear but upon superior excellence and the management of reciprocity, is likely to approach closer than Thucydides' theses to mainstream classical Greek thinking about foreign relations. [77-06878]



#### **Get it! Cornell**

### **Canonical Citation**

Aeschylus Supplices 40- 57

#### **Full Text**

**English translation in Perseus** 

**Greek text in Perseus** 

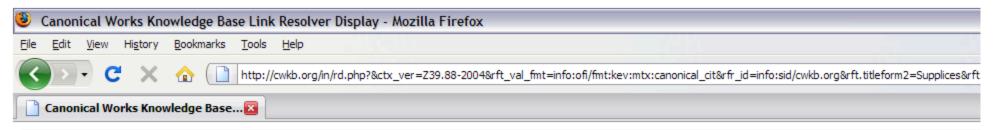
**Greek text in the Abridged TLG online** 

**Greek text in TLG** 

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### Classical Works Knowledge Base Link Resolver

### Canonical Citation

Aeschylus Supplices 40-57

**Full Text** 

**Greek text in the Abridged TLG online** 

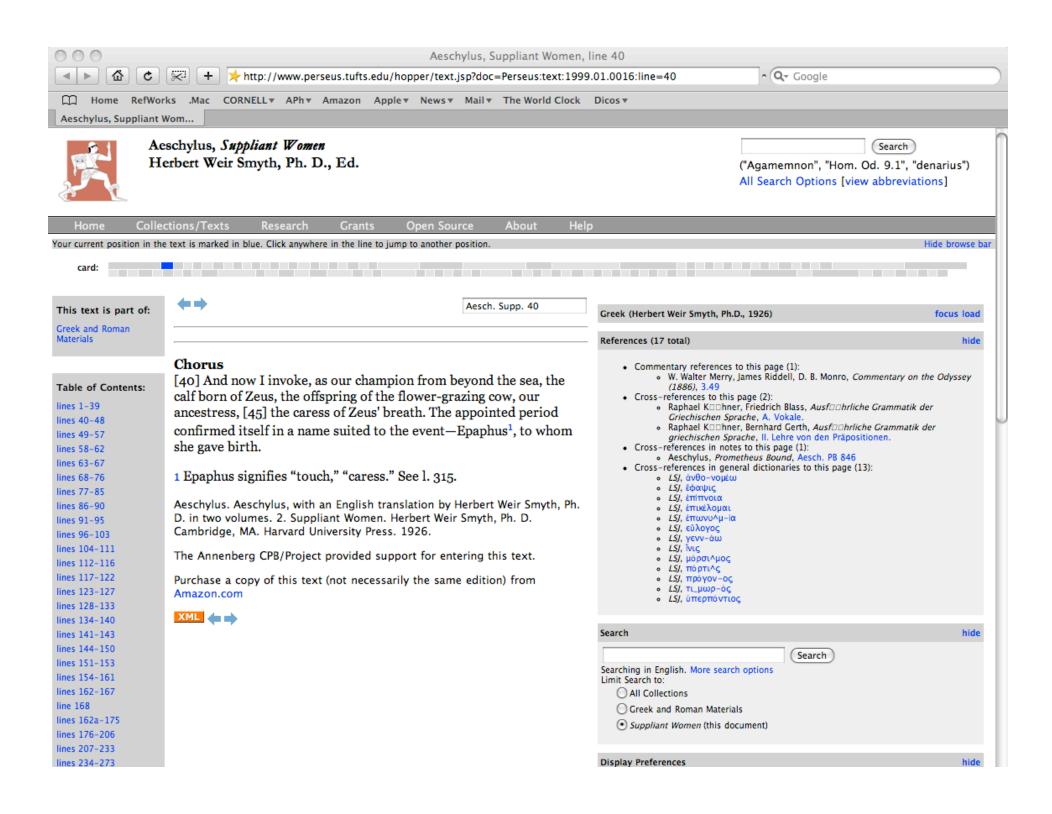
**Greek text in TLG (licensed)** 

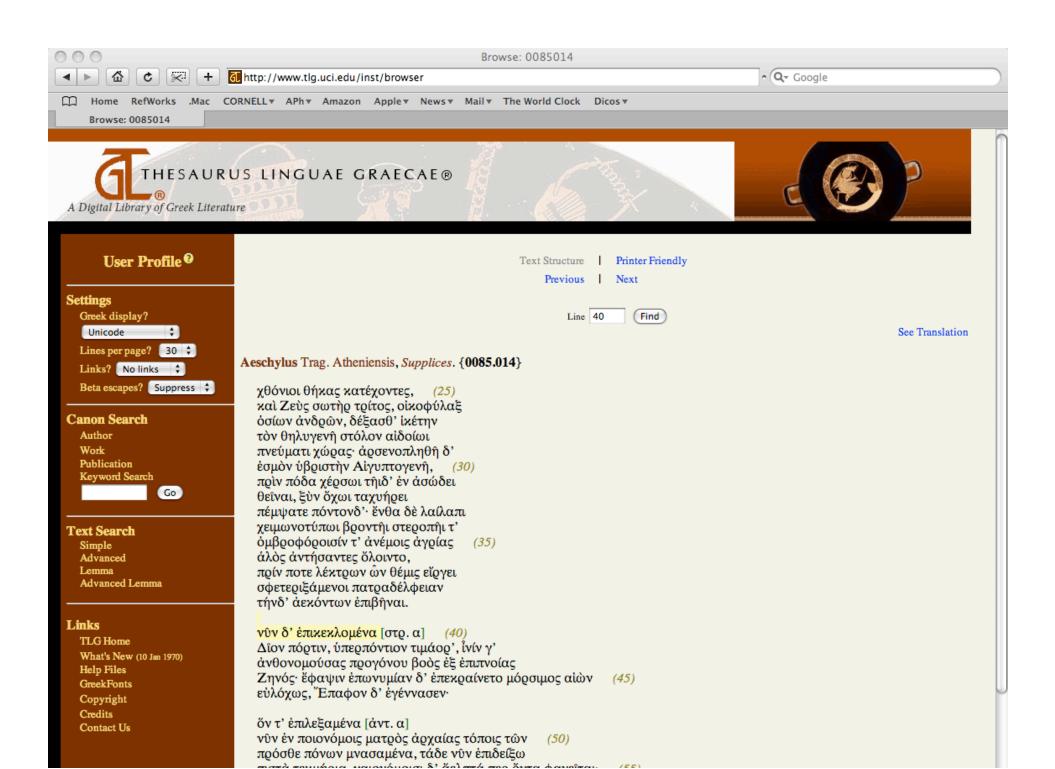
**English translation in Perseus** 

**Greek text in Perseus** 

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### Wider application

- Useful to any discipline that cites works independent of specific editions or translations
- Potential model for chaining link resolvers / knowledge bases together to provide enhanced services to users
- Potential for providing other information services to community

### More information

http://cwkb.org dwr4@cornell.edu