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

2009 DLF Spring Forum

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Planning grant overview

• Mellon Foundation funding
• Three components
  – Canonical citation
  – OpenURL quality metrics and evaluation
  – L’Annee interface enhancements
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
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 Bernadette 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:
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
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'Oooge. (English) search this work

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

Andocides.

Antiphon.

Apollodorus.

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

Appian.

Areteus.

Aristophanes.

Aristotle.

Caesar Augustus. *Res Gestae Divi Augusti.* (Latin) [Auo. 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]
- 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]

The Epistles of Ovid. (English) [Ov. Ep. Saph.] 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. Macius Plautus.
P. Ovidius Naso, *Amores*, EPIGRAMMA IPSIUS

R. Ehwald, Ed.

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**ÉPIGRAMMA IPSIUS**

Qui modo Nasonis fueramus quinque libelli,
Tres sumus; hoc ili praetulit auctor opus.
Ut iam nulla tibi nos sit legisse voluptas,
At levior demptis poena duobus erit.

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Fund for the Improvement of Postsecondary Education provided support for entering this text.

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An XML version of this text is available for download, with the additional restriction that you offer Perseus any modifications you make. Perseus provides credit for all accepted changes, storing new additions in a versioning system.
Carmen ad iratum dum tu perducis Achilleum
Primaque iuratis induis arma viris,
Nos, Macer, ignava Veneris cessamus in umbra,
Et tener asuros grandis frangit Amor.

Saepe meae 'tandem' dixi 'discede' puellae —
In gremio sedit protinus illa mea.
Saepe 'puedet! dixi — lacrimis vix illa retentis
'Me miseram! iam te' dixit 'amare pudet?'

Implicique suos circum mea colla lacertos
Et, quae me perdunt, oscula mille dedit.

Vincor, et ingenium sumptis revocatur ab armis,
Resque domi gestas et mea bella cano.

Sceptra tamen sumpsi, curaque tragedia nostra
Crevit, et hiue operi quamlibet aptus eram.
Risit Amor pallamque meam pietosque cothornos
Spectaque privata tam cito sumpta manu.

Hinc quoque me dominae numen deduxit iniquae,
Deque cothornato vate triumphat Amor.

Quod licet, aut artes teneri propter meum Amoris —
Ei milii, praeceps urgeor ipse meis! —
Aut, quod Penelles verbis reddatur Ulixi,
Scribimus et lacrimas, Phyllis relicta, tuas,
Quod Paris et Macareus et quod male gratus Iason
Hic volvotique pares Hic volvotusque legant.
Incomplete Shakespeare: Or, Denying Coauthorship in 1 Henry VI

Brian Vickers

2007
English journal article
Shakespeare Quarterly, 58, no. 3 (2007 Fall): p. 311-52

Publisher Abstract: Our conception of Shakespeare is incomplete unless we recognize that, like every dramatist working in the London theatres between 1579 and 1642, he occasionally coauthored plays. Strong evidence now exists for his having worked with Peele on Titus Andronicus, Middleton on Timon of Athens, Wilkins on Paricles, and Fletcher on both Henry VII and The Two Noble Kinsmen....
ACT II SCENE IV

London. The Temple-garden.

Enter the Earls of SOMERSET, SUFFOLK, and WARWICK; RICHARD PLANTAGENET, VERNON, and another Lawyer

RICHARD PLANTAGENET

Great lords and gentlemen, what means this silence?

Dare no man answer in a case of truth?

SUFFOLK

Within the Temple-hall we were too loud;

The garden here is more convenient.

RICHARD PLANTAGENET

Then say at once if I maintain’d the truth;

Or else was wrangling Somerset in the error?

SUFFOLK

Faith, I have been a truant in the law,

And never yet could frame my will to it;

And therefore frame the law unto my will.

SOMERSET

Judge you, my Lord of Warwick, then, between us.

WARWICK

Between two hawks, which flies the higher pitch;

Between two dogs, which hath the deeper mouth;

Between two blades, which bears the better temper:

Between two horses, which doth bear him best;

Between two girls, which hath the meriest eye;

I have perhaps some shallow spirit of judgement;

But in these nice sharp quillets of the law,

Good faith, I am no wiser than a daw.

RICHARD PLANTAGENET

Tut, tut, here is a mannerly forbearance:

The truth appears so naked on my side

That any purblind eye may find it out.
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
Classical text resource (e.g., JSTOR, L’Année)

User’s link resolver

HTML page with link options

Source text in original language

Source text in translation

Library catalog

Inter-library loan

Others?
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
Classical text resource (e.g., JSTOR, L’Année) → OpenURL → Classical Works KnowledgeBase (CWKB) → HTML page with link options → Service X (Text in original language, Edition A) → Service X (Text in original language, Edition B) → Service Y (Text in original language) → Service Z (Text in translation) → Others?
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.)
Classical text resource (e.g., JSTOR, L’Annee) → OpenURL

Classical Works KnowledgeBase (CWKB) → OpenURL

User’s link resolver → HTML page with link options

Library catalog
Inter-library loan
Service X Text in original language
Service Y Text in translation
Others?
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
Classical text resource (e.g., JSTOR, L'Année) ➔ OpenURL ➔ Classical Works KnowledgeBase (CWKB)

User’s link resolver ➔ OpenURL ➔ HTML page with link options ➔ CWKB URL redirect service

Library catalog ➔ Inter-library loan ➔ Service X Text in original language ➔ Service Y Text in translation ➔ Service Z Text in original language
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.
  rft.titleform1 = Supp.
  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.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


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 specific 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 and can provide 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 this 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**

  1. 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**

  1. Aeschylus. Supplices 40-57
  2. Euripides. Phoenissae 676-689
  3. Thucydides 4.8.3-9
  4. 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 Demo

Notice (1/3)

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. [77-06520]

Notice (3/3)
Lendon, Jon E. -Xenophon and the alternative to realist foreign policy: Cyropædia 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]
**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](#)

**Search Library Catalog**
- [WorldCat Local](#)

Need help finding what you need?
- [Ask a Librarian](#)
- [Help Page](#)
- [Report a Problem Connecting](#)
- [Send us Feedback](#)
Aeschylus Supplices 40-57

Greek text in the Abridged TLG online
Greek text in TLG (licensed)
English translation in Perseus
Greek text in Perseus
Search Library Catalogs
WorldCat.org
Chorus

[40] And now I invoke, as our champion from beyond the sea, the calf born of Zeus, the offspring of the flower-grazing cow, our ancestress, [45] the care of Zeus’ breath. The appointed period confirmed itself in a name suited to the event—Epaphus¹, to whom she gave birth.

1 Epaphus signifies “touch,” “caress.” See l. 315.


The Annenberg CPB/Project provided support for entering this text.

Purchase a copy of this text (not necessarily the same edition) from Amazon.com
Aeschylus Trag. Atheniensis, Supplices. {0085.014}

χθόνιοι θήκας κατέχοντες, (25)
kai Ζεύς σαλῷ τόπος, οἰκοφύλαζ
όψιν ἄνδρον, δεξίου' ἤκτην
τὸν θηλυγενὴ στόχον αὐτοῖο
πνεύματι χώρας ἀρεσκοληθῇ δ' ἕαμον ἐβριστὴν Ἀργοτευγενῆ,
(30)
pοῦν πόδα χάριν τηθ' ἐν ἀσώδει
θεόν, ξοῦν ὁ χειρὶ ταχυὶ
πέμψειτε πάντοθν' ἕνθα δὲ λαλάτη
χρηματοτάόι βορεῖ τὴ στεψάρῃ τ' ὁμφαροφόροις τ' ἀνέμους ἀγίας
(35)
άλτες αὐτής τ' ὄλοντο, ἐξ οὗτοι
ποτὲ λείτωριν ὃν ὁμοίος εἴρχει
σφετεριζόμενοι πατριάδελφον
tηθ' ἄκοιντον ἐπιβιβάσα.

γῦν δ' ἐπικεκλημένα [ιτρ. α'] (40)
Διὸν πόρτιν, ὕστερον τίμαρ', ἵναι γ' ἀρθονομοῦσας προγόνοι βοῶς ἐξ ἐπινοιας
Ζηνίς· δ' ἐσφαγν ἐπισκοπήν 
(45)
ἐὐώδος, Ἐπαφον δ' ἐγεννασέν.

δὲν τ' ἐπιλεξαμένα [ἀντ. α']
gυν εν ποιον τοις μαρτίς ορχιας τοῖς τούς
προθεῖ πόνον μεσαμενα, τάδε γυν ἐπισθέν
(50)
εἰς τὸν συμβωλοφιλον, διήγερσα τ' ἐν αὐτῷ ἀνδρὶ πολεμεύον.
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