Sunoikisis Digital Classics: Fall 2021

Session 2 Text Encoding I: EpiDoc

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Session outline

- 1. Epigraphy, Leiden, EpiDoc (GB) (15)
- 2. Rules of XML (PY) (10)
- 3. EpiDoc Latin ostrakon demo in Oxygen (GB) (5)
- 4. Abbreviations (PY) (10)
- 5. Lacunae (GB) (10)
- 6. Editorial correction (PY) (10)
- 7. Exercise

Session outline

- 1. Epigraphy, Leiden, EpiDoc
- 2. Rules of XML
- 3. EpiDoc Latin ostrakon demo in Oxygen
- 4. Abbreviations
- 5. Lacunae
- 6. Editorial correction
- 7. Exercise

Some slides in this presentation are based on work (cc) by Tom Elliott, Elli Mylonas, Charlotte Tupman, Simona Stoyanova, Irene Vagionakis, and others.

Leiden System

[Εὐμοιριτο] Ἑλλάδιος ἔζησε ἔτι ν΄
[πλέον ἔλατ(τ)ον μῆ]ν[ες γ΄] ἡμέρας
[δεκαπέντε ὁ Χριστὸς μετὰ τ(ο)ῦ] πνεύ[ματός σ(ο)υ ἐτ]ελεύ[τισεν μι]νὶ Παυνὶ
5 [ἑβδό]μι κατὰ τοὺς Ἄφρ<ο>υς

[Βὐμοιριτο] Ελλάδιος ἔζησε ἔτι ν΄ [πλέον ἔλατ(τ)ον μῆ]ν[ες γ΄] ἡμέρας [δεκαπέντε ὁ Χριστὸς μετὰ τ(σ)ῦ] πνεύ- [ματός σ(ο)υ ἐτ]ελεύ[τισεν μι]νὶ Παυνὶ 5 [ἑβδό]μι κατὰ τοὺς Ἄφρ<σ>υς

[Εὐμοιριτο] Ἑλλάδιος ἔζησε ἔτι ν΄ [πλέον ἔλατ(τ)ον μῆ]ν[ες γ΄] ἡμέρας [δεκαπέντε ὁ Χριστὸς μετὰ τ(ο)ῦ] πνεύ- [ματός σ(ο)υ ἐτ]ελεύ[τισεν μι]νὶ Ḥαυνὶ 5 [ἑβδό]μι κατὰ τοὺς Ἄφρ<ο>υς

[Εὐμοιριτο] Ἑλλάδιος ἔζησε ἔτι ν΄
[πλέον ἔλατ(τ)ον μῆ]ν[ες γ΄] ἡμέρας
[δεκαπέντε ὁ Χριστὸς μετὰ τ(ο)ῦ] πνεύ[ματός σ(ο)υ ἐτ]ελεύ[τισεν μι]νὶ Παυνὶ
[ἑβδό]μι κατὰ τοὺς Ἄφρ<ο>υς

Illegible letters, not restored by editor. ąb Letters ambiguous without their context. Letters missing, not restored by editor. [...] [abc] Letters missing, restored by editor. Letters erroneously omitted, not restored. **(...)** (abc) Letters erroneously omitted, restored by editor. a(bc) Abbreviation expanded by editor. Letters considered superfluous by editor. {abc} [abc] Deletion which can be restored.

EpiDoc



EpiDoc is an international, collaborative effort that provides guidelines and tools for encoding scholarly and educational editions of ancient documents. It uses a subset of the Text Encoding Initiative's standard for the representation of texts in digital form and was developed initially for the publication of digital editions of ancient inscriptions (e.g. Inscriptions of Aphrodisias, Vindolanda Tablets). Its domain has expanded to include the publication of papyri and manuscripts (e.g. Papyri.info). It addresses not only the transcription and editorial treatment of texts themselves, but also the history and materiality of the objects on which the texts appear (i.e., manuscripts, monuments, tablets, papyri, and other text-bearing objects).

Latest Release of all EpiDoc code: 9.2 (October 2020)

Core EpiDoc Components

- EpiDoc Guidelines: recommendations for markup of transcription, descriptive features, etc. (About)
- EpiDoc Schema: the TEI-derived schema against which EpiDoc XML should be validated
- EpiDoc Reference Stylesheets: for transforming EpiDoc XML to HTML, text or ODF
- EFES: a low-barrier EpiDoc publication platform

- EpiDoc recommended use of TEI
 - SGML/XML for literary/linguistic corpora since 1988
- Based on Leiden distinctions (1931)
 - Krummrey-Panciera 1980 / Panciera 1991
- EAGLE fields
 - EDR / EDH / PETRAE etc.
- Expanded for neighbouring disciplines
 - Papyrology
 - Other ancient inscribed objects (seals, coins, stamps...)
 - Other scripts (Cuneiform, Mayan, Mycenaean...)

- Guidelines
- Reference Stylesheets
- Schema
- EFES
- EpiDoc training programme
- Third party tools
 - Papyrological Navigator/editor
 - Perseids
 - EAGLE vocabularies and tools

Teaching EpiDoc	Teaching epigraphy
Assume epigraphic/classical knowledge	Assume Greek and Latin
Introduce technology	Introduce epigraphic practice
Give reference materials (Guidelines) and customized summary of reference (cheatsheet)	Give reference materials (handbooks) and customized summary of reference (Leiden conventions)
Give lots of exercises and practice	Give lots of exercises and practice

Illegible letters, not restored by editor. ąb Letters ambiguous without their context. Letters missing, not restored by editor. [...] [abc] Letters missing, restored by editor. Letters erroneously omitted, not restored. **(...)** (abc) Letters erroneously omitted, restored by editor. a(bc) Abbreviation expanded by editor. Letters considered superfluous by editor. {abc} [abc] Deletion which can be restored.

```
<gap reason="illegible" extent="unknown"/>
...
       <unclear>ab</unclear>
ąb
      <gap reason="lost" extent="unknown"/>
[...]
       <supplied reason="lost">abc</supplied>
[abc]
       <gap reason="omitted" extent="unknown"/>
(...)
       <supplied reason="omitted">abc</supplied>
(abc)
       <expan><abbr>a</abbr><ex>be</ex></expan>
a(bc)
       <surplus>abc</surplus>
{abc}
      <del>abc</del>
[abc]
```

Number 5: ↗ HD001830 – open detailed view...



Transcription: S(ub) c(ura) Pr(---)

Epagat[h---]

Find spot: ↗ Durrës (Dyrrachium)

Province: Macedonia (Albania)

Chronological 117 AD - 150 AD

data:

Literature ?: AE 1984, 0813.

F. Miraj - H. Myrto, Iliria 12, 1, 1982, 133-134, Nr. 3; fig. 3. ↗ (B) - AE

1984.

H. Freis, ZPE 53,

1983, 118-119, Nr. 3. -

AE 1984.



→ more images

Date	Date	Chronological Data	Date	<pre><origdate notafter="0300" notbefore="0101" precision="medium"> Second to third centuries A.D.</origdate></pre>
criteria	Dating Criteria			<pre><origdate evidence="lettering"></origdate></pre>
Findspot	Find Place (Context, Circumstances)	Province, Ancient Find Spot, Find Spot	Provenance	<pre><pre><pre><pre><pre><pre><pre>found">Cyrene. Found before 1941.</pre></pre></pre></pre></pre></pre></pre>
find date		Year of Find		<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>
Original Location	Place of Origin			<origplace>Bakla</origplace>
Last Recorded Location	Modern Location	Modern Country, Modern Find Spot, Modern Region		<pre><pre><pre><pre></pre></pre></pre></pre>
inv. no.	Institution and Inventory		Inv. Id	<repository>National Preserve of Tauric Chersonesos</repository> <idno>49/36923</idno>
	Autopsy			<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>
Bibliography	Editions	Literature	<u>Publications</u>	<div type="bibliography"><listbibl> <bibl><ptr target="menozzi1998"></ptr>, no. <citedrange>12</citedrange></bibl></listbibl></div>

What is XML?

What is XML?

- eXtensible Markup Language a set of notation, grammar and syntax, used to define and describe encoding languages (like HTML, TEI and EpiDoc)
- Allows for semantic tagging of of information

```
<br/>dibl>
  <surname>Berman</surname>
  <forename>Merrick</forename>
 <author>
            <title
                         level="a">Boundaries
                                                      of
Concepts
                  of
                              Measuring
                                                  Space
in Chinese History</title>
 <title level="j">Historical Geography</title>
 <br/><biblScope unit="volume">33</biblScope>
 <date>2005</date>
 <br/><biblScope unit="page">118-113</bibScope>
</bibl>
```

Berman, Merrick. "Boundaries or Networks in Historical GIS: Concepts of Measuring Space and Administrative Geography in Chinese History." *Historical Geography* 33 (2005): 118:133

Networks in Historical GIS: Berman, M. (2005), 'Boundaries or Networks in Historical GIS: Concepts of Measuring Space and Administrative Geography in Chinese History,' *Historical Geography* 33. Pp. 118:133

Merrick Berman (2005), Boundaries or Networks in Historical GIS: Concepts of Measuring Space and Administrative Geography in Chinese History. *Historical Geography* 33. (2005) 118:133

Tags and elements

- Made up of plain Unicode text, Latin or any other script
- Can be written and viewed in any text editor

```
<tag>content</tag> element
<empty></empty> = <empty/> empty element
```

Attributes

<tag attribute="value">...</tag> attribute

No markup inside attribute values!

\$\cong \cong \cong

Whitespace

- XML cares about the presence or absence of whitespace:
 - Inside elements:

• Inside the content:

```
<w>Imperator</w> # <w>Imp erator</w>
```

Between elements:

```
w>iura</w> <w>sua</w> ≠ <w>iura</w>>sua</w>
```

Whitespace

- XML does not care about the amount of type of whitespace

 - Imp erator = Imp erator

NB! Imperator ≠ Imp erator

Special characters to be escaped with &entities;

- Literal angle brackets < >:
 - < &It;</p>
 - > >
- Ampersand &:
 - & &
- Some characters that can't be entered using ordinary Unicode:
 - ■ -

Nesting

- The entire XML document must be contained within a single "root" element
- The structure of an XML document is tree-like, where elements may be nested in other elements

```
<TEI>
  <ancestor>
    <parent>
      <child></child>
      <sibling></sibling>
    </parent>
  </ancestor>
</TEI>
```

Nesting

 NB! Elements must be wholly contained by all ancestors and may not overlap!

```
<TEI>
  <ancestor>
    <parent>
      <child></child>
      <sibling>
    </parent>
      </sibling>
  </ancestor>
</TEI>
```

```
<TEI>
  <ancestor>
    <parent>
      <child>
      <sibling>
      </child>
      </sibling>
    </parent>
  </ancestor>
</TEI>
```

Avoiding nesting issues:

```
<book>
 <page>
  <paragraph> ... <paragraph>
  <paragraph>These events suggest that there were influential groups of
  both pagans and Christians at Aphrodisias, and that there was some tension
 </page>
 <page>
  between them; this may be the cause of the strife referred to in no. 64.
  </paragraph>
 </page>
</book>
```

Avoiding nesting issues - Option 1:

```
<book>
 <page>
  <paragraph> ... <paragraph>
  <paragraph>These events suggest that there were influential groups of
both pagans and Christians at Aphrodisias, and that there was some
tension
  </paragraph>
 </page>
 <page>
  <paragraph>
  between them; this may be the cause of the strife referred to in no. 64.
 </paragraph>
 </page>
</book>
```

Avoiding nesting issues - Option 2:

```
<book>
 <pageBegin/>
  <paragraph> ... <paragraph>
  <paragraph>These events suggest that there were influential groups of
both pagans and Christians at Aphrodisias, and that there was some
tension
 <pageBegin/>
   between them; this may be the cause of the strife referred to in no. 64.
 </paragraph>
 </page>
</book>
```

The 5 rules of well-formed XML

- 1. Whole document must be contained by one root element
- 2. All elements must be wholly contained by all ancestors
- 3. All open (non-empty) tags must close
- 4. There must be no missing < > / " in tags and around attribute values
- 5. Any <, >, & characters must be "escaped"

Validation to a schema

- A schema defines what elements and content can or must appear in any given context
- Guide rail for writing XML documents that allows you to check - "validate" your file in an XML editor
- It provides a contextual menu of elements, attributes, and (sometimes) attribute values that are available to you at any point in the document
- Well-formed ≠ valid

EpiDoc Latin ostrakon demo in Oxygen

Description	Panciera/EDH	SEG/DDb	EpiDoc
Line breaks	abc / abc		<lb n="1"></lb> first line
			<lb n="2"></lb> second line
Word divided across lines	abc/def	αβγ-	< b n="1"/> α βγ< b n="2" break="no"/> δ εζ
		δεζ	
Text divisions	abc // abc		<div type="textpart"></div>
Clear but incomprehensible letters	ABC	AB	<orig>abc</orig>
Letters ambiguous outside context	abc	$\alpha \beta$	<unclear>αβ</unclear>
Vestiges of letters visible but illegible	+++		<pre><gap quantity="3" reason="illegible" unit="character"></gap></pre>
Text read by previous editor, now lost	<u>abc</u>		<supplied evidence="previouseditor" reason="undefined">αβγ</supplied>
Ligatured letters	аъ		<hi rend="ligature">ab</hi>
Erased	[abc]	[αβ]	<del rend="erasure">αβ
Erased and overstruck / corrected	«def»		<subst><del rend="corrected">abc<add place="overstrike">def</add></subst>
Text added by ancient hand	`abc'		<add place="above">αβ</add>
Characters lost but restored	[abc]	[αβ]	<supplied reason="lost">αβ</supplied>
Characters lost, lacuna	[]	[]	<pre><gap quantity="3" reason="lost" unit="character"></gap></pre>
Lacuna, extent unknown	[]	[]	<pre><gap extent="unknown" reason="lost" unit="character"></gap></pre>
Lacuna, approximate extent	[<u>c</u> . <u>5</u>]		<pre><gap precision="low" quantity="5" reason="lost" unit="character"></gap></pre>
Line lost	[]		<pre><gap quantity="1" reason="lost" unit="line"></gap></pre>
Line(s) possibly lost	[?]		<pre><gap quantity="1" reason="lost" unit="line"><certainty locus="name" match=""></certainty></gap></pre>
Letters suppressed by editor	{abc}	$\{\alpha\beta\}$	<surplus>αβγ</surplus>
Omitted letters; added by editor	<abc></abc>	<αβ>	<supplied reason="omitted">αβ</supplied>
Letters corrected by editor	[abc]	<αβ>	$<$ choice $><$ corr $>$ α β ><sic $>$ β α >>
Expansion of abbreviation	a(bc)	$\alpha(\beta\gamma)$	$<$ expan $>$ abbr $>$ α $<$ ex $>$ β γ >
Abbreviation: expansion unknown	a()		<abbr>\a</abbr>
Editor's note	(!)		<note>!</note> , <note>sic</note> , <note>e.g.</note>
Space left on stone	(vac.3)	v.; vacat	<pre><space quantity="1" unit="character"></space> <space quantity="3" unit="character"></space></pre>
Numeral (Roman Greek)	XII	α' ;, α	<num value="12">XII</num> <num value="1">α</num>
Symbol	(leaf)		<g ref="#leaf"></g>

```
xiii Kal(endas) [l]unias n(umerus) . . .
    in his (sesquiplicarius) i
    (equites) vi
    optio i
   quintanari x...
    ad aqua(*) bal(nei) [...]
    ad camellos [...]
    ad preposit[um](*)[]
    faber [i]
10 eger [i]
    cecil(ius)(*) Rogatuş
    reliqui repungen[t . . . ]
    balneus viii[ -ca.?-]
    furnus y[ -ca.?-]
```

Abbreviations

SIMPLE ABBREVIATION

AVG = Augustus

aug part of the **abbr**eviation that is on the stone: **<abbr>**

ustus part you need to **ex**pand to resolve word: **<ex>**

Augustus whole **expan**ded word: **<expan>**

SIMPLE ABBREVIATION

AVG = Augustus

aug <abbr>

ustus <ex>

Augustus <expan>

<expan>

<abbr>Aug</abbr>

<ex>ustus</ex>

</expan>

Critical edition: Aug(ustus)

Diplomatic edition: AVG

UNEXPANDED ABBREVIATION

$$XOP = ?$$

Critical edition: $\chi op(---)$

Diplomatic edition: XOP

ONE MORE COMPLEX ABBREVIATION

AVGG = Augusti duo

augg <abbr>

g <am> ⇒

usti duo <ex>

augusti duo <expan>

Critical edition: Aug(usti duo)

Diplomatic edition: AVGG

<expan>

<abbr>

Aug

<am>g</am>

</abbr>

<ex>usti duo</ex>

</expan>

ABBREVIATIONS: SUMMARY

<expan></expan>	whole expan ded word
-----------------	-----------------------------

<abbr> part of the abbreviation that is on the stone

<ex> part(s) you need to expand to resolve word

<am> abbreviation mark, symbols or characters

Complex lacunae





Κατεσκευ[άσθη] ἐπὶ τῶν εὐσ[εβεστάτων]



Κατεσκευ<supplied reason="lost">άσθη</supplied> ἐπὶ τῶν εὐσ[εβεστάτων]



Κατεσκευ<supplied reason="lost">άσθη</supplied>
ἐπὶ τῶν εὐσ<supplied reason="lost">εβεστάτων
</supplied>



Kατεσκευ<supplied reason="lost">άσθη</supplied>
ἐπὶ τῶν εὐ<unclear>σ</unclear><supplied
reason="lost">εβεστάτων</supplied>



Κατεσκευ[άσθη ...] ἐπὶ τῶν εὐσ[εβεστάτων ...]



Κατεσκευ<supplied reason="lost">άσθη</supplied><gap/> ἐπὶ τῶν εὐ<unclear>σ</unclear><supplied reason="lost">εβεστάτων</supplied>



Κατεσκευ<supplied reason="lost">άσθη</supplied> <gap/> ἐπὶ τῶν εὐ<unclear>σ</unclear><supplied reason="lost">εβεστάτων</supplied>



Κατεσκευ<supplied reason="lost">άσθη</supplied> <gap reason="lost" extent="unknown" unit="character"/> ἐπὶ τῶν εὐ<unclear>σ</unclear><supplied reason="lost">εβεστάτων</supplied>



Kατεσκευ<supplied reason="lost">άσθη</supplied> <gap
reason="lost" extent="unknown" unit="character"/>
ἐπὶ τῶν εὐ<unclear>σ</unclear><supplied
reason="lost">εβεστάτων</supplied> <gap reason="lost"</pre>

"But..."

<supplied reason="lost">άσθη</supplied>

$$\Rightarrow [\alpha\sigma\theta\eta]$$

"But..."

<supplied reason="lost">άσθη</supplied>

$$\Rightarrow [\alpha\sigma\theta\eta]$$

<gap reason="lost" extent="unknown" unit="character"/>

$$\Rightarrow$$
 [...]

Unrestored lacuna—incorrect!



Κατεσκευ[άσθη] [...] ἐπὶ τῶν εὐσ[εβεστάτων] [...]

Unrestored lacuna—correct!



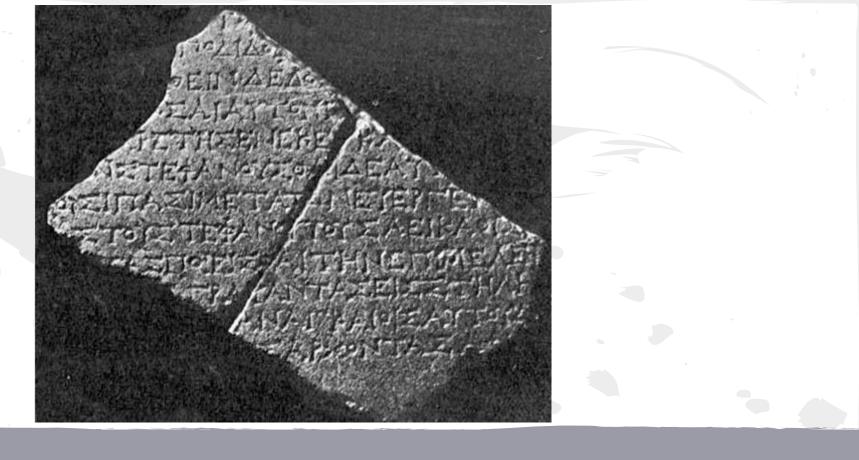
Κατεσκευ[άσθη] [...] ἐπὶ τῶν εὐσ[εβεστάτων] [...]

Unrestored lacuna—correct!

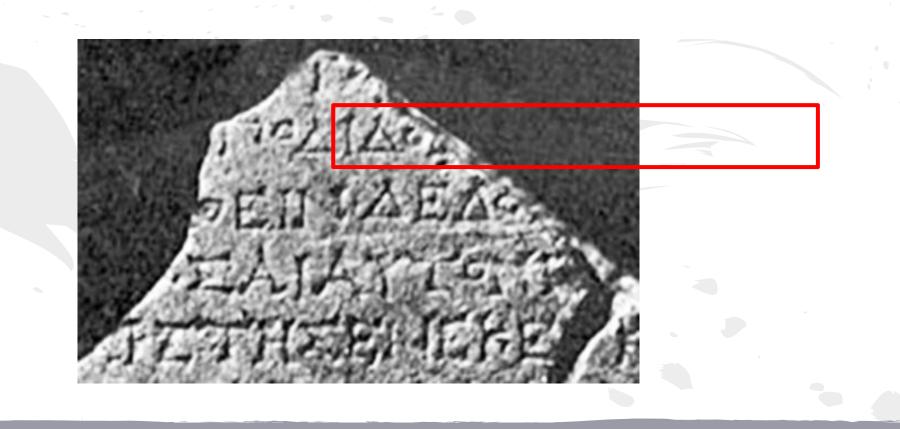


Κατεσκευ[άσθη ...] ἐπὶ τῶν εὐσ[εβεστάτων ...]

Uncertain restoration



https://iospe.kcl.ac.uk/1.1.html



https://iospe.kcl.ac.uk/1.1.html

δεδό<supplied reason="lost">χθαι τῆι βουλῆι</supplied>

δεδό<supplied reason="lost" cert="low">χθαι τῆι βουλῆι</supplied>

```
δεδό<supplied reason="lost">χθαι</supplied>
<supplied reason="lost" cert="low">τῆι
βουλῆι</supplied>
```

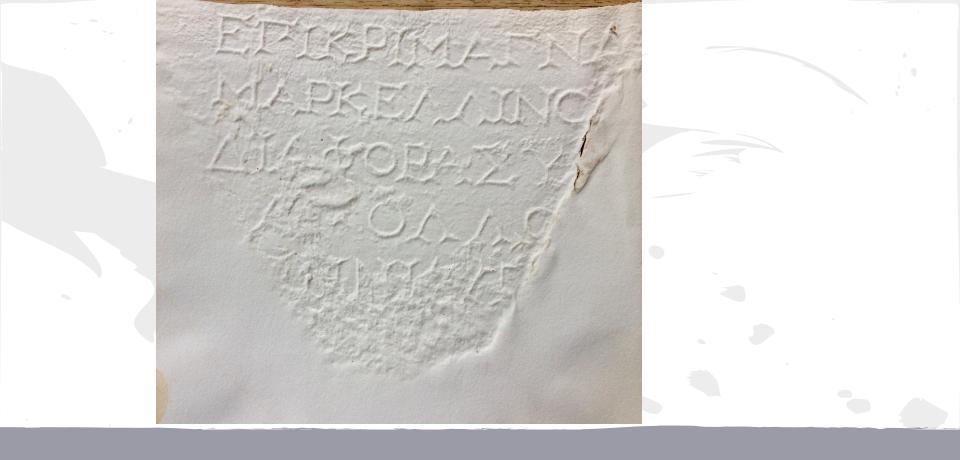
```
δεδό<supplied reason="lost">χθαι</supplied><supplied reason="lost" cert="low">τῆι
βουλῆι</supplied>
```

δεδό[χθαι] [τῆι βουλῆι(?)]

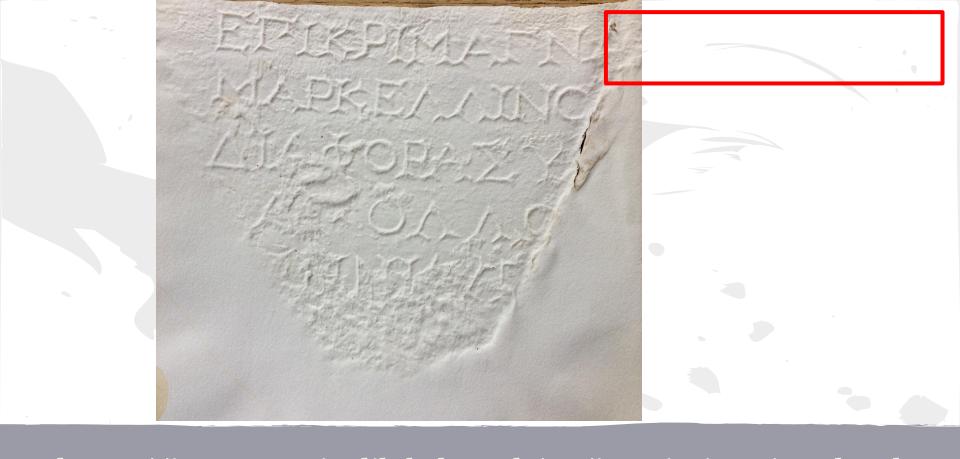
```
δεδό<supplied reason="lost">χθαι</supplied><supplied reason="lost" cert="low">τῆι
βουλῆι</supplied>
```

δεδό[χθαι] [τῆι βουλῆι(?)]

Restoration across tagged features



https://ircyr2020.inslib.kcl.ac.uk/en/inscriptions/A.8.html



https://ircyr2020.inslib.kcl.ac.uk/en/inscriptions/A.8.html

ἐπίκριμα Γνα[ίου Κορνηλίου]

έπίκριμα Γνα[ίου Κορνηλίου]

ἐπίκριμα Γνα<supplied>ίου Κορνηλίου</supplied>

ἐπίκριμα Γνα[ίου Κορνηλίου]

```
ἐπίκριμα
```

- <name>Γνα<supplied>ίου</name>
- <name>Koρνηλίου<name></supplied>

ἐπίκριμα Γνα[ίου Κορνηλίου]

```
ἐπίκριμα
<name>Γνα<supplied>ίου</name>
<name>Koρνηλίου<name></supplied>
```

ἐπίκριμα Γνα[ίου Κορνηλίου]

```
έπίκριμα
<name>Fva<supplied>iou</supplied>
</name>
<supplied><name>Κορνηλίου<name>
</supplied>
```

έπίκριμα Γνα[ίου Κορνηλίου]

```
ἐπίκριμα
<name>Γνα<supplied>íoυ</supplied>
</name>
<supplied><name>Κορνηλίου<name>
</supplied>
  ἐπίκριμα Γνα[ίου] [Κορνηλίου]
```

Encode semantics ("this character is restored") and let your XSLT developer make sure that doesn't break the final display!

Editorial correction

- Editorial supplement
- Editorial suppression
- Editorial correction/substitution
- Regularization/normalization

Editorial supplement





3. DCESED



3. D<E>CE<A>SED



D<supplied reason="omitted">E</supplied>CE<A>SED



D<supplied reason="omitted">E</supplied>CE<supplied reason="omitted">A</supplied>SED



D<supplied reason="omitted">E</supplied>CE<supplied reason="omitted">A</supplied><hi rend="reversed">S</hi>ED

Editorial suppression





Ε δοούλος



 $E δ{o}ουλος$

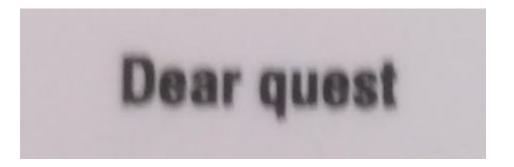


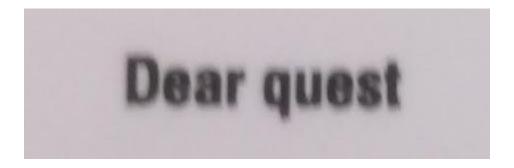
E δ<surplus>o</surplus>ουλος



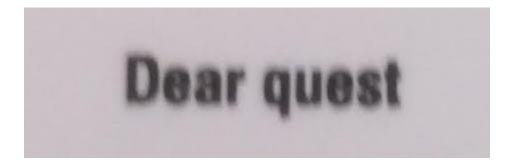
 $E \delta < surplus > o < / surplus > < hi rend="ligature" > o <math> < hi > λo ς$

Editorial correction/substitution

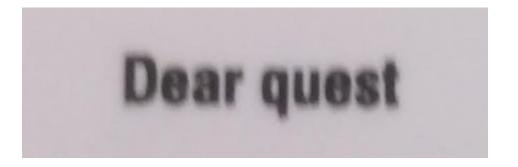




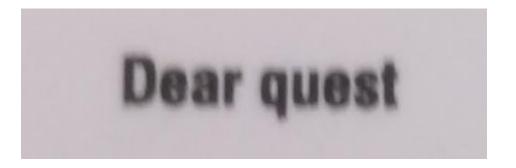
Dear quest



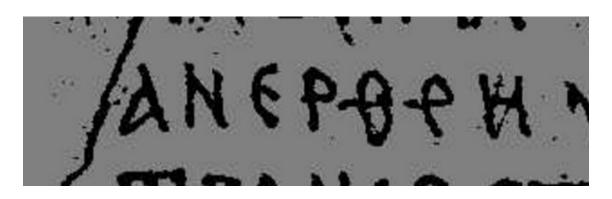
Dear ^rg¹uest

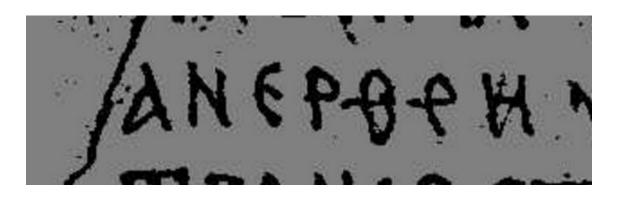


Dear <corr>g</corr>uest

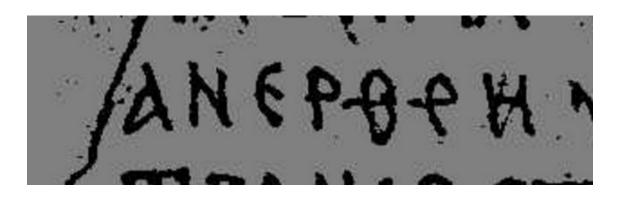


<choice><corr>g</corr>
<sic>q</sic></choice>uest

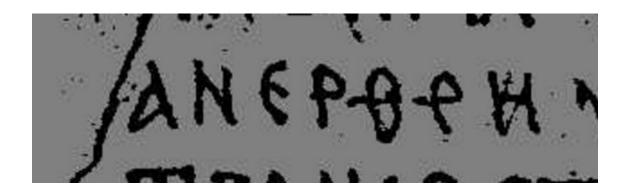




ANEPOEH



ἀνερ [έθ]η



Regularization/normalization





BIXIT IN PAKE



vixit in pace



<choice><reg>v</reg><orig>b</orig>
</choice>ixit in pace



<choice><reg>v</reg><orig>b</orig></choi
ce>ixit in pa<choice><reg>c</reg>
<orig>k</orig></choice>e

Regularization of dialect/non-standard Alternate encoding practice:



```
<choice><reg>vixit</reg><orig>bixit</orig>
  </choice> in<choice><reg>pace</reg>
  <orig>pake</orig></choice>
```

- Whether to act per letter or per word is a project-specific decision
- Leiden only allows correction <u>or</u> diplomatic
- TEI encodes both in parallel
- Can (e.g.) generate apparatus

Exercise