

Hiob Ludolf Zentrum
für Äthiopistik



The DTS implementation for Beta maṣāḥəft

and Epigraphy.info

Hamburg 15.7.2019

Summary

1. Beta maṣāḥəft [5 slides]
2. Beta maṣāḥəft XML, RDF and GitHub based workflow [4]
3. Main Features of the *Beta maṣāḥəft* DTS APIs [5]
4. Examples [12]
5. [Epigraphy.info]

Beta maṣāḥəft

<https://youtu.be/bl950izCu2E>

Project team

- PI: Alessandro Bausi, Univ.-Prof. Dr.
- Coordinator: Eugenia Sokolinski, M.A.
- Technical Lead: Pietro Liuzzo, Dr.
- Researchers: Denis Nosnitsin, Dr.
Dorothea Reule, M.A.
Solomon Gebreyes Beyene, Dr.
Massimo Villa, Dr. (up to May 2018)
Daria Elagina, M.A. (from June 2018)
- PhD student: Sisay Sahile Beyene, M.A. (from April 2017)
- Guests and fellows: Jacopo Gnisci, Dr. (2017)
Steven Delamarter, Prof. Dr. (2018)

Ethiopian and Eritrean manuscript culture



Map: centres of Christian manuscript production © E. Sokolinski 2015

- Written culture since the 1st Millennium BCE.
- Language: Gə'əz
- Religions:
 - Christianity
 - Islam
 - Judaism
 - Traditional religions
- Centres:
 - Late Antiquity: Aksum, Adulis
 - Post-Aksumite: Lālibalā, Gondar
 - Modern: Addis Ababā
- Manuscripts:
 - Since the Aksumite times
 - Codex / Parchment
 - Of possibly c.200,000 (up to

Focus of the project *Beta maṣāḥəft*

(lit. *House of Books*, i.e. Library)

- The only manuscript culture in Sub-Saharan Africa since the Antiquity / Late Antiquity
- Enormous material, literary, and documentary cultural heritage
- C.200,000 up to 1,000,000 MSS (codices) from the 5th/6th to 21st century; c.500 Sabaic, Greek, and Ethiopic inscriptions from the Antiquity and Early Middle Ages
- Of them only c.20,000 catalogued

Aims of the project *Beta maṣāḥəft*

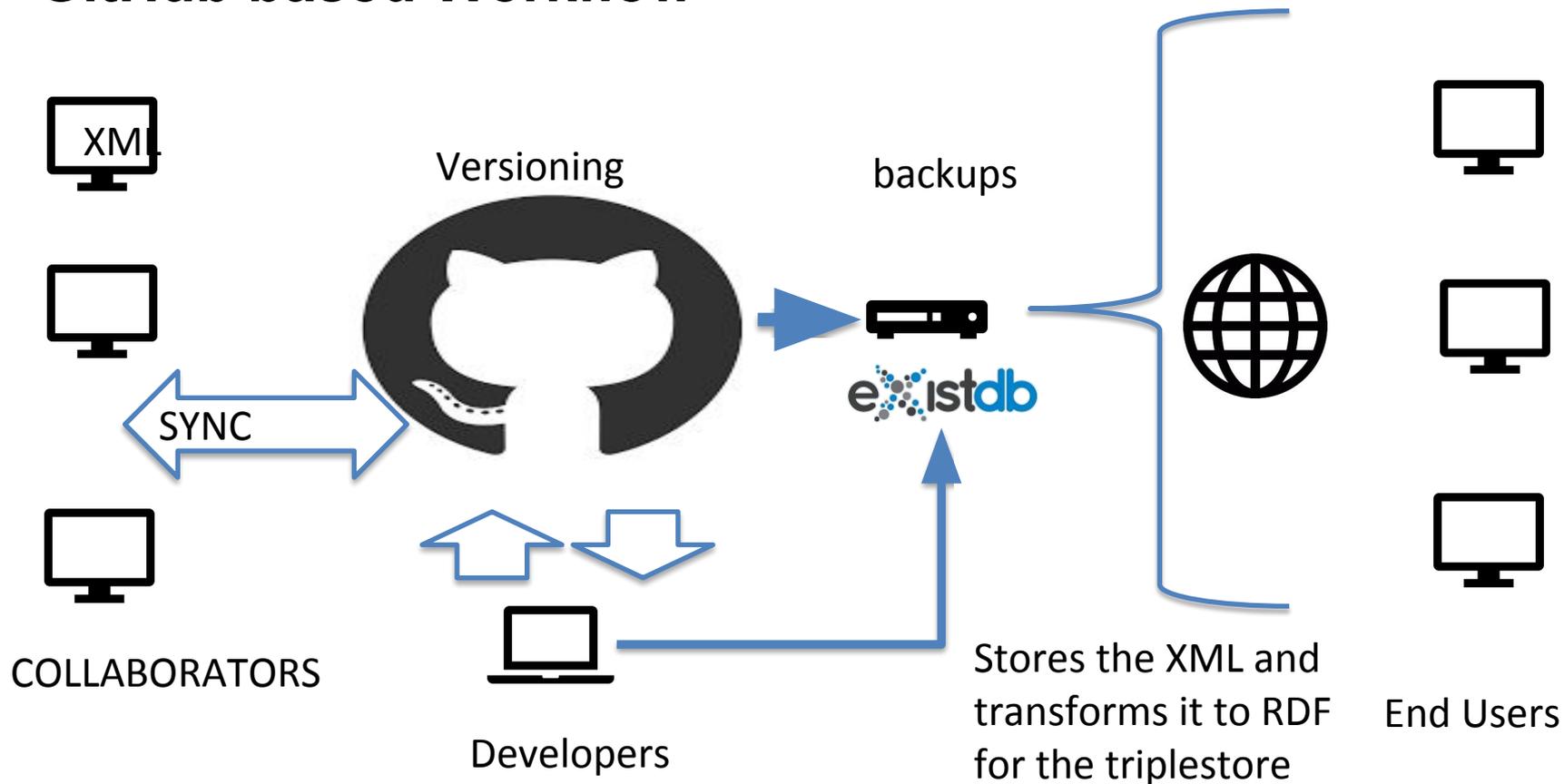
- Study of all aspects of Ethiopian written culture
- History of literature as evidenced by manuscripts
- Accessible, searchable, and analyzable with the help of a digital research environment

Why DTS?

- Expose a non hierarchical canon
- Present text data in a machine reusable way
 - Where we have no text (only the structure)
 - Where we have some text
- Retrieve precise passages
 - For collation (BM)
 - For solution of citations (Dillmann)
- Interact with other collections

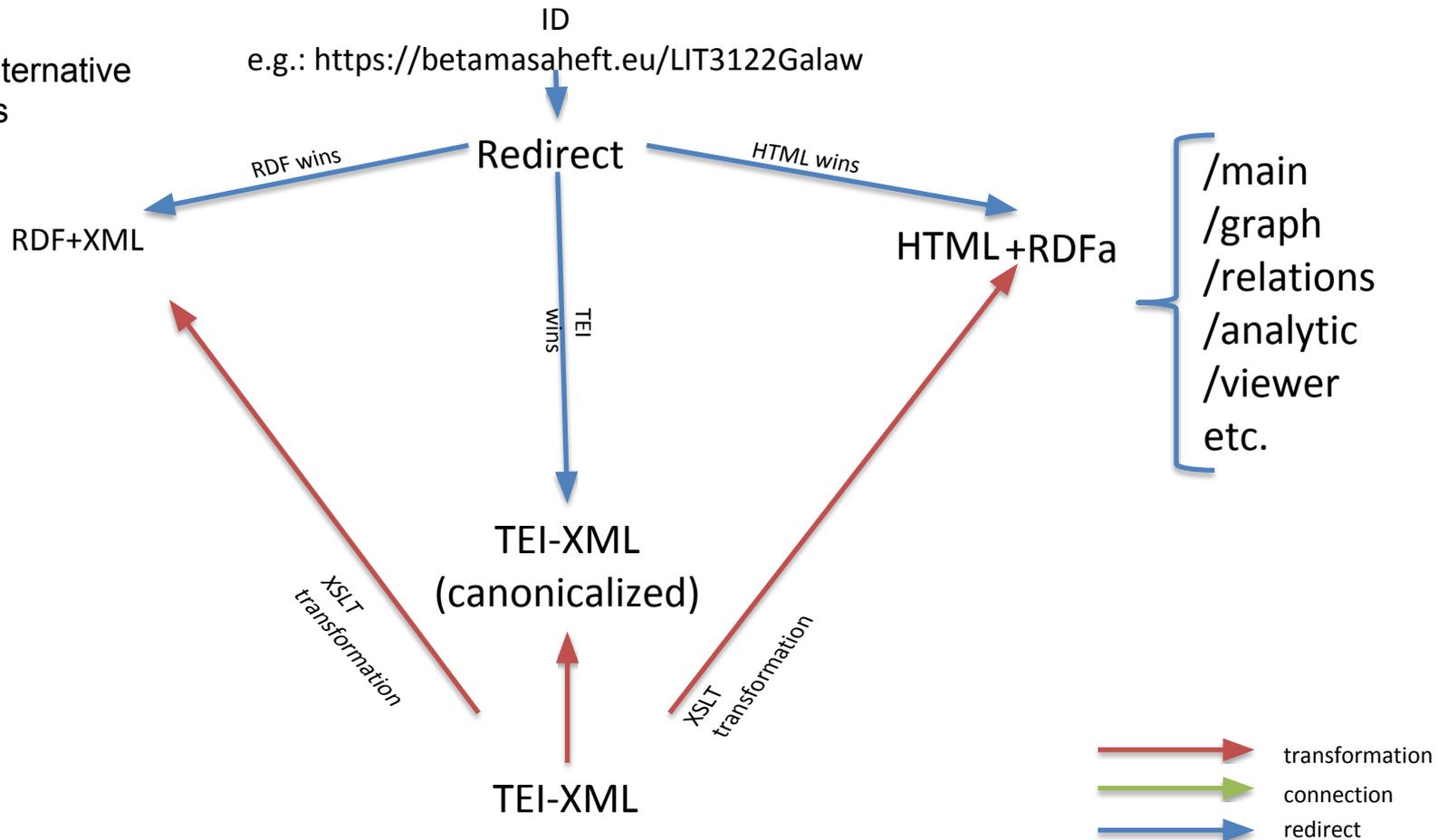
BM XML and RDF from GitHub

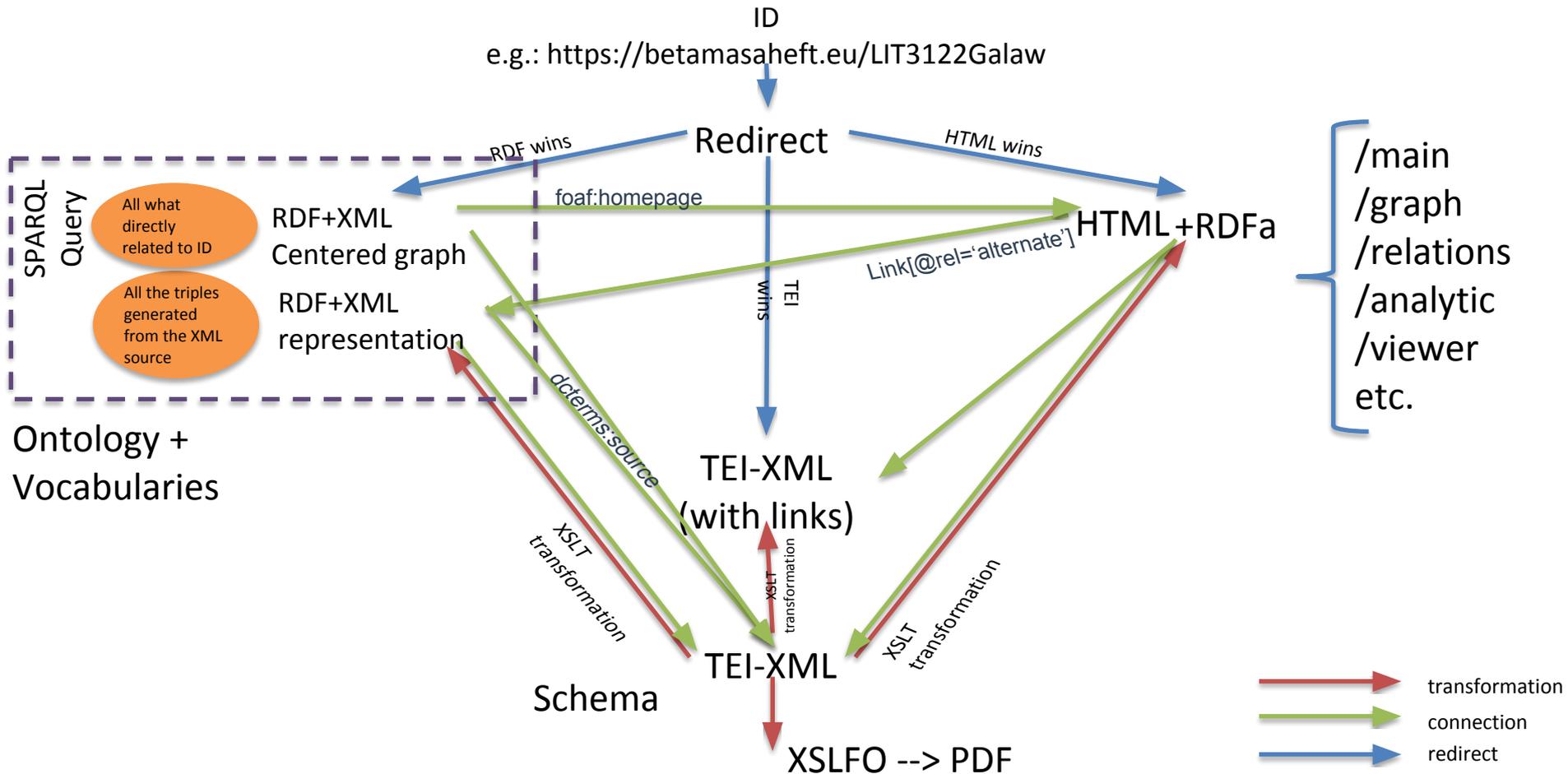
GitHub based Workflow

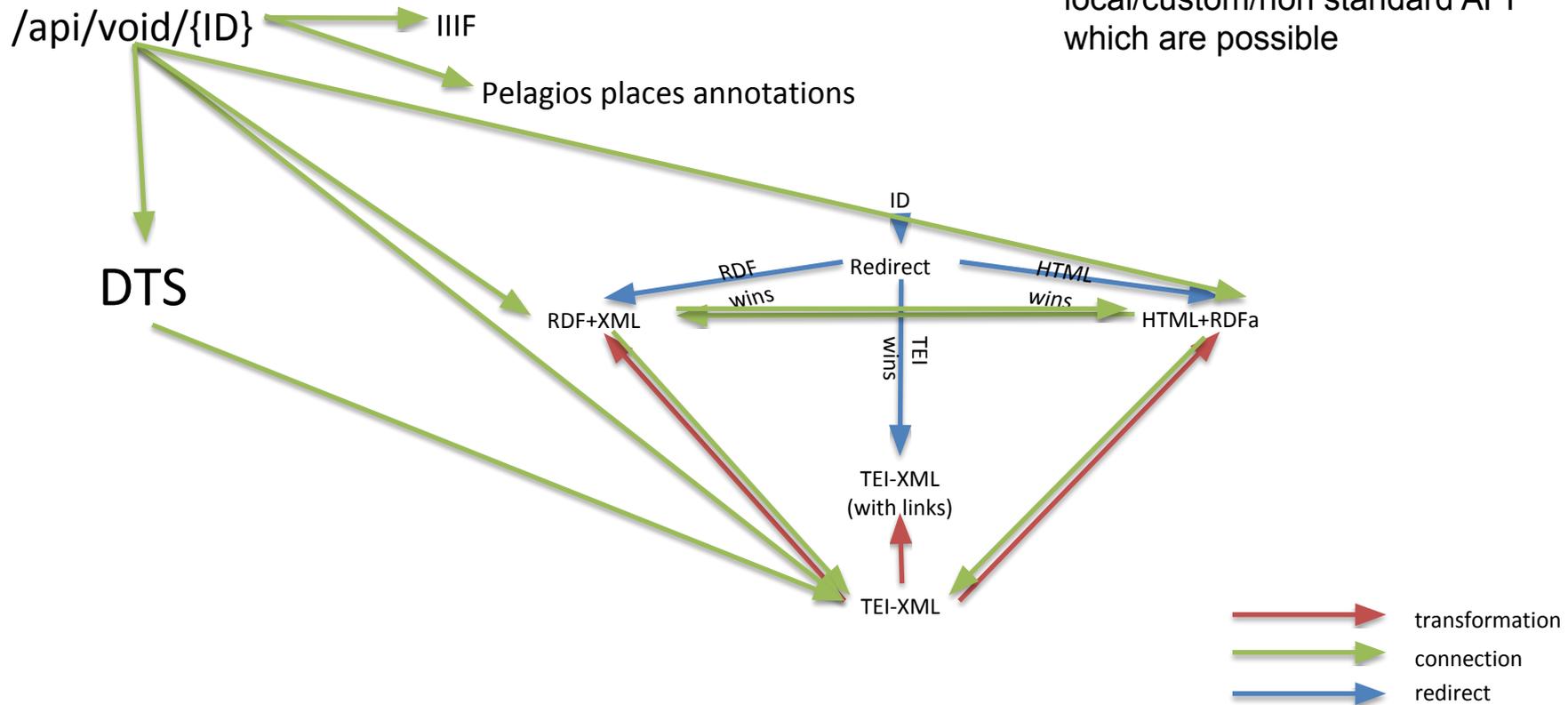


Findability of alternative
representations

=
Links to
follow...







Main features of the *Beta maṣāḥeft* DTS APIs

Standard API and what you may not expect

THERE IS NO TEXT!

sometimes we only know the structure, or have only a fragment

weird , but real...

All three APIs

<https://github.com/BetaMasaheft/BetMas/blob/master/BetMas/modules/dts.xqm>

Example 3

Exodus

</api/dts/collections?id=urn:dts:betmas:LIT1367Exodus>

We do not use this, **it is for you!**
Uses XQuery to query the source TEI and SPARQL to query the RDF triplestore to populate information

</api/dts/navig>

ተከዚ: 568 pdf TEI/XML

< ትክክል: | ተከዚ: >

Dillmann ⓘ

(passim ተከዚ:), subst. , plerumque m. , [contigu
 ⚙️ Pl. ተከዚዛት: in Mss. Jeremiae libro Francof., sub

1) *flumen*^{la} , *fluvius*^{la} , *amnis*^{la} , Ex. 1,22 ,
 Ex. 7,18 ; Jos. 4,7 ; Jos. 5,1 ; 4 Reg. 5,
 Ps. 65,5 ; 2 Esr. 12,7 ; 4 Esr. 13,42 ; 4
 ተከዚ: et ተከዚ: Sir. 24,30 ; Sir. 24,31 (ποτα
 ተከዚ: ኤፍራጥስ: 1 Par. 5,9 ; 1 Par. 18.3 ; ተ
 ; ተከዚ: ጤግሪስ: Tob. 6,2 ; Sir. 24,25 ; Sir. 24,26 , Sir. 24,27 ,

2)n. pr. fluminis Abyssiniae, quod in Nilum exoneratur, Tacaze. – Voc. Ae.: ተከዚ:
 ዘ: ፈሳሽ:

Revisions

Text Passage

Text of Ex. 1, 22 .

ወእዘዘ : ፈርዖን : ለኩሉ : ሕዝቡ :
 ወይቤሎሙ : ኩሎ : ተባዕተ :
 ዘይተወለድ : ለዕብራይ : ግርዖ :
 ውስተ : ተከዚ : ወኩሎ : እንስተ :
 እሕይዉ ::

See full text

</api/dts/docu>

Fragment returns
 schema and i
 project. Unusu

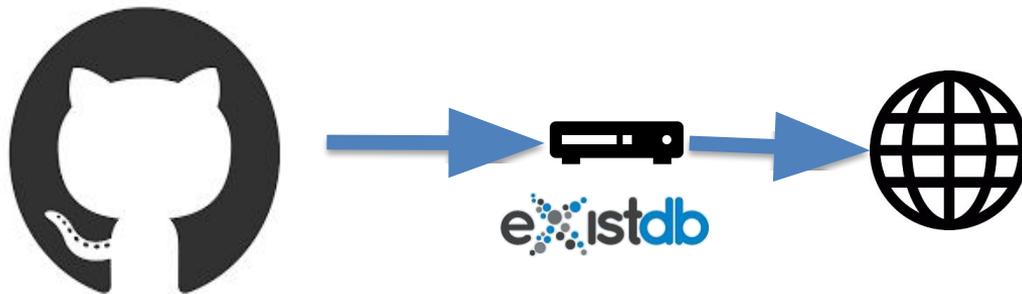
We do not use this, **it is for you!**

We use this to retrieve citations for
 the Online Dillmann

If there is no text yet, then
 nothing is retrieved.

Versioning and citability of the data

Example 3



History for [Works / 4001-5000 / LIT4033Senkessar.xml](#)

Commits on Jul 11, 2019	Commits on Jul 8, 2019	Commits on Jul 3, 2019	Commits on Jul 2, 2019	Commits on Jun 28, 2019
Update LIT4033Senkessar.xml PietroLiuzzo committed 2 days ago 141e117	merging, sorry thea-m committed 5 days ago 3c4dff8	added date thea-m committed 5 days ago 49071a5	xml:base and prefixDefs PietroLiuzzo committed 10 days ago 7169abe	subscription--> subscriptio PietroLiuzzo committed 11 days ago adc6979

YOU ARE LOOKING AT VERSION eed5e03b3ec15ceb77934696194fbd8619c8389e. See all permalinks.

permalinks), then import the metadata or copy the below, with the correct link.

Eugenia Sokolinski, Pietro Maria Liuzzo, Massimo Villa, Dorothea Reule, Alessandro Bausi, Andreas Ellwardt, 'Epistle of Eusebius to Carpianus (generic record)', in Alessandro Bausi, ed., *Die Schriftkultur des christlichen Äthiopiens und Eritreas: Eine multimediale Forschungsumgebung / Beta masàhàft* (Last Modified: 27.11.2018)
<https://betamasaheft.eu/permanent/eed5e03b3ec15ceb77>
 [Accessed: 2019-07-13+02:00]

Revisions of the data

- Dorothea Reule Specified clavis on 27.11.2018
- Eugenia Sokolinski added metadata for traces on 2.7.2018
- Eugenia Sokolinski added relation on 20.6.2018
- Massimo Villa Added keywords, clavis ID, and bibl on 19.12.2017
- Pietro Maria Liuzzo Created file from google spreadsheet on 21.3.2016
- Eugenia Sokolinski CREATED: text record on 9.2.2016

SHA: 141e1170179da33ab4a126b29d3e14f23db47cea
 committed to github by PietroLiuzzo with the following message: Update LIT4033Senkessar.xml
<https://github.com/BetaMasaheft/Documentation/issues/1171>

<https://betamasaheft.eu/permanent/141e1170179da33ab4a126b29d3e14f23db47cea/works/LIT4033Senkessar/main>
<https://raw.githubusercontent.com/BetaMasaheft/Works/141e1170179da33ab4a126b29d3e14f23db47cea/4001-5000/LIT4033Senkessar.xml>

<https://github.com/BetaMasaheft/Works/blob/141e1170179da33ab4a126b29d3e14f23db47cea/4001-5000/LIT4033Senkessar.xml>

SHA: 3c4dff86e99ab58f4d332f5943ab2c389851ef5a
 committed to github by thea-m with the following message: merging, sorry

<https://betamasaheft.eu/permanent/3c4dff86e99ab58f4d332f5943ab2c389851ef5a/works/LIT4033Senkessar/main>
<https://raw.githubusercontent.com/BetaMasaheft/Works/3c4dff86e99ab58f4d332f5943ab2c389851ef5a/4001-5000/LIT4033Senkessar.xml>
<https://github.com/BetaMasaheft/Works/blob/3c4dff86e99ab58f4d332f5943ab2c389851ef5a/4001-5000/LIT4033Senkessar.xml>

SHA: 49071a50dae1adc74add86d41cf8067c82eef2ad
 committed to github by thea-m with the following message: added date

<https://betamasaheft.eu/permanent/49071a50dae1adc74add86d41cf8067c82eef2ad/works/LIT4033Senkessar/main>
<https://raw.githubusercontent.com/BetaMasaheft/Works/49071a50dae1adc74add86d41cf8067c82eef2ad/4001-5000/LIT4033Senkessar.xml>
<https://github.com/BetaMasaheft/Works/blob/49071a50dae1adc74add86d41cf8067c82eef2ad/4001-5000/LIT4033Senkessar.xml>

SHA: 7169abeach64f927dc1ea9666dc819e1778cd6a4
 committed to github by pietro with the following message: xml:base and prefixDefs

<https://betamasaheft.eu/permanent/7169abeach64f927dc1ea9666dc819e1778cd6a4/works/LIT4033Senkessar/main>

Versioning and citability of the API

Example 3

/api/dts/collections?id=urn:dts:betmas:LIT1367Exodus

```
{
  "dts:citeType": "chapter",
  "dts:level": 1,
  "@context": {
    "dts": "https://w3id.org/dts/api#",
    "@vocab": "https://www.w3.org/ns/hydra/core",
    "dc": "http://purl.org/dc/terms/"
  },
  "@base": "/dts/api/document/",
  "dts:citeDepth": 2,
  "dts:passage": "dts/api/document?id=urn:dts:betmas:LIT1367Exodus?level=1",
  "dc:hasVersion": [
    "/permanent/7169abeacb64f927d7c1ea9666dc819e1778cd6a4/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1",
    "/permanent/1d18dc9d022d59d73cd1f8579da96aea81360868/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1",
    "/permanent/f9f11acd03e557a100159ffddc029ee889a5472/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1",
    "/permanent/a680dc0f15e71232ffd1944b8eabd6b1e819096/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1",
    "/permanent/7361041aa4cf766114ddd593ffc7835660c5db0/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1"
  ],
  "member": [
    {
      "ref": "1",
      "dts:dublincore": {
        "dc:title": "Exodus 1"
      }
    },
    {
      "ref": "2",
      "dts:dublincore": {
        "dc:title": "Exodus 2"
      }
    },
    {
      "ref": "3",
      "dts:dublincore": {
        "dc:title": "Exodus 3"
      }
    },
    {
      "ref": "4",
      "dts:dublincore": {
        "dc:title": "Exodus 4"
      }
    },
    {
      "ref": "5",
      "dts:dublincore": {
        "dc:title": "Exodus 5"
      }
    },
    {
      "ref": "6",
      "dts:dublincore": {
        "dc:title": "Exodus 6"
      }
    }
  ]
}
```

[/permanent/7361041aa4cf766114ddd593ffc78356660c5db0/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1](https://www.w3.org/ns/hydra/core#)

How to model these versions?

```
{
  "dts:citeType": "chapter",
  "dts:level": 1,
  "@context": {
    "dts": "https://w3id.org/dts/api#",
    "@vocab": "https://www.w3.org/ns/hydra/core#",
    "dc": "http://purl.org/dc/terms/"
  },
  "@base": "permanent/7361041aa4cf766114ddd593ffc78356660c5db0/dts/api/document/",
  "dts:citeDepth": 2,
  "dts:passage": "permanent/7361041aa4cf766114ddd593ffc78356660c5db0/dts/api/document?level=1",
  "dc:hasVersion": [
    "/permanent/7169abeacb64f927d7c1ea9666dc819e1778cd6a4/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1",
    "/permanent/1d18dc9d022d59d73cd1f8579da96aea81360868/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1",
    "/permanent/f9f11acd03e557a100159ffddc029ee889a5472/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1",
    "/permanent/a680dc0f15e71232ffd1944b8eabd6b1e819096/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1",
    "/permanent/7361041aa4cf766114ddd593ffc78356660c5db0/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1"
  ],
  "member": [
    {
      "ref": "1"
    },
    {
      "ref": "2"
    }
  ],
  "@id": "permanent/7361041aa4cf766114ddd593ffc78356660c5db0/api/dts/navigation?id=urn:dts:betmas:LIT1367Exodus?level=1"
}
```

Findability of IIIF API

Example 2

from	
TEI	Yes
VoID	Yes
RDF	Yes
DTS	?

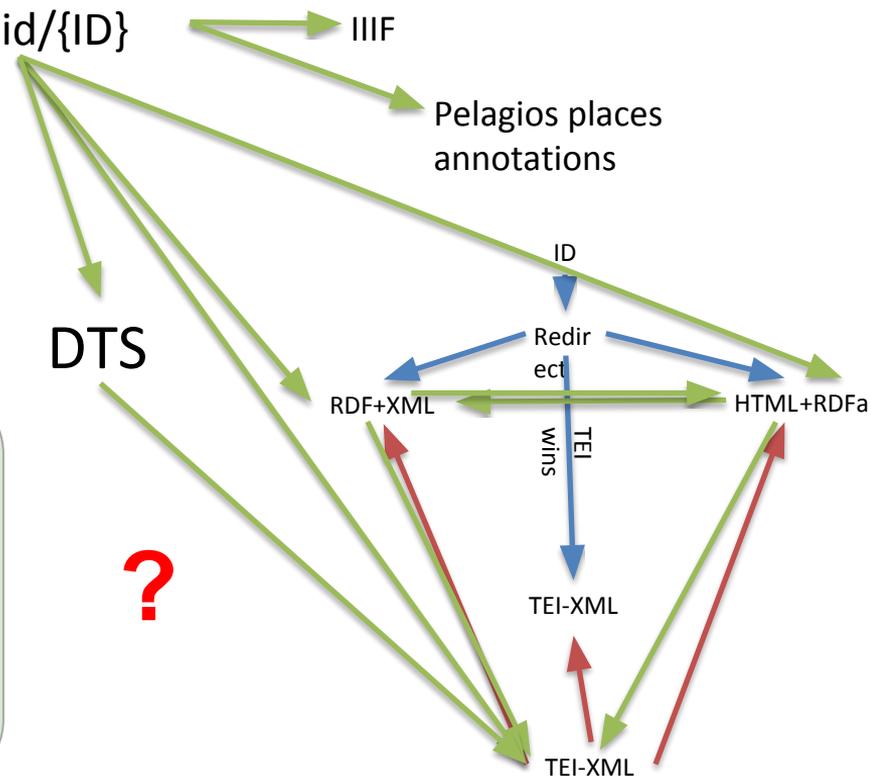
<http://nomisma.org/documentation/contribute>

Europeana Data Model [specifications](#)

```

"foaf:depiction" : {
  "svcs:has_service" : {
    "doap:implements" : "http://iiif.io/api/image/2/level1.json",
    "dcterms:conformsTo" : "http://iiif.io/api/image",
    "@type" : "svcs:Service",
    "@id" : "https://betamasaheft.eu/api/iiif/ESqdq004/manifest"
  },
  "@type" : "edm:WebResource",
  "@id" : "https://betamasaheft.eu/manuscript/ESqdq004/viewer"
}
  
```

/api/void/{ID}



Examples from the *Beta maṣāḥeḥft* DTS Collection API

1. Multiple titles
2. Alternative authors
3. Versions in two different languages
4. Multiple recensions (versions)
5. Inscription preserved only in manuscript tradition
6. Multiple ancient copies of multiple texts

Periplus of the Erythrean Sea : URIs of multiple titles

Example 1

```
/api/dts/collections?id=urn:dts:betmas:LIT2170Peripl
```

```
<title xml:id="t1">Periplus of the Erythraean Sea</title>
<title corresp="#t2" type="normalized">Períplous tês Erythrâs thalássês</title>
<title xml:id="t2" xml:lang="gr">ΠΕΡΙΠΛΟΥΣ ΤΗΣ ΕΡΥΘΡΑΣ ΘΑΛΑΣΣΗΣ</title>
```

```
"dts:extensions" : {
  "crm:P102_has_title" : [
    "https://betamasaheft.eu/LIT2170Peripl/title/t2",
    "https://betamasaheft.eu/LIT2170Peripl/title/t1" ]
}
```

```
"dc:title" : [ {
  "@lang" : "gr",
  "@value" : "ΠΕΡΙΠΛΟΥΣ ΤΗΣ ΕΡΥΘΡΑΣ
ΘΑΛΑΣΣΗΣ"},
{"@value" : "Períplous tês Erythrâs thalássês"},
{"@value" : "Periplus of the Erythraean Sea"} ]
```

Periplus of the Erythraean Sea : multiple citation structures

Example 1

/api/dts/navigation?id=urn:dts:betmas:LIT2170Peripl

Periplus of the Erythraean Sea

Stub
<https://betamasaheft.eu/LIT2170>
Cae 2170

Pietro Maria Liuzzo

how many per page?

See full text

⏪ ⏩ 1 2 3 4 5 6 7 8 9 10 ⏪ ⏩

chapter_1 | 1 | 51 | 257 | 9r | 40v Τῶν ἀποδεδειγμένων ὄρμων τῆς Ἐρυθρᾶς θαλάσσης ἤ και τῶν περὶ αὐτὴν ἔμπορίων πρῶτος ἐστὶν λιμὴν τῆς Αἰγύπτου Μυὸς ὄρμος, μετὰ δὲ αὐτὸν εἰσπελόντων ἀπὸ χιλίων ὀκτακοσίων σταδίων ἐν δεξιᾷ ἡ Βερνίκη ἤ ἀμφοτέρων <δὲ> οἱ λιμένες ἐν τῷ ἐσχάτῳ τῆς Αἰγύπτου κόλποι {δε} τῆς Ἐρυθρᾶς θαλάσσης ᾗ κένται.

Witnesses of the edition

P: **Sammelhandschrift**
 — Konstantinopol, letztes Viertel 9. Jh.
 L: http://www.bl.uk/mar-ref/add_ms_19391_f0

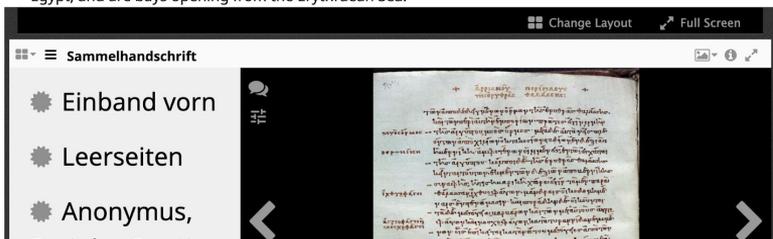
Compare

Translations

Of the designated ports on the Erythraean Sea, and the market-towns around it, the first is the Egyptian port of Mussel Harbor [=Myos Hormos]. To those sailing down from that place, on the right hand, after eighteen hundred stadia, there is Berenice. The harbors of both are at the boundary of Egypt, and are bays opening from the Erythraean Sea.

Editions Bibli

Frisk, H. 1927. *Le*
 Müller, C. 1855. *G*
 1855) *↔*
 Huntingford, G. V
Sea, by an u
Agatharkhic
 Huntingfon
 Casson, L. 1989. *;*
Introducior
 Princeton U
 Fiaccadori, G. 201
Encyclopaee
 Verlag, 201



```

<div type="edition" xml:lang="gr" resp="#frisk">
  <head>
    <surplus>APPIANOY</surplus>
    ΠΕΡΙΠΛΟΥΣ ΤΗΣ ΕΡΥΘΡΑΣ ΘΑΛΑΣΣΗΣ
  </head>
  <div type="textpart" subtype="chapter" n="1"
    xml:id="chapter1">
    <ab>
      <pb n="1" corresp="#frisk"/>
      <pb n="51" corresp="#casson"/>
      <pb n="257" corresp="#mueller"/>
      <pb n="9r" corresp="#L"/>
      <pb n="40v" corresp="#P"
        facs="https://digi.ub.uni-heidelberg.de/diglit/iiif/cpgraec398/canvas/0084.json"/>
      Τῶν ἀποδεδειγμένων ὄρμων τῆς
      <placeName ref="pleiades:39290">Ἐρυθρᾶς
      θαλάσσης</placeName>
      και τῶν περὶ αὐτὴν ἔμπορίων πρῶτος ἐστὶν λιμὴν
      ...
    </ab>
  </div>

```

URIs of multiple titles, alignment of versions in different languages

Example 1

<https://betamasaheft.eu/LIT1697Jubilees/title/t3greek> **Titles**
 Defaults on the html at

<https://betamasaheft.eu/works/LIT1697Jubilees#t3greek>

- ܡܫܚܐ ܕܩܘܦܐ: ^{9ez} (Maṣḥafa kufāle^{9ez}, Book of Jubilees^{en})
- Hebrew Book of Jubilees^{he} ()
- Greek Book of Jubilees^{grc} ()
- Latin Book of Jubilees^{la} ()
- short: Kuf.

Unless RDF requested, which will return a graph centered at this URI

We make this statement using the URIs of title, because there is no better URI available!

See example 3

```

1 <rdf:RDF xmlns:pleiades="https://pleiades.stoa.org/" xmlns:xsd="http://www.w3.org/2001/XMLSchema#" xmlns:skos="http://www.w3.org/2004/02/skos/core#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#" xmlns:bm="https://betamasaheft.eu/" xmlns:wd="https://www.wikidata.org/" xmlns:geo="http://www.w3.org/2003/01/geo/wgs84_pos#" xmlns:oa="http://www.w3.org/ns/oa#" xmlns:rel="http://purl.org/vocab/relationship/" xmlns:dcterms="http://purl.org/dc/terms/" xmlns:pelagios="http://pelagios.github.io/vocab/terms#" xmlns:syriaca="http://syriaca.org/documentation/relations.html#" xmlns:foaf="http://xmlns.com/foaf/0.1/" xmlns:crm="http://www.cidoc-crm.org/cidoc-crm/" xmlns:saws="http://purl.org/saws/ontology#" xmlns:gn="http://www.geonames.org/ontology#" xmlns:agrelon="http://d-nb.info/standards/elementset/agrelon.owl#" xmlns:lawd="http://lawd.info/ontology/" xmlns:sdcc="https://w3id.org/sdc/ontology#" xmlns:t="http://www.tei-c.org/ns/1.0" xmlns:ecrm="http://erlangen-crm.org/current/" xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:snap="http://data.snapdrgrn.net/ontology/snap#" xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
2 <rdf:Description rdf:about="https://betamasaheft.eu/LIT1697Jubilees">
3   <crm:P102_has_title rdf:resource="https://betamasaheft.eu/LIT1697Jubilees/title/t3greek"/>
4 </rdf:Description>
5 <rdf:Description rdf:about="https://betamasaheft.eu/LIT1697Jubilees/title/t4latin">
6   <saws:isVersionInAnotherLanguageOf rdf:resource="https://betamasaheft.eu/LIT1697Jubilees/title/t3greek"/>
7 </rdf:Description>
8 <rdf:Description rdf:about="https://betamasaheft.eu/LIT1697Jubilees/title/t1">
9   <saws:isVersionInAnotherLanguageOf rdf:resource="https://betamasaheft.eu/LIT1697Jubilees/title/t3greek"/>
10 </rdf:Description>
11 <rdf:Description rdf:about="https://betamasaheft.eu/LIT1697Jubilees/title/t3greek">
12   <saws:isVersionInAnotherLanguageOf rdf:resource="https://betamasaheft.eu/LIT1697Jubilees/title/t2hebrew"/>
13 </rdf:Description>
14 </rdf:RDF>

```

Alternative authors of the Homily on the Archangel Michael (for Miyāzyā)

Example 2

</api/dts/collections?id=urn:dts:betmas:LIT3962Homily>

```
"dts:extensions" : {
  "saws:isAttributedToAuthor" : [
    "https://betamasaheft.eu/PRS8121RetuaH",
    "https://betamasaheft.eu/PRS10425Yohanne"
  ],
  "saws:formsPartOf" :
    "https://betamasaheft.eu/LIT1295Dersan"
}
```

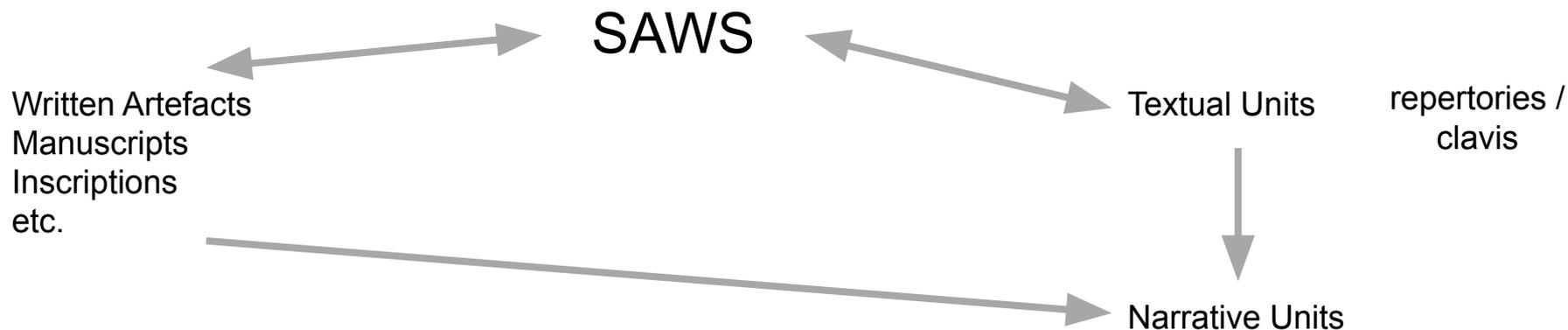
</api/dts/collections?id=urn:dts:betmas:LIT1295Dersan>

```
"dts:extensions" : {
  "saws:contains" : [ "https://betamasaheft.eu/LIT1637Homily",
    "https://betamasaheft.eu/LIT3959Homily",
    "https://betamasaheft.eu/LIT3961Homily",
    "https://betamasaheft.eu/LIT3964Homily",
    "https://betamasaheft.eu/LIT3967Homily",
    "https://betamasaheft.eu/LIT3962Homily",
    "https://betamasaheft.eu/LIT3965Homily",
    "https://betamasaheft.eu/LIT3960Homily",
    "https://betamasaheft.eu/LIT3968Homily",
    "https://betamasaheft.eu/LIT3963Homily",
    "https://betamasaheft.eu/LIT3958Homily",
    "https://betamasaheft.eu/LIT3966Homily" ],
  "crm:P102_has_title" : [
    "https://betamasaheft.eu/LIT1295Dersan/title/t1",
    "https://betamasaheft.eu/LIT1295Dersan/title/t2" ],
  "dcterms:hasPart" : "https://betamasaheft.eu/LIT1637Homily"
},
```

```
<div type="textpart"
  subtype="chapter" xml:lang="gez"
  corresp="LIT1637Homily"
  xml:id="HomilyHedar">...</div>
```

<https://betamasaheft.eu/LIT1295Dersan> OR
</api/dts/collection?id=urn:dts:betmas:LIT1295Dersan>
 ?? or perhaps all the urn staff should simply go ??

Organisation of BM DTS endpoint



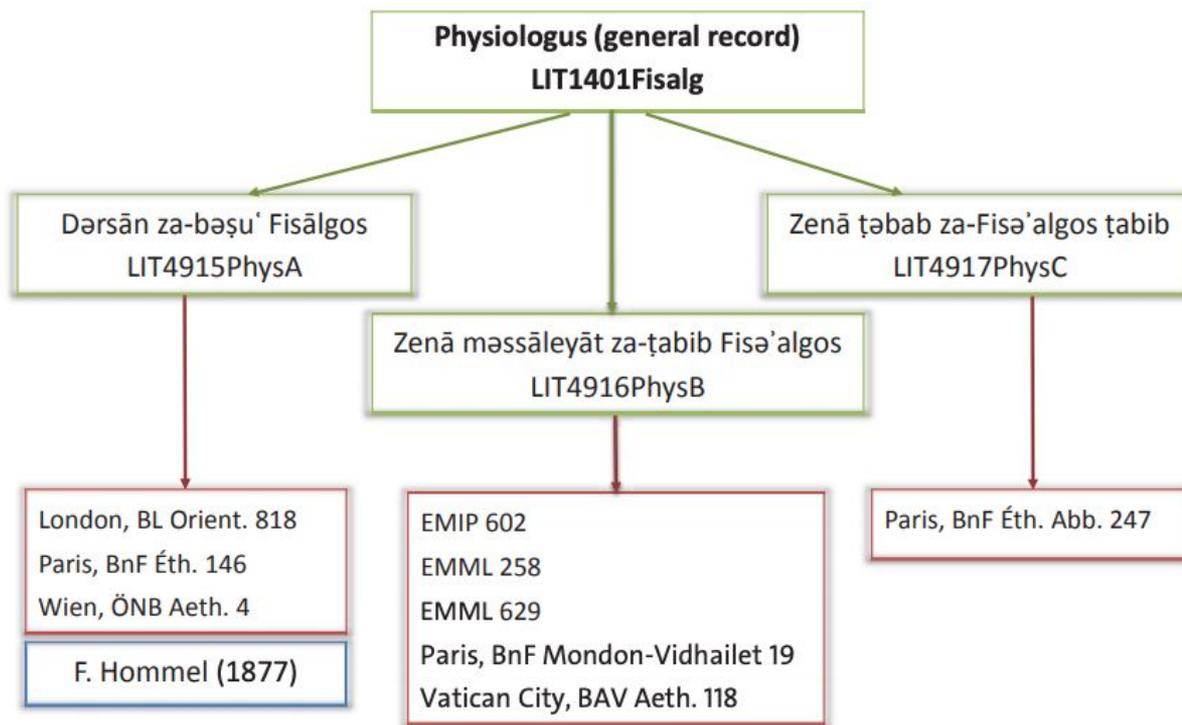
<https://betamasahft.eu/api/dts/collections?id=urn:dts>

</api/dts/collections?id=urn:dts:betmasMS>

</api/dts/collections?id=urn:dts:betmas>

Physiologus - multiple recensions

Example 4



From: Villa 2018, 145
<https://www.aai.uni-hamburg.de/en/comst/pdf/bulletin4-1/143-150.pdf>

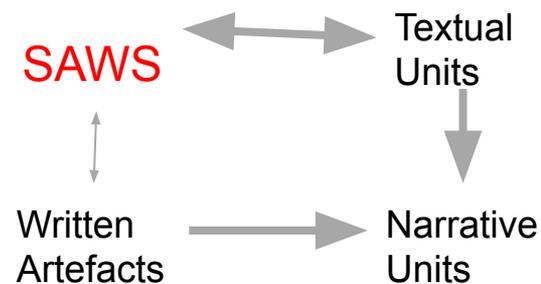


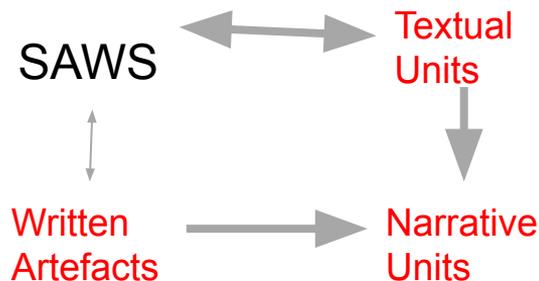
Fig. 1. Diagram illustrating the textual tradition of the Ethiopic *Physiologus*.

The data in TEI

Example 4

The general record has
no text, only some
structure

Each version has parts of
transcription and one or
more edition



```

<div type="textpart" subtype="chapter" n="4"
xml:lang="gez" xml:id="Chapter4"
corresp="https://betamasaheft.eu/NAR0013pelican">
  <label xml:lang="en">On the pelican</label>
</div>

```

```

<relation
name="saws:isVersionOf"
ref="http://purl.org/saws/ontology#isVersionOf"
active="https://betamasaheft.eu/LIT4915PhysA"
passive="https://betamasaheft.eu/LIT1401Physio"/>

```

```

<div n="4" xml:id="ed1ch4" type="textpart"
subtype="chapter"
corresp="https://betamasaheft.eu/NAR0013pelican">
  <div n="1" xml:id="ed1ch4se1" type="textpart"
subtype="sentence">
    <ab> ሷፍካሬ፡ በእንተ፡ ዖፍ፡ ዘስፀ፡ ጳልቃን፡ ዘውእቱ፡ ግራብ፡፡ </ab>
  </div>
  ...
</div>

```

Alignment
with Nar unit
=
position in
text
irrelevant

Physiologus, findability of the three versions

Example 4

From The URI <https://betamasaheft.eu/LIT1401Physio> for the generic record

- Requesting the RDF representation will give no statements about version
- requesting RDF **will return** also the version in a triple
- requesting the html and then the versions, will return the versions

The alignment with narrative units is not surfaced in the navigation endpoint at the moment

Physiologus, findability of the three versions in DTS

Example 4

Normally versions of the text are visible only where the statements are made (in the versions)

</api/dts/collections?id=urn:dts:betmas:LIT1401Physio> : Will not tell me anything

Reasoning in the script to look for triples where this is object and reproduce them using the inverse of the property in use if needed

```
"saws:hasVersion" : [ "https://betamasaheft.eu/LIT4916PhysB",  
                      "https://betamasaheft.eu/LIT4915PhysA",  
                      "https://betamasaheft.eu/LIT4917PhysC" ]
```

Which is nowhere *e/se* in the data, is a transposition of the **saws:isVersionOf** statements

</api/dts/collections?id=urn:dts:betmas:LIT4915PhysA> : Will tell me it is a version of LIT1401Physio only.

```
"dts:extensions" : {  
  "crm:P102_has_title" : "https://betamasaheft.eu/LIT4915PhysA/title/t1",  
  "saws:isVersionOf" : "https://betamasaheft.eu/LIT1401Physio"  
}
```

RIE 277 - a lost inscription attested only in a manuscript

Example 5

</api/dts/collections?id=urn:dts:betmas:LIT5019MonumentumAdulitanum2>

```
"dc:source" : [{  
  "fabio:isManifestationOf" :  
  "https://digi.vatlib.it/view/MSS_Vat.gr.699",  
  "@type" : "lawd:AssembledWork",  
  "@id" :  
  "https://digi.vatlib.it/view/MSS_Vat.gr.699"  
}]
```

</api/dts/collections?id=urn:dts:betmasMS:RIE277>

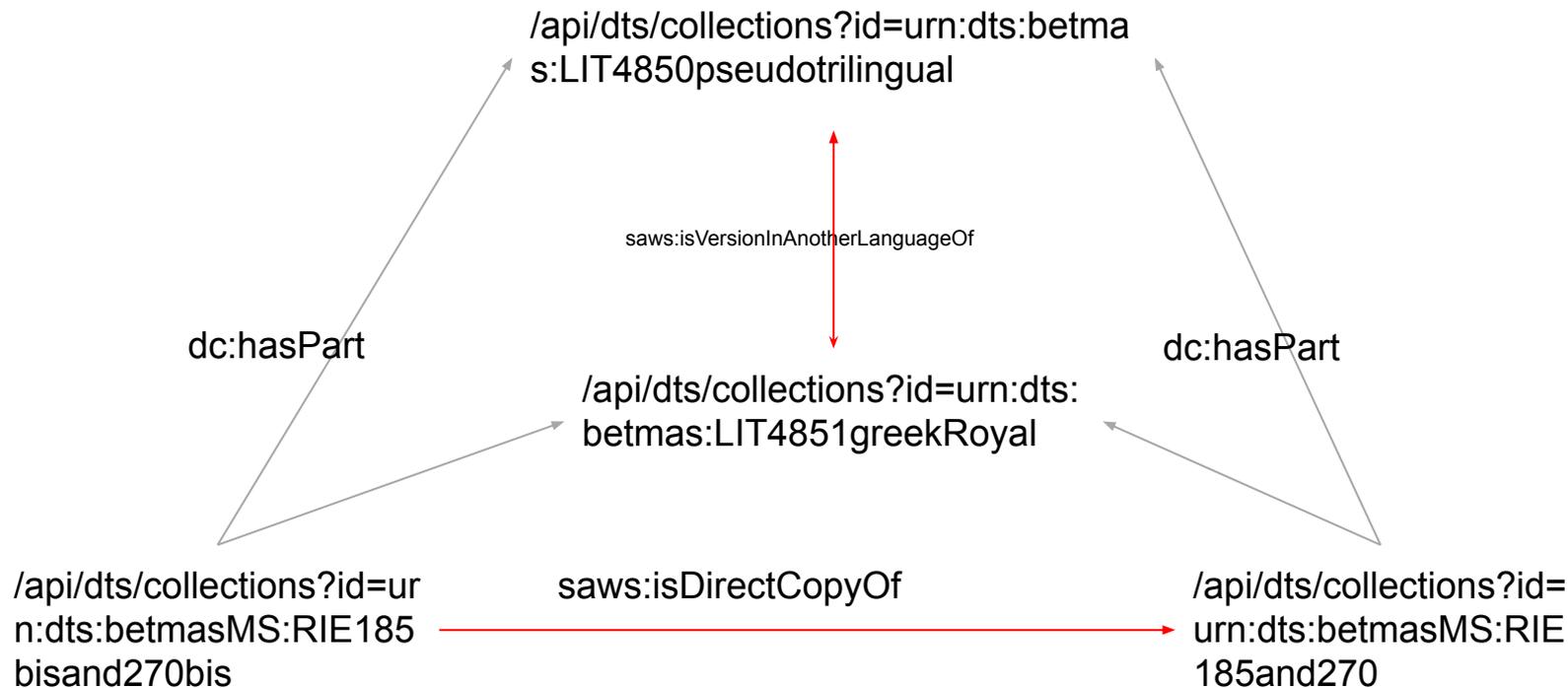
```
"dts:extensions" : {  
  "crm:P1_is_identified_by" : [ "PH219054",  
  "RIÉ 277", "103009" ],  
  "dc:hasPart" :  
  "https://betamasaheft.eu/LIT5019Monumentu  
mAdulitanum2"  
}
```



ONE
WAY!

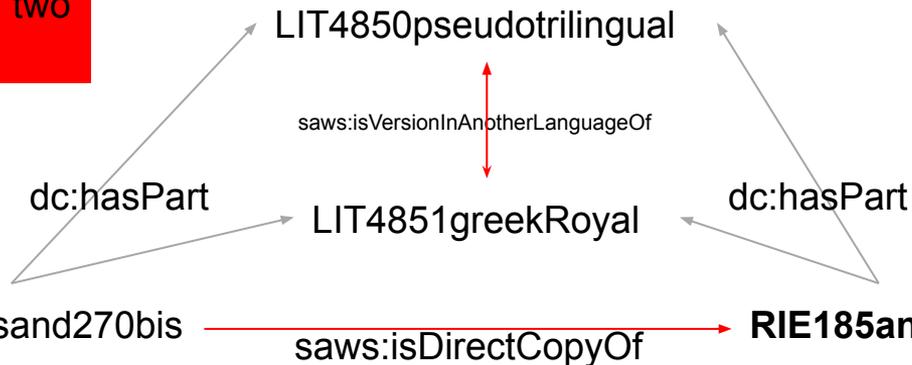
RIE 185 and 270, RIE 185bis and 270bis - Multiple ancient copies of multiple texts

Example 6



RIE 185 and 270, RIE 185bis and 270bis - Multiple ancient copies of multiple texts

Example 6

 Stone with two
 texts


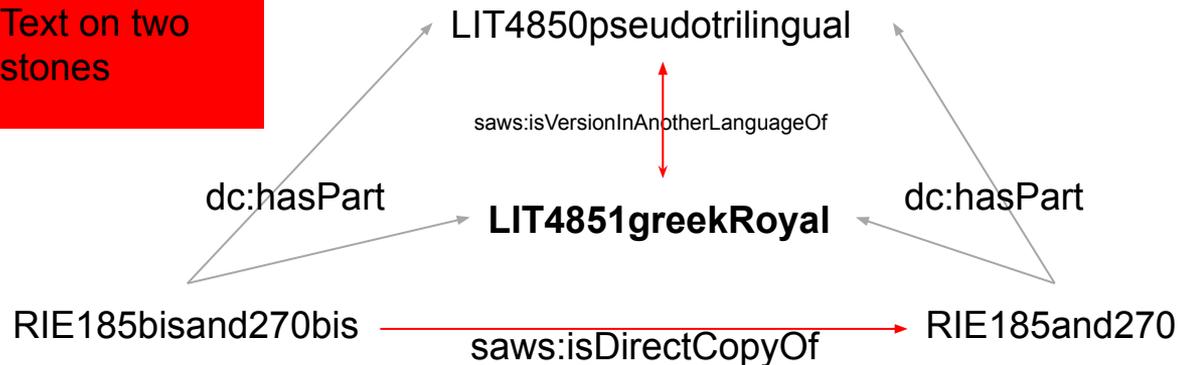
<https://betamasaheft.eu/api/dts/collections?id=urn:dts:betmasMS:RIE185and270>

```

"dts:extensions" : {
  "crm:P1_is_identified_by" : [ "102470", "103010", "RIÉ 185 and 270", "RIÉ 185", "RIÉ 270",
    "102469" ],
  "saws:hasDirectCopy" : "https://betamasaheft.eu/RIE185bisand270bis",
  "dc:hasPart" : [ "https://betamasaheft.eu/LIT4851greekRoyal",
    "https://betamasaheft.eu/LIT4850pseudotrilingual",
    "https://betamasaheft.eu/LIT4850pseudotrilingual" ]
}
  
```

RIE 185 and 270, RIE 185bis and 270bis - Multiple ancient copies of multiple texts

Example 6

 Text on two
 stones


```

"dts:extensions" : {
  "saws:hasVersionInAnotherLanguage" :
  "https://betamasaheft.eu/LIT4850pseudotrilingual",
  "saws:isVersionInAnotherLanguageOf" :
  "https://betamasaheft.eu/LIT4850pseudotrilingual",
  "crm:P102_has_title" :
  "https://betamasaheft.eu/LIT4851greekRoyal/title/t1"
}
  
```

<https://betamasaheft.eu/api/dts/collections?id=urn:dts:betmas:LIT4851greekRoyal>

```

"dc:source" : [ {
  "fabio:isManifestationOf" :
  "https://betamasaheft.eu/RIE185and270",
  "@type" : "lawd:AssembledWork",
  "@id" :
  "urn:dts:betmasMS:RIE185and270"
}, {
  "fabio:isManifestationOf" :
  "https://betamasaheft.eu/RIE185bisand270bis",
  "@type" : "lawd:AssembledWork",
  "@id" :
  "urn:dts:betmasMS:RIE185bisand270bis"
} ]
  
```

Epigraphy.info