

Beta maṣāḥaft: **Manuscripts of Ethiopia and Eritrea**

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The project *Beta maṣāḥaft: Manuscripts of Ethiopia and Eritrea* creates a portal that manages the entry, presentation, and analysis of data related to the manuscript tradition of the Ethiopian and Eritrean Highlands. This means encoding and semantically relating descriptions of manuscripts, works, places, and persons. With a simple network of referenced entities in TEI as background architecture, the project produces data at several different levels and serves it in multiple ways, displaying the contents and the semantic relations encoded in it.

1 Introduction

With Ethiopic manuscripts as its starting point, the project *Beta maṣāḥaft: Manuscripts of Ethiopia and Eritrea*¹ creates a research environment by encoding and semantically relating descriptions of manuscripts, works, places, and persons.²

As yet, there is no comprehensive prosopography, gazetteer, or clavis of the Ethiopian tradition, and descriptions of manuscripts are scattered in various catalogues, some of which are difficult to access. The publication of the *Encyclopaedia Aethiopica*³ has meant a considerable advance in the knowledge organization in Ethiopian studies. *Beta maṣāḥaft* has inherited its digitized indexes, curated by the project coordinator, Eugenia Sokolinski. They constitute the backbone of our work, place, and person authority files. Starting from these records, as well as from existing clavis covering parts of the Ethio-

- 1 The project (officially ‘Schriftkultur des christlichen Äthiopiens und Eritreas: Eine multimediale Forschungsumgebung’) is funded within the framework of the Academies’ Programme (coordinated by the Union of the German Academies of Sciences and Humanities) under survey of the Akademie der Wissenschaften in Hamburg. It is headed by Prof. Alessandro Bausi and coordinated by Eugenia Sokolinski. The technical lead is Pietro Liuzzo. A video presentation of the project is available at <<https://youtu.be/bI950izCu2E>>. *Beta maṣāḥaft* is a TEI (Text Encoding Initiative, <www.tei-c.org>) project. We use GitHub (<<https://github.com/>>) to store our data and we deploy our data with eXist-db (<<http://eXist-db.org>>) software for databases. The project is extremely indebted for their continued support to the TEI and eXist-db communities. We would also like to thank the team at the Hiob Ludolf Centre for Ethiopian Studies and the University of Hamburg for their support to the project.
- 2 TEI Guidelines, <<http://www.tei-c.org/Vault/P5/3.0.0/doc/tei-p5-doc/en/html/>>. For an introduction to TEI, see <<http://www.tei-c.org/Vault/Tutorials/mueller-index.htm>>.
- 3 *E Ae* I–V.

pic literary heritage,⁴ we continue to structure and produce information about primary and secondary sources for the study of the Ethiopic literary tradition and manuscript culture.

Among the expected project outcomes are descriptions of a significant share of Ethiopic manuscripts available for research, a *clavis* of the Ethiopic literary tradition (the *Clavis Aethiopica*), a gazetteer, and a prosopography. In the first two years of the project, progress has been made in all focus areas. The encoding of eight historical catalogues is in progress,⁵ and more will follow. Records for all works, persons, and places mentioned in these catalogues have been created or developed, if already inherited from the *Encyclopaedia Aethiopica* index. In addition, when describing a work contained in a manuscript that is being encoded, its author and other works he composed can be described simultaneously, or stub records can be created with basic information.

This note will briefly present the project's background and data architecture, the encoding of manuscripts, works, and places as its main areas of focus, going into more detail in the description of our encoding of manuscripts.⁶

2 History

Writing existed in Ethiopia since the first millennium BCE, and following the official conversion of the country to Christianity in the fourth century, the first biblical and other Christian texts were translated from Greek to Gə'əz, or Classical Ethiopic.⁷

Despite the more numerous amount of manuscripts that must have been produced in the Aksumite period, only the famous 'Abbā Garimā Gospels,⁸ radiocarbon dated from the fourth to the seventh century,⁹ are preserved from this period. Manuscripts become more abundant from the fourteenth and fifteenth century onwards, and manuscript production continues to this day,

4 The *Clavis Apocryphorum Veteris Testamenti* (CAVT), the *Clavis Apocryphorum Novi Testamenti* (CANT), the *Bibliotheca Hagiographica Orientalis* (BHO), the *Bibliotheca Hagiographica Graeca* (BHG), Kinefe-Rigb Zelleke's repertory of hagiographical texts (KRZ).

5 Dillmann 1847, 1848; Goldschmidt 1897; Turaev 1906; Grébaut and Tisserant 1935; Ullendorff 1951; Wright 1877; Zotenberg 1877.

6 During the workshop *Linking Manuscripts from the Coptic, Ethiopian and Syriac domain*, issues concerning the encoding of manuscripts for the *Beta maṣāḥəft* were co-presented by myself and Denis Nosnitsin.

7 Bausi 2015, 47.

8 McKenzie and Watson 2016, 40–41.

9 On the importance of cataloguing see Bausi 2007; on the Ethiopic manuscript tradition see Bausi 2014, 2015, 2016; on codicological characteristics see also Nosnitsin 2015 and 2016.

especially in rural regions, where books remain more expensive than manuscripts.

The exact amount of Ethiopian manuscripts has been estimated to be around 200,000, of which *c.*20,000 are accessible, mainly in Europe and the USA, and only around 10,000 to 12,000 were described in some form of catalogue.¹⁰ A growing number of Ethiopian manuscripts is accessible online.¹¹ Some digital editions of Ethiopian texts are also available; the highly valuable work of Ran HaCohen on the Ethiopic Bible has to be particularly mentioned.¹²

3 Data structure

The data architecture uses XML as a data entry format.¹³ We have records for manuscripts, works, persons and places which we connect with one another and validate to our schema, which is a customization of TEI (Text Encoding Initiative). Because so much data is entered, we use various shortcuts for the data entry.¹⁴ For example, we enter only IDs instead of URIs and only a `<ptr>` element with a `@target` instead of a full bibliographic reference.

To ensure the homogeneity of the entered data, all project members contribute to the project guidelines, which are publicly accessible.¹⁵ This practice ensures that all project members share the same level of information, can immediately verify any encoding practices and initiate discussions on encoding solutions for newly encountered phenomena if more specificity is needed in comparison to the TEI Guidelines.

4 Manuscripts

4.1 Introduction

Beta maṣāḥaft aims to be a comprehensive research environment containing data about as many known Ethiopian manuscripts available for description as possible. The priority of the first project phase (2016–2021) is the encoding

¹⁰ See Bausi 2007, p. 92–93.

¹¹ We maintain a list of digitized Ethiopian manuscripts at <https://github.com/BetaMasaheft/Manuscripts/wiki/list-of-available-images-of-manuscripts>, building upon the list published by Ted Erho, https://www.academia.edu/24013825/Digitized_Ethiopian_manuscripts_online. At <http://www.menestrel.fr/spip.php?rubrique565&lang=fr>, a list of catalogues containing Ethiopian manuscripts and descriptions of the collections can be found.

¹² See <https://www.tau.ac.il/~hacohen/Biblia.html>, last accessed 1 August 2018.

¹³ Different formats are then served via our data API, but the unified data model helps the learning process for users considerably.

¹⁴ The customization of the schema is minimal, but many rules are added to enforce project decisions and support consistency. Lists of values are available with their definitions.

¹⁵ See <http://betamasaheft.eu/Guidelines/>, last accessed 1 August 2018.

Our schema is flexible and allows the encoding of all available information without forcing non-optimal decisions. The flexibility of the XML and TEI allows us to do justice to the heterogeneity of sources without losing data and to surface additional computable information, otherwise inaccessible in printed catalogues, like the univocal and seamless identification of each descriptive feature.

4.3 Attribution of statements

The sources of our manuscript records are not limited to the historical catalogues which we use as a starting point. Taking into consideration all literature on the manuscripts we are working on, and examining the manuscripts ourselves whenever possible, the information which we can provide is often much more detailed and up to date. This entails working with many sources and accommodating conflicting statements. Therefore, it is crucial that any statement given in our records can be immediately attributed to its source.

This is made possible by the use of the `@resp` attribute, which can contain a reference to a project editor, a cited publication, or another person for which we have an internal or an external authority file. It is thus always possible to determine from our records which statement is based on the existing catalogue description, on secondary sources or a project editor's further research (see Ex. 2).

```
<title type="complete" ref="LIT2246salotz" xml:lang="gez">
  ጸሎታ፡ ለእግዝእትነ፡ ማርያም፡ ዘጸላየት፡ አመ፡
  <choice>
    <sic resp="PRS3562Dillmann">ጸወፃለወርሐ፡</sic>
    <corr resp="MV">ጸወፃለወርሐ፡</corr>
  </choice>
  ስኔ፡ በደብረ፡ ጎልጎታ፡ ዝውኣቲ፡ መቃብረ፡ እግዝእትነ፡
</title>
```

Ex. 2. IDs of the original cataloguer and a project editor as values of `@resp` in a `<choice>` element.

4.4 Intellectual content

The intellectual content of each manuscript is described within `<msContent>`, where a hierarchic series of `<msItem>`s can be organized.¹⁸ All works contained in the manuscript are referred to by their ID to (1) identify each content piece and (2) maintain for each intellectual content a separate file. IDs can also be created if the work is not known yet (and becomes the official *Clavis Aethiopica* numeric ID).¹⁹ We encode whether the work is contained in its entirety in the manuscript or not using a `@type` attribute in the `<title>` element. The intellectual structure of works is reflected in the structure of the `<msItem>`s, which, as all XML elements, can also be nested. Any textparts of

18 <http://www.tei-c.org/release/doc/tei-p5-doc/en/html/MS.html#msco>.

19 On the encoding of works, see the contribution by Massimo Villa in this volume.

works are referred to, if possible, by their exact ID to be able to compare the actual sequences as they appear in the manuscripts to the standardized one stored in the work record (see Ex. 3 and Ex. 4).

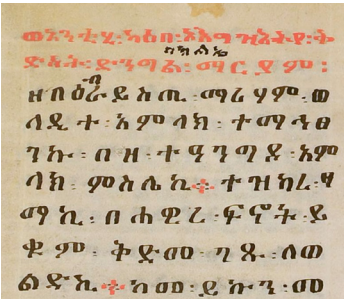
```
<msItem xml:id="ms_i1.5">
  <locus from="151v"/>
  <title type="incomplete" ref="LIT2509Weddas"/>
  <msItem xml:id="ms_i1.5.1">
    <title type="complete" ref="LIT2509Weddas#Monday"/>
  </msItem>
  <msItem xml:id="ms_i1.5.2">
    <title type="complete" ref="LIT2509Weddas#Tuesday"/>
  </msItem>
  <msItem xml:id="ms_i1.5.3">
    <title type="complete" ref="LIT2509Weddas#Wednesday"/>
  </msItem>
  <msItem xml:id="ms_i1.5.4">
    <title type="incomplete" ref="LIT2509Weddas#Thursday"/>
    <note>The end of the hymn is missing.</note>
  </msItem>
  <msItem xml:id="ms_i1.5.5">
    <title type="incomplete" ref="LIT2509Weddas#Saturday"/>
    <note>A part of the hymn is missing.</note>
  </msItem>
  <msItem xml:id="ms_i1.5.6">
    <title type="incomplete" ref="LIT2509Weddas#Sunday"/>
    <note>The end of the hymn is missing.</note>
  </msItem>
  <note>The hymn for Friday,
    <ref type="work" corresp="LIT2509Weddas#Friday"/>,
    is missing.</note>
  </msItem>
</msItem>
```

Ex. 3. Organization of a MS’s intellectual content in nested msItems, BNFet12.

```
<div type="edition">
  <div type="textpart" subtype="chapter" xml:id="Sunday"/>
  <div type="textpart" subtype="chapter" xml:id="Monday"/>
  <div type="textpart" subtype="chapter" xml:id="Tuesday"/>
  <div type="textpart" subtype="chapter" xml:id="Wednesday"/>
  <div type="textpart" subtype="chapter" xml:id="Thursday"/>
  <div type="textpart" subtype="chapter" xml:id="Friday"/>
  <div type="textpart" subtype="chapter" xml:id="Saturday"/>
  <div type="textpart" subtype="chapter" xml:id="Zekra">
    <label xml:lang="gez">ዝክሪ ውዳሌ፡ ስለግዝእት፡ ግርዶም፡ ወላዲተ
      አምላክ፡</label>
  </div>
</div>
```

Ex. 4. Organization of the same work in its work record, LIT2509Weddas.

In each single <msItem>, the text of titles, *incipit*, *explicit*, colophons, and other adscriptions is given whenever possible (see Ex. 5).



```
<incipit xml:lang="gez">
  <locus target="#22ra"/>
  <hi rend="rubric">ወላዲተ፡ ካዕብ፡ ኦለግዝእት፡ ቅድስት፡ ድንግል፡</hi>
  <add place="above">በከልኢ</add>
  <hi rend="rubric">ማርያም፡</hi>
  ዘበዕ
  <add place="above">ብ</add>
  ራዩሰጢ፡ ማርያም፡ ወላዲተ፡ አምላክ፡ ተማን፡ ስጦታ፡ አምላክ፡ ምስሊኪ
  <hi rend="rubric">፡።</hi>
  ተዝክረ፡ ማህኪ፡ በተዊረ፡ ፍኖት፡ ይፋም፡ ቅድመ፡ ገጹ፡ ለወልድኪ
  <hi rend="rubric">፡።</hi>
</incipit>
```

Ex. 5. *Incipit* of a textual unit in MS BnF Éthiopien 102, f. 22ra (© gallica.bnf.fr / Bibliothèque nationale de France) and its encoding in XML: The manuscript’s main physical features—rubrication and textual additions—are all rendered.

The thus constantly increasing amount of searchable Gə‘əz text contributes considerably to the identifiability of yet undescribed works. The thorough description of the intellectual content of manuscripts is heavily interconnected with the parallel development of the work records.

4.5 Physical description

For the correct description of the manuscripts or codicological units (<msPart>), values corresponding to all attested book and written artefact forms in Ethiopia have been added to the schema as values of the attribute @form of the element <objectDesc>: codex, scroll, inscription,²⁰ leaf, leporello, and notebook. Values such as book and photograph have also been added as such objects form part of the Ethiopian material tradition preserved in libraries. Likewise, all needed values for the material, such as parchment and paper, have been added to the schema. Dimensions can be given, depending on the catalogue, in millimetres or inches. Loci specifying the position of the described item in the manuscript can be added as needed in the <extent> element, including the case of several codicological units (see Ex. 6).

<pre> <supportDesc> <support> <material key="parchment"/> </support> <extent> <measure unit="leaf">111</measure> <locus from="1" to="108"/> <locus from="117" to="119"/> <dimensions type="outer" unit="in"> <height>8</height> <width>7.25</width> </dimensions> </extent> </supportDesc> ... </pre>	<pre> <supportDesc> <support> <material key="parchment"/> </support> <extent> <measure unit="leaf">8</measure> <locus from="109" to="116"/> <height unit="in">2.5</height> <width unit="in">1.75</width> </extent> <collation> <note> <locus from="109" to="116"/> did not originally belong to the manuscript </note> </collation> </supportDesc> </pre>
---	---

Ex. 6. Object description in the <supportDesc> elements of the two units, BDLaethe15.

```

<layoutDesc>
  <layout>
    <ab type="ruling">A miṣṭāra was used for ruling.</ab>
  </layout>
  <layout>...</layout>
  <layout columns="1">
    <note corresp="#textarea #margin">
      Data on text area and margin dimensions taken from
      <locus target="#1r"/>
    </note>
    <dimensions unit="mm" xml:id="textarea">
      <height>87</height>
      <width>55</width>
    </dimensions>
    <dimensions type="margin" unit="mm" xml:id="margin">
      <dim type="top">12</dim>
      <dim type="bottom">15</dim>
      <dim type="right">12</dim>
      <dim type="left">10</dim>
    </dimensions>
  </layout>
  <layout>...</layout>
  <layout>...</layout>
</layoutDesc>

```

Ex. 7. Layout description in <layoutDesc>, DSEthiop12.

20 Inscriptions are catalogued here together with manuscripts because of their importance in linguistic studies.

In the `<layoutDesc>` element, all available information for the layout is added, usually containing at least the number of columns and lines, but including much more exact data if available. Information on ruling, pricking and punctuation is also recorded here within an `<ab>` element using values for the attributes `@type` and `@subtype` which have been defined in the schema (see Ex. 7).

The quire structure is indicated in the `<collation>` element, listing each quire as an item containing information on its dimension (`<dim>`) and position in the manuscript (`<locus>`). Information about quire marks and decoration is added to the `<signatures>` element (see Ex. 8 and 9).

The visualization on the web application is not limited by the restraints of printed publications. This allows us to visualize quire diagrams for all manuscripts and to include different quire formulas. The visualization of the quire structure is obtained with VisColl²¹ (see Ex. 10).

In `<handDesc>` element any available information on the manuscript's handwriting is described (see Ex. 11).

Any later additions²² to the manuscript are listed within the `<additions>` element. Adding various records pertaining to the institution holding

```
<item xml:id="q3">
  <dim unit="leaf">8</dim>
  <locus from="17r" to="24v"/> III(8; s.l.: 4, stub after 5; 5, stub
after 4/fols. 17r-24v)
</item>
```

Ex. 8. Quire structure of quire III in the `<collation>` element, ESagm002.

```
<signatures>
  <note> Quire marks have been recently written with Arabic numerals in
  pen in the lower margin of the first leaf of each quire. </note>
</signatures>
```

Ex. 9. Information on quire marks in the `<signatures>` element, BAVet106.

III(8; s.l.: 4, stub after 5; 5, stub after 4/fols. 17r-24v)



Ex. 10. Visualization of the quire structure of quire III, ESagm002 (cp. Ex. 8).

²¹ See Porter et al. 2017.

²² As additions, we identify elements described by Andrist 2015, 511–513 as constituting quaternary strata.

the manuscript is a characteristic feature of Ethiopian manuscripts, thus these additions constitute important historical documents. In order to classify and search these additions, a list of values for the @type attribute is maintained in the schema. When available, the addition's text or part of it is added and marked up in a <q> element. Otherwise, only the language of the addition is indicated (Ex. 12).

```
<handDesc>
  <handNote xml:id="h1" script="Ethiopic">
    <seg type="script">15th-century script </seg>
    <seg type="ink">Black, red</seg>
    <date notBefore="1508" notAfter="1540"/>
    <desc>The handwriting displays some old paleographic features, e.g., ለ
    has the loop marking the 7th order attached directly to the body of
    the letter, without the linking line. The crux ansata is used for
    ornamental purpose in the margins and in the intercolumn (cp. <bibl>
      <ptr target="bm:Uhlig1988Palaographie"/>
      <citedRange unit="page">329</citedRange>
      </bibl>). </desc>
    <seg type="rubrication"> Nomina sacra; titles and initial lines of the
    incipit pages; cruces ansatae. </seg>
  </handNote>
</handDesc>
```

Ex. 11. Hand description in the <handDesc> element, BAVet6.

```
<additions>
  <list>
    <item xml:id="a1">
      <locus target="#207v"/>
      <desc type="OwnershipNote">Written in <ref target="#h2"/>. </desc>
      <q xml:lang="gez">ዝመጽ ሐፍ ዘ <persName ref="PRS11419WaldaMaryam"
        role="owner">ወልደ ማርያም</persName>
      </q>
    </item>
  </list>
</additions>
```

Ex. 12. Description of an ownership note in the <additions> element, BDLaethd4.

5 Works

We elaborate the records of all works contained in the manuscripts we are encoding, adding titles, statements on the authorship, an abstract, a keyword of the literary period in which the work was created and relations to other entities within the project. Transcriptions, editions and translations of texts are to become the focus of a later project phase, but are already integrated in the research environment whenever they become available. Among these, one of our current best examples is the text of the *Chronicle of King Galāwdewos* (CAe 3122, record ID: LIT3122Galaw), edited and curated in its XML version by Solomon Gebreyes Beyene.²³

23 Solomon Gebreyes Beyene 2016.

Place records contain the attested names of the place in local languages and translation, including possible variants, as well as any information available on the foundation of the place, its existence and development. Coordinates can be added or will be retrieved if a reference to the place's Wikidata ID is given (see Ex. 15).

```
<place type="library" subtype="institution" sameAs="Q213678">
  <placeName xml:lang="it" xml:id="n1">Biblioteca Apostolica Vaticana </placeName>
  <placeName xml:lang="en" type="alt">Vatican Library </placeName>
  <country ref="Q237">Vatican </country>
  <location>
    <geo>41.90076 12.47447 </geo>
  </location>
  <listBibl type="catalogue">
    <bibl>
      <ptr target="bm:GrebTiss1935Codices"/>
    </bibl>
  </listBibl>
</place>
```

Ex. 15. Repository record of the Vatican Library with reference to wikidata and coordinates.

7 Persons

As for works and places, the backbone of our person records is formed by the digitized index of the *Encyclopaedia Aethiopica*.²⁹ Our focus is the work with persons related to the Ethiopian manuscript culture, which includes but is not limited to rulers, religious authorities, scribes, donors, and commissioners. New records, particularly for persons mentioned in manuscripts, are constantly created. All records contain the person's original and transliterated names, specified by @type attributes and basic information on their life and occupations as well as a reference to their Wikidata ID, if existing (see Ex. 16).

```
<person sex="1">
  <persName xml:lang="gez" xml:id="n1" type="birth">ዮጳጵስ ጳጳጵስ </persName>
  <persName xml:lang="gez" corresp="#n1" type="normalized">Yāgbā Ṣayon </persName>
  <persName>
    <roleName type="title">፳፻ </roleName>
  </persName>
  <persName xml:lang="gez" xml:id="n2" type="regnal">ሰላሞን </persName>
  <persName xml:lang="gez" corresp="#n2" type="normalized">Salomon </persName>
  <occupation type="ruler">Emperor </occupation>
  <floruit when="1285" evidence="internal">He succeeded his father <persName
    ref="PRS10303Yekunno">
    <roleName type="title">፳፻ </roleName> Yekunno ፳፻ </persName> in
    <date>1285 </date>. </floruit>
  <death when="1294" evidence="internal"/>
</person>
```

Ex. 16. The <person> element, PRS10215Yagbas.

29 The source data was the general index which included all proper names and work titles mentioned anywhere in the five volumes of the *EAE*, some of which may not be relevant for the project at the moment.

As in all other types of entities, relations between the subject of the record and other entities are crucial to our connected research environment, as illustrated by Ex. 17.

```
<listRelation>
  <relation name="saws:isAttributedAuthorOf" active="PRS1980Aphrahat"
    passive="LIT1275Dersan"/>
  <relation name="saws:isAttributedAuthorOf" active="PRS1980Aphrahat"
    passive="LIT2041Nagarb"/>
  <relation name="skos:exactMatch" active="PRS1980Aphrahat"
    passive="http://syriaca.org/person/10"/>
</listRelation>
```

Ex. 17. Relations in PRS1980Aphrahat.

8 Relations between entities

We express relations between different entities using the `<relation>` element throughout the file.

The list of relations in use is available in the project guidelines. We use values for the `@name` attribute of the `<relation>` element which are available in existing ontologies such as SAWS or SNAP³⁰ whenever possible (see Ex. 17 above) and create new values for types of relations specific to the Ethiopian tradition (see Ex. 18).

```
<listRelation>
  <relation name="bm:isGoldenGospelOf" active="BLorient508"
    passive="INS0448HamaraN"/>
</listRelation>
```

Ex. 18. Relation in BLorient508, declaring that the MS is a ‘Golden Gospel’ of Ḥamara Noh.

9 Conclusion

The data encoded in all types of the project’s entities increases daily. All data being searchable and interrelated, its increase leads to a cumulative increase in possible research questions and has equally allowed from the very beginning of the project new discoveries such as the identification of works described in differing ways in several catalogues or previously unknown connections between persons, manuscripts and places (Ex. 19).

Over the time span of the project, this will contribute considerably to our knowledge of the literary heritage, culture and history of Ethiopia as well as its relations with other cultures.

30 SNAP:DRGN *Standards for Networking Ancient Prosopographies: Data and Relations in Greco-Roman Names*, <http://snapdrgn.net/ontology>.

Bodleian Library, Bodleian Laud or. 204

Biblioteca Apostolica Vaticana, Aeth. 54

8. *Preces ad Deum rhythmicæ.* fol. 179—181.

Strophas 14 continet, quarum prima:

ለምሳኪያ፡ ለምሳኪያ፡ ነጽረኒ፡ ወትረ፡ ወላት
ኢዩገኒ፡ ዘላፈ፡

ከመ፡ ለነተ፡ ትቤ፡ ለነዝ፡ ትቤሠት፡ ለፈ፡

ትፈጽሞ፡ ለነተ፡ ተጽሕፈ፡

ኩባሕት፡ ለበ፡

Dillmann, C. F. A. 1848. *Catalogus codicum manuscriptorum Bibliothecae Bodleianae Oxoniensis*, Pars VII: Codices Aethiopici (Oxonii: E Typographeo Academico, 1848), page 35a.

```
<msItem xml:id="p2_i3">
  <locus from="179" to="181"/>
  <title type="complete" ref="LIT4518Hymn">
  <textLang mainLang="gez"/>
  <incipit xml:lang="gez">
    <lb n="1"/>አምላኪያ፡ አምላኪያ፡ ነጽረኒ፡ ወትረ ወላት፡ ነጽረኒ፡ ዘላፈ፡
    <lb n="2"/>ከመ፡ አንተ፡ ትቤ፡ አንዝ፡ ትቤሠት፡ ለፈ፡
    <lb n="3"/>ትፈጽሞ፡ ለነተ፡ ተጽሕፈ፡
    <lb n="4"/>ኩባሕት፡ ለበ፡
  </incipit>
</msItem>
```

9 (ff. 178-183) Invocatio ad D. N. I. C. cum *salom*, inc.: አምላኪያ፡ አምላኪያ፡ ነጽረኒ፡ ወትረ፡ ወላት፡ ነጽረኒ፡ ዘላፈ፡ ከመ፡ አንተ፡ ትቤ፡ አንዝ፡ ትቤሠት፡ ለፈ፡ ትፈጽሞ፡ ለነተ፡ ተጽሕፈ፡ ኩባሕት፡ ለበ፡ « Deus meus, Deus meus, adspice in me continuo, nec me dereliqueris unquam, sicut tu os aperiendo dixisti, ut consummares quod scriptum est. Gloria tibi... »; des. in invocatione s. Georgii et B. M. V.: ጊዮርጊስ፡ ጊያል፡ ስማትስ፡ ከርሐብስ፡ መካተ፡ ጋድል፡ ዘአንጥ፡ እኩ፡ ወ፡ ታሃ፡ ሰላል፡ ወጽል፡ በአንጥሉ፡ ነበ፡ አግቢአብ ሐረ። አምላኪያ፡ አግቢአትነ፡ (sic) ነጽረ፡ ለዩቲቅ፡ ፡ ፡ ፡ ፡ Georgi potens, martyr Christi, pugnator, qui resuscitasti mortuos, roga et ora pro nobis ad Dominum Deum nostrum. Domina nostra, adspice filios tuos ».

Grébaut, S. and E. Tisserant 1935. *Bybliotheca apostolicae Vaticanae codices manu scripti recensiti iussu Pii XI Pontificis maximi. Codices Aethiopici Vaticani et Borgiani, Barberinianus orientalis 2, Rossianus 865, I: Enarratio codicum* (Città del Vaticano: In Bybliotheca Vaticana, 1935), page 214-220.

```
<msItem xml:id="p3_i19">
  <locus from="178" to="183"/>
  <title type="complete" ref="LIT4518Hymn"> Malka'-hymn to Jesus Christ, St George and Our Lady Mary <title>
  <incipit xml:lang="gez"> አምላኪያ፡ አምላኪያ፡ ነጽረኒ፡ ወትረ ወላት፡ ነጽረኒ፡ ዘላፈ፡ ከመ፡ አንተ፡ ትቤ፡ አንዝ፡ ትቤሠት፡ ለፈ፡ ትፈጽሞ፡ ለነተ፡ ተጽሕፈ፡ ኩባሕት፡ ለበ፡ አግቢአብ ሐረ።
  <explicit xml:lang="gez"> ጊዮርጊስ፡ ጊያል፡ ስማትስ፡ ከርሐብስ፡ መካተ፡ ጋድል፡ ዘአንጥ፡ እኩ፡ ወ፡ ታሃ፡ ሰላል፡ ወጽል፡ በአንጥሉ፡ ነበ፡ አግቢአብ ሐረ።
  <reason="omitted"> እ፡ </supplied>
  አምላኪያ፡ <choice>
    <sic>አግቢአትነ፡ </sic>
    <choice> ነጽረ፡ ለዩቲቅ፡ </explicit>
  </msItem>
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Ex. 19. Identification of the same work in two manuscripts enabled by the searchable text provided in the *incipit*.

References

- Andrews, T. L. 2013. 'The Third Way. Philology and Critical Edition in the Digital Age', *Variants*, 10 (2013), 61–76; <doi:10.7892/boris.43071>.
- Andrist, P. 2015. 'Syntactical Description of Manuscripts', in Bausi et al. 2015, 511–520.
- , P. Canart, and M. Maniaci 2013. *La syntaxe du codex. Essai de codicologie structurale*, Bibliologia, 34 (Turnhout: Brepols, 2013).
- Bausi, A. 2007. 'La catalogazione come base della ricerca. Il caso dell'Etiopia', in B. Cenni, C. M. F. Lalli, and L. Magionami, eds, *Zenit e Nadir II. I manoscritti dell'area del Mediterraneo: la catalogazione come base della ricerca. Atti del Seminario internazionale. Montepulciano, 6–8 luglio 2007*, Medieval Writing, Settimane poliziane di studi superiori sulla cultura scritta in età medievale e moderna, 2 (Montepulciano: Thesan&Turan, 2007), 87–108.
- 2014. 'Writing, Copying, Translating: Ethiopia as a Manuscript Culture', in J. Quenzer, D. Bondarev, and J.-U. Sobisch, eds, *Manuscript Cultures: Mapping the Field*, Studies in Manuscript Cultures, 1 (Berlin and New York: De Gruyter, 2014), 37–77.
- 2015. 'The Manuscript Traditions: Ethiopic Manuscripts', in Bausi et al. 2015, 46–49.
- 2016. 'Composite and Multiple Text Manuscripts: The Ethiopian Evidence', in M. Friedrich and C. Schwarke, eds, *One-Volume Libraries: Composite and*

- Multiple Text Manuscripts*, Studies in Manuscript Cultures, 9 (Berlin and New York: De Gruyter, 2016), 111–153.
- , P. G. Borbone, F. Briquel-Chatonnet, P. Buzi, J. Gippert, C. Macé, Z. Melissakes, L. E. Parodi, W. Witakowski, and E. Sokolinski, eds, *Comparative Oriental Manuscript Studies: an Introduction* (Hamburg: Tredition, 2015).
- BHG. Socii Bollandiani 1895, 1909, 1957, 1969, 1984. *Bibliotheca hagiographica graeca seu elenchus vitarum sanctorum graece typis impressarum*, Subsidia Hagiographica, 8 (Bruxelles: Société des Bollandistes, 1st edn: 1895, 2nd edn: 1909; 3rd edn: ed. F. Halkin, I–III, 1957); *ibid.* *Auctarium*, ed. F. Halkin, Subsidia Hagiographica, 47 (Bruxelles: Société des Bollandistes, 1969); *ibid.* *Novum Auctarium*, ed. F. Halkin, Subsidia Hagiographica, 65 (Bruxelles: Société des Bollandistes, 1984).
- BHO. Socii Bollandiani 1910. *Bibliotheca hagiographica orientalis*, Subsidia Hagiographica, 10 (Bruxelles and Beyrouth: Société des Bollandistes and Imprimerie Catholique, 1910).
- CANT. Geerard, M. 1992. *Clavis apocryphorum Novi Testamenti*, Corpus Christianorum (Turnhout: Brepols, 1992).
- CAVT. Haelewyck, J.-C. 1998. *Clavis apocryphorum Veteris Testamenti*, Corpus Christianorum (Turnhout: Brepols, 1998).
- Dillmann, C. F. A. 1847. *Catalogus codicum manuscriptorum orientalium qui in Museo Britannico asservantur*, Pars III: *Codices Aethiopicos amplectens* (London: British Museum, 1847).
- 1848. *Catalogus codicum manuscriptorum Bibliothecae Bodleianae Oxoniensis*, Pars VII: *Codices Aethiopici* (Oxonii: E Typographeo Academico, 1848).
- EAe. S. Uhlig, ed., *Encyclopaedia Aethiopica*, I: A–C; II: D–Ha; III: Ha–N; in cooperation with A. Bausi, ed., IV: O–X; A. Bausi in cooperation with S. Uhlig, ed., V: Y–Z. *Supplementa. Addenda et Corrigenda. Maps. Index* (Wiesbaden: Harrassowitz Verlag, 2003, 2005, 2007, 2010, 2014).
- Goldschmidt, L. 1897. *Die Abessinischen Handschriften der Stadtbibliothek zu Frankfurt am Main (Rüppell'sche Sammlung) nebst Anhängen und Auszügen* (Berlin: Calvary, 1897).
- Grébaut, S. and E. Tisserant 1935. *Bybliothecae apostolicae Vaticanae codices manu scripti recensiti iussu Pii XI Pontificis maximi. Codices Aethiopici Vaticani et Borgiani, Barberinianus orientalis 2, Rossianus 865, I: Enarratio codicum* (In Bybliothea Vaticana, 1935).
- KRZ. Kinefe-Rigb Zelleke 1975. 'Bibliography of the Ethiopic Hagiographical Traditions', *Journal of Ethiopian Studies*, 13/2 (1975), 57–102.
- Liuzzo, P. M. 2017. 'Encoding and Representation Challenges of the Project Beta maṣāḥəft: Manuscripts of Ethiopia and Eritrea', in *Proceedings of Balisage:*

- The Markup Conference 2017, Washington, DC, August 1-4, 2017*, Balisage Series on Markup Technologies, 19 (Washington, D.C.: Balisage, 2017), <doi:10.4242/BalisageVol19.Liuzzo01>.
- McKenzie, J. S. and F. Watson 2016. *The Garima Gospels: Early Illuminated Gospel Books from Ethiopia*, Manar al-Athar Monograph, 3 (Oxford: Manar al-Athar, University of Oxford, 2016).
- Nosnitsin, D. 2015. 'Pricking and Ruling in Ethiopic Manuscripts: an Aid for Dating?', *Comparative Oriental Manuscript Studies Bulletin*, 1/2 (2015), 94–108.
- 2016. 'Lesser Known Features of the Ethiopian Codex', in E. Ficquet, Ahmed Hassen, and T. Osmond, eds, *Movements in Ethiopia, Ethiopia in Movement. Proceedings of the 18th International Conference of Ethiopian Studies*, I (Addis Ababa: CFEE–IES and Los Angeles, CA: Tsehai Publishers, 2016), 75–90.
- Porter, D., A. Campagnolo, and E. Connelly 2017. 'VisColl: A New Collation Tool for Manuscript Studies', in H. Busch, F. Fischer and P. Sahle, eds, *Kodikologie und Paläographie im Digitalen Zeitalter 4 – Codicology and Palaeography in the Digital Age 4*, Schriften des Instituts für Dokumentologie und Editorik, 11 (Norderstedt: Books on Demand, 2017), 81–100.
- Solomon Gebreyes Beyene 2016. *Chronicle of King Gälāwdewos (1540-1559): Critical Edition and Annotated Translation*, PhD thesis (Universität Hamburg, 2016).
- and P. M. Liuzzo 2017a. 'Report – Ancient Places in the Chronicle of King Gälāwdewos', <<http://commons.pelagios.org/2017/08/report-ancient-places-in-the-chronicle-of-king-galawdewos/>>.
- 2017b. 'Final Report: Some Interesting Historical Places in the Chronicle of Gälāwdewos', <<http://commons.pelagios.org/2017/10/final-report-some-interesting-historical-places-in-the-chronicle-of-galawdewos/>>.
- Turaev, B. 1906. *Ėfiopskija rukopisi v S.-Peterburgě*, Pamjatniki ėfiopskoj pis'menosti, 3 (St Petersburg: Tipografija imperatorskoj Akademii Nauk, 1906).
- Turska, M., J. Cummings, and S. Rahtz 2016. 'Challenging the Myth of Presentation in Digital Editions', *Journal of the Text Encoding Initiative*, 9 (2016) = M. Müller, ed., *Selected Papers from the 2014 TEI Conference*, <doi:10.4000/jtei.1453>.
- Ullendorff, E. 1951. *Catalogue of Ethiopian Manuscripts in the Bodleian Library* (Oxford: Clarendon Press, 1951).
- Wright, W. 1877. *Catalogue of the Ethiopic Manuscripts in the British Museum Acquired since the Year 1847* (London: British Museum, 1877).
- Zotenberg, H. 1877. *Catalogue des manuscrits éthiopiens (gheez et amharique) de la Bibliothèque nationale*, Manuscrits Orientaux (Paris: Imprimerie nationale, 1877).

