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ABSTRACT

This article will illustrate the challenges of digitizing of historical manuscript catalogues, taking as an example the widespread and complex work of the “Miracles of Mary.” This work is typically composed of framing texts and miracle texts proper, often accompanied by miniatures, and it

circulates in collections of varying standardization. A flexible encoding system with different identifiers for textual units and art themes has been developed, answering the most common challenges of encoding the Ethiopic literary tradition, improving the cataloguing.

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Keywords: Ethiopic literature, research environment, catalogue, manuscripts, Ethiopian studies, Eritrean studies, Miracles of Mary

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1. Introduction

- ¹ This article addresses the encoding of an Ethiopic text known as the “Miracles of Mary” (*Ta’ammāra Māryām*) for the project “Beta maṣāḥəft: Manuscripts of Ethiopia and Eritrea.”¹ The “Miracles of Mary” is a fluid collection of stories, each of which recounts a miraculous deed said to be performed by the Virgin Mary. Most versions of the Miracles of Mary are preceded by various introductory texts. The work has been transmitted in multiple-text or composite manuscripts, some of which place thematically related texts before or after. Individual miracle texts are attested outside of the collection. The large number of manuscripts, unknown but numbering at least several hundred, show that the stories were widespread.² The earliest manuscript dates to the reign of King Dāwit I (r. 1380–1413) (Balicka-Witakowska and Bausi 2010; Kropp 2017, 65–66), and the text continues to be copied, as manuscript culture in Ethiopia is still alive. Despite the variable manuscript tradition, recurring patterns can be recognized.³ Three manuscripts have been chosen to illustrate the variety:

- [A] London, British Library, BL Oriental 651 (sixteenth century),⁴
- [B] London, British Library, BL Add. 16,192 (composite manuscript consisting of codicological units dating from between the fourteenth and the nineteenth century),⁵ and

- [C] Vatican City, Biblioteca Apostolica Vaticana, Aeth. 8 (sixteenth century).⁶
- 2 All three manuscripts contain miracles of Mary together with other texts, all are multiple text manuscripts, and B is a composite manuscript. In addition to the miracles, two of the manuscripts, A and B, contain introductory texts pertaining to the collection of the Miracles of Mary. These introductory texts are partly identical in both manuscripts. However, despite these commonalities, the three manuscripts feature significant variation. The number and identity of miracles in each manuscript is vastly different. A contains the so-called 'Akko-nu bə'si collection, a fixed sequence of 33 miracles (30 in this manuscript), each followed by a hymn stanza (see below, [section 3.1.1](#)). B contains 72 different miracles, whose sequence has also been attested, with minor variation, in other manuscripts, for instance EML 3536 (fifteenth century) ([Getatchew Haile 1985](#)). C contains eight miracles also partly attested in the other two manuscripts, but in a different order. The introductory texts in A and B are ordered differently, while C contains none of these texts, and a colophon has been used to introduce the miracles. Lastly, the remaining texts in the manuscripts A, B, and C are all different.⁷
 - 3 Beta maṣāḥəft encodes historical catalogues and undertakes new cataloguing endeavors to promote the study of the Ethiopian and Eritrean manuscript culture.⁸ All encoding decisions are taken to improve both these types of cataloguing work. As a result, encoding strategies for the “Miracles of Mary” have to be precise but flexible: they must apply to in-depth cataloguing of a manuscript containing the “Miracles of Mary,” offering solutions for describing all of its aspects that may be of interest to scholars of various backgrounds, and succeed equally well in encoding previously published descriptions, which might deviate considerably from current cataloguing standards. The encoding results must be accessible and usable for scholars of any level of digital competence.
 - 4 Two significant works for the encoding were Cerulli's *Il libro etiopico dei Miracoli di Maria e le sue fonti nelle letterature del Medio Evo latino* ([Cerulli 1943](#)) and the unpublished miracle handlist compiled by William Macomber in his function as cataloguer for the EML project,⁹ and made available to the project by Alessandro Bausi ([Macomber n.d.](#)). This handlist contains 643 single miracle texts, often identifying distinct recensions, each listed with a summarizing title, manuscript witnesses, and one or more incipits.

- 5 Encoding the information contained in these two works as TEI allows us to:
- group and connect them in the digital research environment, where they can easily be accessed and queried,
 - aid the identification of textual units, their delimitations and recensions by assigning stable identifiers, for internal and external use,
 - facilitate further philological and codicological research on the collection, particularly on its formation and evolution across time and space.
- 6 To achieve these aims, the encoding must:
- allow for a variable level of detail,
 - be transparent and flexible, allowing revisions and corrections reflecting changes in the scholars' understanding of the textual units and their relationships,
 - make the most out of the vagueness of existing descriptions.

Based on this encoding applications may allow interested scholars to find references to miracle texts and other texts of the Miracles of Mary, as well as their placement in manuscripts.

- 7 Several challenges originating in the peculiarities of historical catalogue descriptions became apparent during the encoding of the “Miracles of Mary”:¹⁰
- insufficient identification of miracle texts, framing texts, and the entire collection,
 - inconsistent descriptions with varying depth within one catalogue or even one manuscript description,
 - lack of codicological awareness and a limited understanding of the manuscripts' stratigraphy, which is crucial when studying the genesis of such an evolving collection.

These limitations hinder the identification and delimitation of collections and their constituting textual units, which presupposes thorough philological, codicological, and stratigraphical analysis.

- 8 These problems are less pronounced when describing a manuscript to which one has access, either because images are available to improve on the existing catalogue description or because the manuscript is described for the first time based on good images or on the artefact itself. However, such descriptions have their own challenges.¹¹ In many manuscripts, the collection of the

“Miracles of Mary” can be very long, raising questions about the depth of the description, which might be answered differently by different cataloguers. The absence of a critical edition or a study identifying the recensions of the constituent texts of the collections remains problematic.

- 9 All the challenges noted above for the “Miracles of Mary” are common throughout the Ethiopic literary and manuscript tradition. Producing a practical solution for this text will provide a template for future work in other texts.¹²

2. The “Miracles of Mary”

- 10 Texts narrating miracles performed by a saint during or after their lifetime are a classical hagiographical genre, widely attested throughout all Christian literary traditions.¹³ Though not as common as lives or “Vitae” of saints (*gādāṭ*), miracles (*ta’ammār*) stories or collections of miracles ascribed to particular saints are a significant part of the Ethiopic hagiographic corpus.¹⁴ Most miracle texts are relatively short and self-contained, designed to fit easily within the broader context of a saint’s hagiographic dossier, appealing both for their storytelling and spiritual purpose. In most manuscripts, miracle texts appear after the “Vitae,” but can also occur within other collections. The “Miracles of Mary” is the most famous of several miracle collections that circulated in Ethiopic literature. As noted above, single miracle texts from the Miracles of Mary circulated in manuscripts containing other works, often as “guest texts.”¹⁵ This variety is one of the factors contributing to the complexity of their encoding.
- 11 The historical nucleus of the Miracles of Mary began in twelfth-century France. We know of versions in vernacular European languages (Cerulli 1943, 7–15), and a translation into Arabic in the thirteenth century (Cerulli 1943, 531–35; Kropp 2017, 61–64). New miracle narratives were added continuously in all versions, forming the collection into an outstanding example of cultural transmission and adaptation. Scholarly consensus dates the translation of the “Miracles of Mary” into Ethiopic to the end of the fourteenth century from an Arabic intermediate witness.¹⁶ The reception of the “Miracles of Mary” in Ethiopia has to be set against the background of theological developments which took place in the fifteenth and sixteenth century within the Ethiopian court and church (Getatchew and Nosnitsin 2007). During this time, the corpus of the Ethiopic “Miracles of Mary” increased considerably and incorporated accounts of Mary’s miraculous interventions in

the course of Ethiopian history. Texts of the “Miracles of Mary” were also read during the liturgy and in so doing obtained high cultural and identity forming value (Fritsch and Habtemichael 2020, 187).

- 12 The oldest known manuscripts of the “Miracles of Mary” are those kept at the churches of ʾAmbā Gəṣen and Beta Ləhem in Ethiopia, and date from the time of King Dāwit I (r. 1380–1413) (Balicka-Witakowska and Bausi 2010; Kropp 2017, 65–66).¹⁷

3. Encoding the “Miracles of Mary”

- 13 Describing this complex collection in a catalogue is a challenge. Ms London, British Library, BL Orient. 650, the first manuscript of the “Miracles of Mary” described in Wright (1877, 46), is an excellent example of the catalogue’s narrative style, its varying level of depth in the identification of textual units, and its codicological shortcomings:

Figure 1. Excerpt of the description of the content of MS London, British Library, BL Orient. 650 in Wright (1877, 46).

Miracles of the blessed Virgin Mary, 51 in number, f. 18 *a*. The last miracle is the composition of the **ውደሴ : ማርያም** : by the Syrian potter, f. 131 *a* (see Orient. 537, f. 208 *a*). To them is appended the dialogue of Mary and the Angel, **ቃል : ዘኸምወንጌል : ሉቃስ : ውደሴ** :, f. 134 *a*.

The colophon, f. 135 *b*, states that this Ms. was written for king Zar’a Yā’kōb, K̄wastāntīnōs, A.D. 1434—68, who gave it to a church of the blessed Virgin Mary. His name occurs repeatedly throughout the book. **ዘንተ : ተኸምረ : ማርያም : ዘአጽሐፈ : ንጉሥነ : ዘርአ : ያዕቆብ : ወዘወሀበሂ : ከመ : ደኩን : ለማርያም : ወኢያውፅኡ : ንምዴሂ : ንስከ : ለዓለም : ዘኸንበለ : ለኸንበለ : ዘንተ : መጽሐፈ : ለእመ : አውፅኡ : ውጉዛነ : ለደኩኑ : በአፈ : ኡብ : ወወልድ : ወመንፈስ : ቅዱስ : ንስከ : ለዓለም : አሜን ::**

Then follow additional miracles, of the same date, increasing the number to 55, f. 136 *a*.

- 14 The description states the number of miracle texts attested in this manuscript and their location in relation to the other texts the manuscript contains, the exact identification of one miracle text and of a further text included in the collection, and quotes the colophon.¹⁸ While allowing researchers to discover whether the manuscript is relevant for their work, the description suffers from the typical shortcomings of its period. Why has only the last miracle text been identified? What is meant by “appended”? Are the miracle texts included after the colophon written by the same hand as those before it? These questions, which must remain open until consultation of the manuscript or its digitization, are related to the manuscript’s stratigraphy, whose reconstruction based on this description must remain rudimentary.
- 15 TEI encoding methods for literary works (section 3.1) and art themes (section 3.2) allow us to encode Wright’s and similar catalogue descriptions, and scholars can adapt it to modern descriptions. The system is presented below and illustrated by the encoded version of this catalogue entry.

3.1 Literary works

- 16 Beta maṣāḥəft considers as works all texts with “a fixed content occurring in a fixed sequence which can circulate independently” (Villa 2018, 143; Liuzzo 2019, 79–81). A TEI file is created for each work. In each work TEI file, an @xml:id with a semantic value is assigned to the root <TEI> element.¹⁹ Within this type of TEI file each div[@type] in the <text> can be assigned an @xml:id, to represent the work’s subdivisions. While this is not a special practice, retaining the structure of <div type="textpart">s even without textual content allows precise references to the value of the <div type="textpart">s @xml:ids from other TEI files within the project, which increases the homogeneity and precision of cataloguing. The text of one or more parts of a work encoded as a <div type="textpart">s may also be attested elsewhere. For example one of the introductory texts preceding the miracle texts in manuscripts of the Miracles of Mary contains a commemoration of Mary receiving the Covenant of Mercy for the 16th *Yakkātīt*. The Ethiopic Synaxarion, a collection of daily commemorative texts, also contains the same commemoration. In this case, a TEI file for this commemoration has been created: *Sənkəssār*

Commemoration of Mary for the 16th *Yakkātit* (CAe 5050).²⁰ This identifier, LIT5050Mary16Yakkatit, is referred to in the Synaxarion TEI file, `<div type="textpart" subtype="commemoration" xml:id="Yakk16KidanaM" corresp="LIT5050Mary16Yakkatit">`.

- 17 In accordance with these principles, several TEI files have been created for the Miracles of Mary. Typically attestation of the Miracles of Mary is as a collection of several miracle texts, usually accompanied by framing texts. While fixed sequences of miracle texts exist, this collection often

exhibits variation in the miracle texts and their number. Figure 2 comparing the three example manuscripts above, which contain the collection, shows the variance in the beginning of the Miracles of Mary as it becomes clear when the different parts of the collection have been identified.

Figure 2. Comparison of three manuscripts showing the different beginning of the collection. Accessed January 27, 2022, <https://betamasaheft.eu/compareSelected?mss=BLorient651,BAVet8,BLadd16192>.

London, British Library, BL Additional 16192 (1350-1549)	London, British Library, BL Oriental 651 (1500-1599)	Vatican City, Biblioteca Apostolica Vaticana, Aeth. 8 (1500-1599)
p1_i1 (complete)Introductory exhortation to the Ta'ammara Māryām (ff. 1-2)	ms_i1 (complete)Ta'ammara Māryām (ff. 1v-)	p1_i2Ta'ammara Māryām (ff. 2v- 13v)
p2_i1 (complete)Maṣḥafa šar'āt za- waṣ'a 'ām-manbara Mārḳos hawāryā 'ām-makāna ma'allaqā (ff. 3-8)	ms_i1.1 (complete)Malka'a 'Edom (ff. 1v-)	p1_i2.1 (complete)Miracle of Mary: Miracle of a rich man who cast a loaf to a beggar and was saved by the Virgin after being condemned by Jesus (ff. 3ra-5)
p2_i2 (incomplete)Mysteries revealed by Jesus Christ to John son of Zebedee before his Assumption (ff. 8v-22)	ms_i1.2 (complete)Akko-nu ba'si. Stanza 1: Introduction (ff. 3v-)	p1_i2.2 (complete)Miracle of Mary: The Story of the Cannibal of Qəmr (ff. 5ra-7v)
p3_i1 (complete)Ta'ammara Māryām (ff. 23-94)	ms_i1.3 (complete)Maṣḥafa šar'āt za-waṣ'a 'ām-manbara Mārḳos hawāryā 'ām-makāna ma'allaqā (ff. 4r-)	p1_i2.3 (complete)Miracle of Mary: Miracle of the youth Zechariah, from Rome (ff. 7va-8v)
p3_i1.1 (complete)Miracle of Mary: Miracle of Hildephonsus (Dexius) of Toledo (ff. 23ra-24ra)	ms_i1.4 (complete)Introductory exhortation to the Ta'ammara Māryām (ff. 7v-)	p1_i2.4 (complete)Miracle of Mary: How the Virgin Mary obtained forgiveness for a monk who mutilated himself after he had defiled himself (ff. 8v-10)
p3_i1.2 (complete)Miracle of Mary: Miracle of an evil officer at Tarsus in Cilicia who loved Mary and had an apparition of Jesus (ff. 24ra- 24vb)	ms_i1.5 (complete)Ta'ammara Māryām (ff. 14r-)	p1_i2.5 (complete)Miracle of Mary: How Mary provided a garment to the priest who only knew the anaphora of Mary (ff. 10rb-11v)
p3_i1.3 (complete)Miracle of Mary: Miracle of Qirās, a brigand of Galatia, saved by Mary from hanging (ff. 24vb-25va)	ms_i1.5.1 (complete)Miracle of Mary: Miracle of a picture of Mary speaking to a worker (ff. 14r-15va)	p1_i2.6 (complete)Miracle of Mary: Miracle of a hanged brigand resuscitated because he loved the
	ms_i1.5.2 (complete)Miracle of Mary: Miracle of a Jew of Aḥmīm (ff. 15va-17va)	
	ms_i1.5.3 (complete)Miracle of Mary: Miracle of the scribe Damianus from Philippi (ff. 17va- 20ra)	

Individual miracle texts can also be attested outside of the collection as guest texts added to manuscripts with a different main content. Figure 3 shows a comparison of *Miracle of Mary: Homily on a potter from Syria* (CAe 3622),²¹ in this case focusing on an individual story rather than on the collection, and showing the same miracle text, respectively, as part of a collection of the Miracles of Mary, as one item in a composite multiple-text manuscript, and as a guest text in the third.

Figure 3. Comparison of *Miracle of Mary: Homily on a potter from Syria* (CAe 3622). Accessed January 27, 2022, <https://betamasaheft.eu/compare?workid=LIT3622Miracle>.

Paris, Bibliothèque nationale de France, BnF Éthiopien 60 (1700-1700)	Vatican City, Biblioteca Apostolica Vaticana, Aeth. 117 (1916-1916)	Saint Petersburg, Institut Vostočnyh Rukopisej Rossijskoj Akademii Nauk, IV Ef. 41 (-)
<p>who had kept her fast annually. (ff. 70r-)</p> <p>ms_i1.2.37 (complete), <u>Miracle of Mary: Homily on a potter from Syria</u> (ff. 70v-)</p> <p>ms_i1.2.38 (complete), <u>Miracle of Mary: Miracle of a city destroyed by angels</u> (ff. 73v-)</p> <p>ms_i1.2.39 (complete), <u>Miracle</u></p>	<p>p1_i1.18.2 (complete), <u>Mähleta säge, Stanza126</u> (ff. 41v-41v)</p> <p>p1_i1.19 (incomplete), <u>Miracle of Mary: Homily on a potter from Syria</u> (ff. 41v-42r)</p> <p>p2_i1 (complete), <u>Ta'amməra 'iyasus</u> (ff. 43r-91r)</p> <p>p2_i1.1 (complete), <u>Ta'amməra 'iyasus, Miracle About the</u></p>	<p>ms_i1 (complete), <u>Bəsrāta Yohānnəs</u> (ff. 7r-104r)</p> <p>a1 (GuestText), <u>Miracle of Mary: Homily on a potter from Syria</u> (ff. 1v-5r)</p> <p>a2 (GuestText), no ref in title (ff. 5v, 6v)</p> <p>a3 (GuestText), no ref in title (f. 6r)</p> <p>a4 (GuestText), no ref in title (ff. 40v-40v)</p>

3.1.1 Collections

- 18 Two TEI files have been created for the collection of the Miracles of Mary: *Miracles of Mary* (CAe 2384, ID: LIT2384Taamme)²² for collections of the Miracles of Mary declared as such and containing in addition to the miracle texts also framing texts, and *Miracles of Mary* (CAe 3585, ID: LIT3585Taamme)²³ for a collection of more than one miracle of Mary without framing texts. The existence of these two TEI files acknowledges the essential difference between the “Miracles of Mary” as a self-contained collection and often smaller groups of Miracles of Mary. These groups of miracles constitute a different category both from the collection proper and single miracle texts. This system is also particularly useful when working within the limits of historical catalogue descriptions. These two TEI files do not contain a structure of <div type="textpart">s with reference to individual miracle IDs in <div type="edition">s. This system allows their use in identifying any collection of the Miracles of Mary in a manuscript without knowing which miracle texts it contains and in which order. The IDs of the individual miracle texts attested

in the manuscripts in question will be stated in the respective manuscript descriptions only (example 1, section 3.3). This method also allows the use of both collection IDs in the encoding of catalogue descriptions which do not specify the identity and number of miracle texts contained in a manuscript.

Example 1. Example attestation of LIT2384Taamme in a manuscript description.²⁴

```
<msItem xml:id="ms_i1">
  <locus from="3ra" to="121va">Fols 3ra–121va</locus>
  <title ref="https://betamasaheft.eu/LIT2384Taamme">Ta'āmməra Māryām "Miracles
of Mary"</title>
  <textLang mainLang="gez"/>
  <!-- -->
</msItem>
```

- 19 The scope of these TEI files and the use of their IDs within the digital research environment are stated in <abstract>²⁵ (example 2)²⁶ and <listRelation> (example 3).

Example 2. <abstract> of LIT2384Taamme.²⁷

```
<abstract>
<p>
  The
  collection of the Miracles of Mary is one of the most popular works
  of Gə'əz literature. It circulates as collections of varying
  constitution, of which the <ref type="work" corresp="https://betamasaheft.eu/
LIT5673AkkonuColl">Miracles of
  Mary: 'Akko-nu bə'si collection</ref> is the most standardised
  one. In the unpublished list compiled by William Macomber,
  <!--...-->
</p>
<p>
  This record refers to any collection of the Miracles of Mary declared as such
  and containing in addition to the miracles also introductory texts such as the
  <ref type="work" corresp="https://betamasaheft.eu/LIT1968Mashaf">መጽሐፈ ሥርዓት
  ዘወጽእ፡ እመንበረ፡ ማርቆስ፡ ሐዋርያ፡ እመካነ፡ መዓልቃ፡ </ref>.
  For groups of miracles of Mary without introductory texts, see <ref
  type="work" corresp="https://betamasaheft.eu/LIT3585Taamme">ተእምረ፡ ማርያም፡</ref>,
  for the so-called <foreign xml:lang="gez">'Akko-nu bə'si</foreign> collection
  of 33 miracles, see
  <ref type="work" corresp="https://betamasaheft.eu/LIT5673AkkonuColl">Miracles
  of Mary: 'Akko-nu bə'si collection</ref> .
</p>
</abstract>
```

Example 3. <listRelation> of LIT2384Taamme.²⁸

```
<listRelation>
  <relation name="ecrm:P129_is_about" ref="http://erlangen-crm.org/current/
P129_http://erlangen-crm.org/current/is_http://erlangen-crm.org/current/about"
  active="https://betamasaheft.eu/LIT2384Taamme" passive="https://betamasaheft.eu/
PRS6819Mary"/>
```

```

    <relation name="saws:contains" ref="http://purl.org/saws/ontology#contains"
    active="https://betamasaheft.eu/LIT2384Taamme" passive="https://betamasaheft.eu/
    LIT3584Intro">
      <desc>
        <ref type="work" corresp="https://betamasaheft.eu/LIT3584Intro">Introductive
        exhortation to the Ta'amməra Märyām</ref>
        is one of several introductory texts attested in varying sequence in
        manuscripts containing the
        <ref type="work" corresp="https://betamasaheft.eu/LIT2384Taamme">ተአምረ፡ ማርያም፡</
        ref>.
      </desc>
    </relation>
    <relation name="saws:contains" ref="http://purl.org/saws/ontology#contains"
    active="https://betamasaheft.eu/LIT2384Taamme" passive="https://betamasaheft.eu/
    LIT1968Mashaf">
      <desc>
        <ref type="work" corresp="https://betamasaheft.eu/LIT1968Mashaf">መጽሐፈ፡ ሥርዓት፡
        ዘወጽእ፡ እመንበረ፡ ማርቆስ፡ ሐዋርያ፡ እመካነ፡ መዓልቃ፡ </ref>
        is one of several introductory texts attested in varying sequence in
        manuscripts containing the
        <ref type="work" corresp="https://betamasaheft.eu/LIT2384Taamme">ተአምረ፡ ማርያም፡</
        ref>.
      </desc>
    </relation>
    <relation name="saws:contains" ref="http://purl.org/saws/ontology#contains"
    active="https://betamasaheft.eu/LIT2384Taamme" passive="https://betamasaheft.eu/
    LIT3585Taamme">
      <desc>
        Typically, the
        <ref type="work" corresp="https://betamasaheft.eu/LIT2384Taamme">ተአምረ፡ ማርያም፡</
        ref>
        contains a varying number of miracles.
      </desc>
    </relation>
  </listRelation>

```

- 20 A TEI file has also been created for the so-called 'Akko-nu bə'si collection of Miracles of Mary: Miracles of Mary: 'Akko-nu bə'si collection (CAe 5673, ID: LIT5673AkkonuColl).²⁹ This collection is composed typically of introductory texts and a sequence of 33 miracle texts. Each miracle is followed by a stanza of the hymn 'Akko-nu bə'si, which is also attested in continuous form outside of the Miracles of Mary: 'Akko-nu bə'si (CAe 4274, ID: LIT4274AkkonuB) (Grohmann 1919, 322–83).³⁰

The stanzas are all thematically related to the miracle texts they follow. Typically, each miracle text is also followed by a miniature. As figures 4 and 5 illustrate, these miniatures are as fixed in their content as the text and vary only in style (Balicka-Witakowska 2010, 794; Annequin 1972):

Figure 4. Miniature illustrating Miracle of Mary: Miracle of the young girl called Mary, from *Dafrā* (CAe 3593)³¹ on f. 31v of MS *Bəherāwi Kəllələwi Mangəsti Təgrāy*, *Dabra Dāmmo 'Abuna 'Aragāwi*, DD-001 (digitized by the Ethio-SPaRe project),³² *Miracles of Mary* (1632–1664), Catalogued by Susanne Hummel, image accessed on 11 November 2020. Used with permission.

Figure 5. Miniature illustrating Miracle of Mary: Miracle of the young girl called Mary, from *Dafrā* (CAe 3593)³³ on f. 59r of MS London, British Library, BL Oriental 641,³⁴ *Miracles of Mary* (seventeenth century), image accessed on 11 November 2020. © British Library Board. Used with permission. (permission given by British Library on 28.02.2021).

- 21 To represent this structure, the TEI file *LIT5673AkkonuColl* contains a structure of nested `<div>`s for all introductory texts and each unit of miracle text, stanza and miniature (example 4). Decorative elements such as miniatures are generally not referred to in TEI files for literary works, which as a general rule only deal with texts. Typically, miniatures would be described in the `<decoDesc>` of the manuscript TEI files, and, within the project, a TEI file would also be created for typical motifs of Ethiopic manuscript decorations.³⁵ An exception has been made for the miniatures that form part of the *'Akko-nu bə'si* collection due to their standardized inclusion in the work and rendering. Therefore, the IDs for each miniature's art theme are referred to in analogy to the IDs of the work TEI files of the miracle texts and *'Akko-nu bə'si* stanzas.

Example 4. Structure of the subdivisions in *LIT5673AkkonuColl* illustrated with the eleventh miracle of the collection.³⁶

```
<div type="textpart" xml:id="AkkColl11">
  <label>Miracle of Juliana and Barbara from Bethlehem</label>
  <div type="textpart" xml:id="AkkMir11" corresp="https://betamasaheft.eu/
LIT3597Miracle">
    <label>Miracle</label>
  </div>
```

```

<div type="textpart" xml:id="AkkSta11" corresp="https://betamasaheft.eu/
LIT4274AkkonuB#Stanza11">
  <label>'Akko-nu bə'si stanza</label>
</div>
<div type="textpart" xml:id="AkkMin11" corresp="https://betamasaheft.eu/
AT1118MMYolyana">
  <label>Miniature</label>
</div>
</div>

```

3.1.2 Miracle Texts

- 22 A work TEI file was created for all known texts included in any of the collections of the miracles of Mary. Though not all miracle texts are yet attested independently, the significant variation in their attestation and their potential independence of circulation make this the best option. The titles, incipits and manuscript attestations given for miracle texts listed in Macomber (n.d.) were each encoded in a dedicated TEI file.
- 23 Each TEI file for a miracle of Mary contains the title given to the miracle by Macomber (n.d.), as well as any titles given to this miracle in the literature (example 5). One of the highest priorities of Beta maṣāḥəft is for its encoded data to be findable and usable for all users of the web application. The inclusion and indexing of (ideally) all titles used to refer to a miracle text contributes to this goal.

Example 5. Titles of the miracle TEI file LIT3593Miracle.³⁷

```

<title xml:id="t1" xml:lang="en">Miracle of Mary: Miracle of the girl called
Mary, from Dafrā</title>
<title xml:id="t2" xml:lang="en">Māryām from Dəfrā, a child who wanted to
receive Communion, but was shut up in the house when her family went to church</
title>

```

- 24 More information on the miracle text's content may be given in a summarized form in `<abstract>` (example 6). This information is beneficial in newly described miracle texts, which are not included in Macomber (n.d.).³⁸

Example 6. `<abstract>` of the miracle LIT5907MMRain,³⁹ identified in the cataloguing of MS London, British Library, BL Oriental 652.

`<abstract>`

`<p>`A young, devout man is sent together with a companion by his father to another city during the rainy season. As they are surrounded by the flood, he prays to God and St Mary to deliver them. Miraculously, they find no rain anymore. They arrive at the city they were sent to, and, on their return, see many soldiers. Again, the young man prays for deliverance, and in the very last moment, the soldier, who is about to rob them, repents and goes on his way without damaging them.`</p>`

`</abstract>`

- 25 Each miracle TEI file contains a `<listRelation>` with at least one `<relation>`,⁴⁰ between the concerned TEI file and the collection ID LIT2384Taamme (example 7): by connecting the TEI files LIT5108MiracleYohannes and LIT2384Taamme with "saws:formsPartOf", this relation states that the former forms a part of the latter and links all miracles of Mary to the collection LIT2384Taamme, making them easily findable. More relations, such as with mentioned persons, literary works or other entities, or versions of the same miracle text, are possible. In example 7, the relation "ecrm:P129_is_about" connects the TEI file Miracle of Mary: Yoḥannēs finds a copy of the Acts of St Juliana and St Barbara that he had lost (CAe 5108, ID LIT5108MiracleYohannes)⁴¹ with entities mentioned in this miracle text, TEI files for persons PRS5789Juliana and PRS2497Barbara,

and the work TEI file LIT4509GadlaBarb. The relation "lawd:hasAttestation" is used to connect the work with manuscripts containing it and is equivalent to [example 1](#) allowing the editor not to have to intervene in the cataloguing directly.⁴²

Example 7. <relation>s of the miracle TEI file LIT5108MiracleYohannes.⁴³

```
<relation name="ecrm:P129_is_about" ref="http://erlangen-crm.org/current/
P129_http://erlangen-crm.org/current/is_http://erlangen-crm.org/current/about"
active="https://betamasaheft.eu/LIT5108MiracleYohannes" passive="https://
betamasaheft.eu/PRS5789Juliana"/>
<relation name="ecrm:P129_is_about" ref="http://erlangen-crm.org/current/
P129_http://erlangen-crm.org/current/is_http://erlangen-crm.org/current/about"
active="https://betamasaheft.eu/LIT5108MiracleYohannes" passive="https://
betamasaheft.eu/PRS2497Barbara"/>
<relation name="ecrm:P129_is_about" ref="http://erlangen-crm.org/current/
P129_http://erlangen-crm.org/current/is_http://erlangen-crm.org/current/about"
active="https://betamasaheft.eu/LIT5108MiracleYohannes" passive="https://
betamasaheft.eu/LIT4509GadlaBarb"/>
<relation name="saws:formsPartOf" ref="http://purl.org/saws/
ontology#formsPartOf" active="https://betamasaheft.eu/LIT5108MiracleYohannes"
passive="https://betamasaheft.eu/LIT2384Taamme"/>
<relation name="lawd:hasAttestation" ref="http://lawd.info/ontology/
hasAttestation" active="https://betamasaheft.eu/LIT5108MiracleYohannes"
passive="https://betamasaheft.eu/EMML6938">
  <desc>
    <locus corresp="EMML6938" target="#45r">f. 45r </locus>
  </desc>
</relation>
```

- 26 The incipits given in [Macomber \(n.d.\)](#) could be partly included in the work TEI files ([example 8](#)).⁴⁴ They contribute to the growing corpus of Ethiopic text available in the digital research environment.

Example 8. Incipit of the miracle TEI file LIT3593Miracle.⁴⁵

```
<div type="textpart" subtype="incipit" xml:lang="gez">
  <note>
    This incipit is taken from
    <ref type="mss" corresp="https://betamasaheft.eu/EMML6938">Collegeville, Hill
    Museum and Manuscript Library, MS EML no. 6938</ref>.
```

```

</note>
<ab>
  ስምዐ: አበውየ: ወእኃውየ: ዘንተ: ነገረ: ዘኮነ: በእንተ: እግዝእትነ:
  <gap reason="ellipsis" resp="PRS6437Macomber" />
  እመ: ምሕረት: በእማን: መሐረት: ወመስተፍሥሐት: ወመናዝዚት: ለዘሰለለ: ጎቤሃ: በጥቡዕ: ልብ: ወበጽኑዕ: ሃይማኖት: ወኮነ: እንዘ: ሀሎኩ:
  እነ: ነዳይ: ዮሐንስ: አስቁፍ: በገዳመ: አስቁጥስ: ነገሩኒ: ሰብእ: መሃይምናን: ጌራን: ከመ: ሀሎ: አሐዱ: ብእሲ: ፈራሄ: እግዚአብሔር: ወያፈቅራ:
  ለእግዝእትነ:
  <gap reason="ellipsis" resp="PRS6437Macomber" />
  <supplied resp="PRS6437Macomber" reason="omitted">ወ</supplied>
  ሀገሩስ: ድፍራ:
</ab>
</div>

```

- 27 Building upon these minimal requirements, each TEI file can be expanded as much as desired in adherence to the [Beta maṣāḥāft customization of the TEI Guidelines](#).⁴⁶ Desiderata are, for instance, the inclusion of explicits, which would contribute considerably to the identification of recensions, more `<relation>s` with persons and places, and more extended summaries.
- 28 Already in the earliest editions of the Miracles of Mary, the existence of several recensions of the same miracle story was noted.⁴⁷ It is clear that only one TEI file per miracle text would be insufficient to distinguish recensions and catalogue manuscripts as precisely as possible. In such cases, one TEI file has been created for each recension. Additionally, one TEI file has been created for use when the recension cannot be determined, for instance, when the miracle text has been listed in a catalogue with only a generic title. This strategy has the necessary flexibility for future adaptation: whenever new recensions of a miracle text are identified, TEI files can be created for them. The relationship between a “general” TEI file and the individual work TEI files which are recensions of it is expressed in a paragraph form in the files’ `<abstract>s` ([example 9](#)) and through `<relation>s` ([example 10](#)).

Example 9. Abstract of the general work TEI file [LIT6033MMLadyGen](#).⁴⁸

```

<abstract>
  <p>
    This miracle exists in at least two recensions:

```



```

    <ref type="work" corresp="https://betamasaheft.eu/
LIT5017MiracleSophiaConfessor">Miracle of Mary: Miracle of Sophia who distributed
all her jewelry to the poor, and her husband who did not let her go to the
church</ref>
    names the noblewoman as Sophia, while she remains unnamed in
    <ref type="work" corresp="https://betamasaheft.eu/LIT3916Miracle">Miracle of
Mary: How a wealthy lady who dressed in mean attire to give alms was carried to
Church by the Virgin Mary</ref>
    . This is the general ID to be used in cases where the recension cannot be
identified.
  </p>
</abstract>

```

Example 10. Relations of its version `LIT5017MiracleSophiaConfessor`.⁴⁹

```

<listRelation>
  <relation name="saws:isVersionOf" ref="http://purl.org/
saws/ontology#isVersionOf" active="https://betamasaheft.eu/
LIT5017MiracleSophiaConfessor" passive="https://betamasaheft.eu/LIT6033MMLadyGen"/
>

  <relation name="saws:isRelatedTo" ref="http://purl.org/
saws/ontology#isRelatedTo" active="https://betamasaheft.eu/
LIT5017MiracleSophiaConfessor" passive="https://betamasaheft.eu/LIT3916Miracle">
    <desc>This miracle seems to be very close or nearly identical to the
one edited E.W. Budge, but contains the name of the person (Sophia) and the
geographical location presented here as an island in the "Northern Sea".</desc>
  </relation>
  <relation name="saws:formsPartOf" ref="http://purl.org/
saws/ontology#formsPartOf" active="https://betamasaheft.eu/
LIT5017MiracleSophiaConfessor" passive="https://betamasaheft.eu/LIT2384Taamme"/>
</listRelation>

```

- 29 In the encoding of catalogues, another requirement is to state the presence of a Miracle of Mary in which the content has not been identified by the cataloguer. A TEI file for a single, unidentified miracle text was created to answer this: `Miracle of Mary: unidentified miracle (CAe 3993, ID: LIT3993Miracle)`.⁵⁰ This ID can be updated with the ID of the exact miracle text in question whenever a project collaborator has access to the manuscript and updates the description.

- 30 Many miracle texts have been composed in cycles of individual miracles centered around the same protagonist, locality, or event.⁵¹ Different <relation>s have been used between them and other entities such as person TEI files to group these miracle texts. Example 11 shows the <relation>s of the work TEI file `Miracle of Mary: St Basil finds the buried icon of St Mary` (CAe 5202, ID: `LIT5202MiracleBasilIcon`),⁵² which is one in a group of miracle texts narrating apparitions of Mary to Basil of Caesarea. Apart from the <relation> "saws:formsPartOf" with the collection ID `LIT2384Taamme`, this miracle TEI file is linked to the protagonist with "ecrm:P129_is_about" and to all other miracle TEI files of this cycle with "saws:isRelatedTo" or "saws:follows".

Example 11. <relation>s linking `LIT5202MiracleBasilIcon`⁵³ to the collection ID of the Miracles of Mary, `LIT2384Taamme`, its protagonist, and other miracle TEI files of the same cycle.

```
<listRelation>
  <relation name="saws:formsPartOf" ref="http://purl.org/saws/
ontology#formsPartOf" active="https://betamasaheft.eu/LIT5202MiracleBasilIcon"
passive="https://betamasaheft.eu/LIT2384Taamme"/>
  <relation name="ecrm:P129_is_about" ref="http://erlangen-crm.org/current/
P129_http://erlangen-crm.org/current/is_http://erlangen-crm.org/current/about"
active="https://betamasaheft.eu/LIT5202MiracleBasilIcon" passive="https://
betamasaheft.eu/PRS2546Basilth"/>
  <relation name="saws:isRelatedTo" ref="http://purl.org/saws/
ontology#isRelatedTo" active="https://betamasaheft.eu/LIT5202MiracleBasilIcon"
passive="https://betamasaheft.eu/LIT3686Miracle"/>
  <!--...-->
  <relation name="saws:follows" ref="http://purl.org/saws/ontology#follows"
active="https://betamasaheft.eu/LIT5202MiracleBasilIcon" passive="https://
betamasaheft.eu/LIT3686Miracle"/>
</listRelation>
```


- 31 This information has also been summarized in paragraph form in `<abstract>` (example 12). Though this may be considered redundant, many users prefer descriptive information to other formats and thus can access the data more effectively.

Example 12. `<abstract>` of LIT5248MiracleStephanites.⁵⁴

`<abstract>`

`<p>`

This miracle can also occur divided into two distinct miracles, `<ref type="work" corresp="https://betamasaheft.eu/LIT5649MMStephanites1">`Miracle of Mary: The judgment of the court of Zar'a Yā'qob against the Stephanites (part 1)`</ref>`

and `<ref type="work" corresp="https://betamasaheft.eu/LIT5650MMStephanites2">`Miracle of Mary: The judgment of the court of Zar'a Yā'qob against the Stephanites (part 2)`</ref>`. There are apparently several recensions of the first part of the miracle, ending either in the stoning or repentance of the heretics.

`</p>`

`</abstract>`

- 32 Encoding the Miracles of Mary in a flexible, potentially hierarchical system consisting of IDs for different collections, units of miracle texts with accompanying items, and single (miracle) texts allows the precise encoding of all possible forms under which these texts are attested in manuscripts. This method opens many possibilities for researching these forms synchronically and diachronically.

3.2 Art Themes

- 33 The importance of miniatures in collections of the Miracles of Mary, particularly in the 'Akko-nu bə'si collection, has been already noted above (section 3.1.1). The encoding of these miniatures follows the guidelines for creating art theme TEI files⁵⁵ and the description of decoration in manuscript TEI files.⁵⁶ Art theme TEI files are created for recurring motifs of Ethiopic art. The individual articulation of the miniatures is then described in the `<decoDesc>` of the manuscript TEI files. Such art theme TEI files have been created for each of the fixed set of 33 miniatures which follow the miracle texts and hymn stanzas of the 'Akko-nu bə'si collection.⁵⁷ These art theme IDs are referred to in the work ID of the 'Akko-nu bə'si collection⁵⁸ and in the corresponding `<decoNote>`s in

the manuscript TEI files. Art theme TEI files contain an unambiguous title (example 13), an abstract describing the typical content of this art theme (example 14), and a relation to the miracle TEI file this art theme illustrates (example 15).

Example 13. <title> of the Miracle of Mary art theme AT1123MMElsabet.⁵⁹

```
<title>Miracle of Mary: Elizabeth, the blind daughter of Abraham and Gerā 'Anəšt
of Badərmān</title>
```

Example 14. <abstract> of the Miracle of Mary art theme AT1123MMElsabet.⁶⁰

```
<abstract>
<p>
  A miniature illustrating <ref type="work" corresp="https://betamasaheft.eu/
LIT3602Miracle">Miracle of Mary: Miracle of Abraham, his wife Gerā and their blind
daughter Elisabeth from Badramān</ref>, typically with as a sequence of three
episodes/events, showing: first, the woman and her blind daughter standing praying
before the icon of the
  <ref type="authFile" corresp="https://betamasaheft.eu/AT1031VirginAndChild"/
>; second, both lying asleep before <persName ref="https://betamasaheft.eu/
PRS6819Mary">Mary</persName>, who wakes up the girl; third, the girl standing
before the icon of <persName ref="https://betamasaheft.eu/PRS6819Mary">Mary</
persName>, who takes out her breast and drops her milk into the girl's eyes.
</p>
</abstract>
```

Example 15. <relation> of the Miracle of Mary art theme AT1123MMElsabet.⁶¹

```
<listRelation>
  <relation name="ecrm:P129_is_about" ref="http://erlangen-crm.org/current/
P129_http://erlangen-crm.org/current/is_http://erlangen-crm.org/current/about"
active="https://betamasaheft.eu/AT1123MMElsabet" passive="https://betamasaheft.eu/
LIT3602Miracle"/>
</listRelation>
```

3.3 Manuscripts

- 34 The system developed for the encoding of work and art theme TEI files of the Miracles of Mary can now be applied to a manuscript description, encoding the historical catalogue description given in [section 3](#).
- 35 In encoding historical catalogue descriptions, Beta maṣāḥəft aims to interlink all information contained in these TEI files to produce a searchable union catalogue of the Ethiopian and Eritrean manuscript tradition. At this stage of the work process, the catalogue descriptions have not necessarily been updated by consultation of the manuscript. This step may be carried out at a later stage for chosen manuscripts.

- 36 The work described by Wright (1877, 46) (figure 1) can be identified as a collection of the Miracles of Mary with framing texts (CAe 2384, ID LIT2384Taamme). We have rendered the structure of textual units within the collection as described in the catalogue in the following way:

Example 16. Encoding of the description of MS London, British Library, BL Orient. 650.⁶²

```
<msItem xml:id="ms_i5">
  <locus from="18r">ff. 18r- </locus>
  <title type="complete" ref="https://betamasaheft.eu/LIT2384Taamme">ተአምረ: ማርያም: </
title>
  <textLang mainLang="gez"/>
  <note>
    This manuscript contains 51 miracles before
    <ref target="#coloph1"/>
    and four after it.
  </note>
  <msItem xml:id="ms_i5.1">
    <locus from="18r">ff. 18r- </locus>
    <title type="complete" ref="https://betamasaheft.eu/LIT3585Taamme">ተአምረ:
ማርያም: </title>
    <textLang mainLang="gez"/>
    <note>50 miracles of Mary</note>
  </msItem>
  <msItem xml:id="ms_i5.2">
    <locus from="131r">ff. 131r- </locus>
    <title type="complete" ref="https://betamasaheft.eu/LIT3622Miracle">Miracle of
Mary: Homily on a potter from Syria</title>
    <textLang mainLang="gez"/>
  </msItem>
  <msItem xml:id="ms_i5.3">
    <locus from="134r">ff. 134r- </locus>
    <title type="complete" xml:lang="gez">Excerpt from <ref type="work"
corresp="LIT2713Luke"/>, the dialogue of Mary and the angel</title>
    <textLang mainLang="gez"/>
    <incipit xml:lang="gez">ቃል: ዘእምወንጌለ: ሉቃስ: ውዳሴ:</incipit>
  </msItem>
  <colophon xml:id="coloph1">
    <locus target="#135v">f. 135v </locus>
```

```

<note>
  The colophon states that this manuscript was written for
  <persName ref="https://betamasaheft.eu/PRS10626ZaraY">Zar'a Yā'qob</persName>
  , who donated it to a church of Mary.
</note>
  ዘንተ፡ ተአምረ፡ ማርያም፡ ዘአጽሐፈ፡ ንጉሥነ፡
  <persName ref="https://betamasaheft.eu/PRS10626ZaraY" role="patron">ዘርእ፡ ያዕቆብ፡</
persName>
  ወዘወሀበሂ፡ ከመ፡ ይኩን፡ ለማርያም፡ ወኢየሁዳ፡ እምነ፡ እስከ፡ ለዓለም፡ ዘእንበለ፡ ለእንብቦ፡ ዘንተ፡ መጽሐፈ፡ ለእመ፡ ኣውፅኡ፡ ውጉዛነ፡
  ለይኩኑ፡ በአፈ፡ ኣብ፡ ወወልድ፡ ወመንፈስ፡ ቅዱስ፡ እስከ፡ ለዓለም፡ ኣሜን።
</colophon>
<msItem xml:id="ms_i5.4">
  <locus from="136r">ff. 136r- </locus>
  <title type="complete" ref="https://betamasaheft.eu/LIT3993Miracle">Miracle of
Mary: unidentified miracle</title>
  <textLang mainLang="gez"/>
</msItem>
<msItem xml:id="ms_i5.5">
  <title type="complete" ref="https://betamasaheft.eu/LIT3993Miracle">Miracle of
Mary: unidentified miracle</title>
  <textLang mainLang="gez"/>
</msItem>
<msItem xml:id="ms_i5.6">
  <title type="complete" ref="https://betamasaheft.eu/LIT3993Miracle">Miracle of
Mary: unidentified miracle</title>
  <textLang mainLang="gez"/>
</msItem>
<msItem xml:id="ms_i5.7">
  <title type="complete" ref="https://betamasaheft.eu/LIT3993Miracle">Miracle of
Mary: unidentified miracle</title>
  <textLang mainLang="gez"/>
</msItem>
</msItem>

```

- 37 For the first unidentified group of miracle texts, the ID LIT3585Taamme is appropriate. The information on the number of miracle texts has been provided in a paragraph form in <note>. Theoretically, 50 child <msItem>s of <msItem xml:id="ms_i5"> with the ID for a single unidentified miracle, LIT3993Miracle, would also be possible, but would render the TEI file cumbersome to read

and offer no additional information. The miracle text identified descriptively in the catalogue has been identified here with its ID, Miracle of Mary: Homily on a potter from Syria (CAe 3622, ID LIT3622Miracle).⁶³ The following text, identified in the catalogue as the dialogue of Mary and the Angel, has been identified descriptively with reference to the Gospel of Luke. The colophon has been encoded in `<colophon>`. The four miracle texts following it have been encoded as single `<msItem>`s, identified as Miracle of Mary: unidentified miracle (CAe 3993, ID LIT3993Miracle). This encoding outside of "ms_i5.1", the collection LIT3585Taamme, reflects their unresolved stratigraphical status.

- 38 Several textual units are then listed in the catalogue as prefixed to the above. They possibly constitute one or more separate units of production. As the information provided in the catalogue is too scarce to reconstruct the manuscript's strata, the decision was made to not offer a hypothesis by a division into `<msPart>`s, and the uncertainty in this regard has been stated explicitly in a `<note>` in the first `<msItem>`.

Example 17. Use of `<note>` in the manuscript description.

`<note>`The catalogue description does not allow for the correct identification of this manuscript's codicological units. It is possibly a composite manuscript, but treated here in a simple manuscript description until examination to avoid wrong delimitations of units.`</note>`

- 39 A revision of the TEI file following consultation of the (digital) manuscript would be desirable.⁶⁴ This revision would probably allow us to identify units of production and split the description into the appropriate number of `<msPart>`s. While awaiting this update, the current encoding reflects all detail given in the catalogue and states open questions clearly.

4. Conclusions

- 40 A flexible system of encoding the Miracles of Mary was developed by the creation of different level IDs for miracle texts and their collections. This system allows all levels of depth of cataloguing—from stating a particular work is present in a manuscript to describing each sub-part of a collection in detail. It has proved efficient for Beta maṣāḥəft. Here, it accommodates the encoding of historical catalogues and new manuscript descriptions, both of which benefit from such flexibility.

A historical catalogue may list all miracle texts of the Miracles of Mary while only mentioning introductory texts in passing. One cataloguing project may produce an inventory, another a full catalogue.

- 41 This project is laying the groundwork for further studies of the Miracles of Mary. The continuing identification of miracle texts and their recensions and immediate clarification of these through the creation of TEI work files and relations between them will benefit future philological research on the Miracles of Mary. All insights are immediately available to the interested community on Beta maṣāḥəft.
- 42 Even in the first steps of developing a consistent encoding system for the Miracles of Mary, it has become abundantly clear that consistent and thorough encoding encourages best practices in cataloguing. The creation and interlinking of IDs for manuscripts, works, and other entities make it much easier to find similar manuscripts to the one catalogued. This approach improves the quality of catalogue descriptions. The same is true for identifying miracle recensions, which in the absence of a critical edition cannot be established by studying only one manuscript. Building upon Macomber's work and in cooperation with many scholars working in the digital research environment, new recensions are continually identified. Much deeper encoding of this work would be possible, for instance, through narrative unit IDs connecting miracle texts and other works.⁶⁵ This enhancement must remain the focus of dedicated further research efforts. We hope that this work is one step towards a better understanding of the textual history of the Miracles of Mary within the Ethiopian tradition and will enable further codicological and philological study.

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NOTES

1 The project, officially *Schriftkultur des christlichen Äthiopiens und Eritreas: Eine multimediale Forschungsumgebung*, in the following Beta maṣāḥəft, is funded within the framework of the Academies' Programme (coordinated by the Union of the German Academies of Sciences and Humanities) under the purview of the Akademie der Wissenschaften in Hamburg for 2016–2040.

It is headed by Prof. Alessandro Bausi and coordinated by Eugenia Sokolinski, the technical lead 2016–2022 was Pietro Maria Liuzzo. The former and current research fellows are Daria Elagina, Denis Nosnitsin, Dorothea Reule, Solomon Gebreyes, and Massimo Villa.

2 See Balicka-Witakowska and Bausi (2010, 792–93). Some of the quantitative research opportunities presented by the large amount both of manuscripts and of miracle texts are formulated in the research questions of the PEMM project.

3 As usual for the history of Ethiopian and Eritrean studies, editions and translations were preceded by thorough catalogue descriptions of the related work, see in particular Zotenberg (1877, 62–71). An early edition and translation still regarded as a reference is Budge (1900). For an overview of the research in Ethiopian and Eritrean Studies carried out on the “Miracles of Mary,” see Balicka-Witakowska and Bausi (2010). Cerulli (1943), while intended as a preparatory work, remains the most comprehensive study to date. Alessandro Bausi has studied the case of the “Miracles of Mary” as an example for a corpus-organizer (2016, 121–26) and as a paradigmatic work of interaction and adaptation between Ethiopia and the Christian Orient (2020, 238–39).

This current interest is also well illustrated by the recent Princeton Ethiopian Miracles of Mary Project (PEMM), led by Wendy Belcher, that investigates the corpus and particularly the miracle of the cannibal of Qəmr, from a literary studies’ perspective. Interaction with this project has been very fruitful for our encoding, and I am very grateful in particular to Wendy Belcher and Evgeniia Lambrinaki for our exchanges on this subject.

4 See Dorothea Reule, “London, British Library, BL Oriental 651,” *Die Schriftkultur des christlichen Äthiopiens und Eritreas: Eine multimediale Forschungsumgebung / Beta maṣāḥəft*, edited by Alessandro Bausi, accessed January 27, 2022, <https://betamasaheft.eu/BLorient651>.

5 See Massimo Villa, Dorothea Reule, Eugenia Sokolinski, “London, British Library, BL Add. 16,192,” *Die Schriftkultur des christlichen Äthiopiens und Eritreas: Eine multimediale Forschungsumgebung / Beta maṣāḥəft*, edited by Alessandro Bausi, accessed January 27, 2022, <https://betamasaheft.eu/BLadd16192>.

6 See Massimo Villa, “Vatican City, Biblioteca Apostolica Vaticana, Aeth. 8,” *Die Schriftkultur des christlichen Äthiopiens und Eritreas: Eine multimediale Forschungsumgebung / Beta maṣāḥəft*, edited by Alessandro Bausi, accessed January 27, 2022, <https://betamasaheft.eu/BAVet8>.

7 See also figure 2.

8 The Ethiopian and Eritrean highlands, located in the territories of the modern states of Ethiopia and Eritrea, formed one continuous cultural space throughout most of their history. For the sake of readability, this region will be referred to as “Ethiopia(n)” in the following. The catalogue encoding is being carried out by all past and present project members and external collaborators: Ashlee Benson, Augustine Dickinson, Daria Elagina, Marcin Krawcuk, Ralph Lee, Denis Nosnitsin, Dorothea Reule, Eugenia Sokolinski, Solomon Gebreyes, and Massimo Villa. See the project note Reule (2018). A more in-depth presentation of the project’s encoding is given in Liuzzo (2017).

9 <https://hmml.org/about/global-operations/ethiopia/>.

10 While the challenges listed here result, from the modern point of view, mainly from shortcomings of the historical catalogues, it must not be forgotten that these catalogues were pioneering works in the study of Ethiopic literature, and their level of scholarship remains often unattained today.

11 That the cataloguing of manuscripts containing the “Miracles of Mary” is far from trivial has been demonstrated in Bausi (2016, 123–24).

12 For a presentation of the complex constitution and evolution of Ethiopic multiple-text manuscripts, see Bausi (2016), which includes the example of the “Miracles of Mary.”

13 For an overview of the genre’s origins and early development, see for example Efthymiadis (2014).

14 For a recent overview of the Ethiopic hagiographic genre, see Brita (2020, 261–81). The same contribution also includes an outline of the history of the “Miracles of Mary” as an outstanding example of a translated work that shaped Ethiopic culture (Brita 2020, 254–55). For a short presentation of the development and content of the genre of *ta’ammār*, see Nosnitsin (2020).

15 Defined by Gumbert (2004, 42) as “a text which has been added as an enrichment, into an existing codicological unit.”

16 It should be noted that this Arabic Vorlage consisted exclusively of miracles of European origin, while the numerous Ethiopic miracles set in Egypt and the Levant must have other sources (Cerulli 1943, 148–57; 530–31).

17 Hundreds of manuscripts containing the “Miracles of Mary” are now available to scholars digitally or in libraries; see Balicka-Witakowska and Bausi (2010, 792–93).

- 18 Whether this text actually constitutes a colophon may be disputed, see, accessed January 27, 2022, <https://betamasaheft.eu/Guidelines/?id=colophon>.
- 19 This value is referred to in the following as the TEI file's "ID." On the criteria for the construction of these project-specific IDs, see Villa (2018, 143).
- 20 Accessed January 23, 2022, <https://betamasaheft.eu/LIT5050Mary16Yakkatit>. The numerical part of work TEI files' ID becomes the Clavis Aethiopica (CAe) reference number, used to refer to the textual unit. The CAe developed by Beta maṣāḥəft sets out to become a comprehensive repertory of the Ethiopic written tradition, identifying all texts with an alphanumeric string and providing bibliography for them. Its aims and background are referred to in Liuzzo (2019, xxiii).
- 21 Accessed January 27, 2022 <https://betamasaheft.eu/LIT3622Miracle>.
- 22 Accessed January 27, 2022 <https://betamasaheft.eu/LIT2384Taamme>.
- 23 Accessed January 27, 2022 <https://betamasaheft.eu/LIT3585Taamme>.
- 24 Accessed January 27, 2022 <https://betamasaheft.eu/LIT2384Taamme>.
- 25 The content of <abstract> is among the first, and often only, parts of the TEI files accessed by many users of the web application. It has therefore proven crucial that all data identifying and distinguishing this TEI file be offered here.
- 26 All examples follow the style guidelines of Beta maṣāḥəft.
- 27 Accessed January 27, 2022 <https://betamasaheft.eu/LIT2384Taamme>.
- 28 Accessed January 27, 2022 <https://betamasaheft.eu/LIT2384Taamme>.
- 29 Accessed January 27, 2022 <https://betamasaheft.eu/LIT5673AkkonuColl>.
- 30 Accessed January 27, 2022 <https://betamasaheft.eu/LIT4274AkkonuB>.
- 31 Accessed January 27, 2022 <https://betamasaheft.eu/LIT3593Miracle>.
- 32 See Susanne Hummel, Denis Nosnitsin, Pietro Maria Liuzzo, Eugenia Sokolinski, "Bəḥərāwī Kəllələwī Mangəsti Təgrāy, Dabra Dāmmo 'Abuna 'Aragāwī, DD-001," *Die Schriftkultur des christlichen Äthiopiens und Eritreas: Eine multimediale Forschungsumgebung / Beta maṣāḥəft*, edited by Alessandro Bausi, accessed January 27, 2022, <https://betamasaheft.eu/ESdd001>.
- 33 Accessed January 27, 2022 <https://betamasaheft.eu/LIT3593Miracle>.
- 34 Dorothea Reule, "London, British Library, BL Oriental 641," *Die Schriftkultur des christlichen Äthiopiens und Eritreas: Eine multimediale Forschungsumgebung / Beta maṣāḥəft*, edited by Alessandro Bausi, accessed January 27, 2022, <https://betamasaheft.eu/BLorient641>.

- 35 For the use of art themes, see below [section 3.2](#).
- 36 Accessed 27 January, 2022 <https://betamasaheft.eu/LIT5673AkkonuCol>.
- 37 Accessed 27 January, 2022 <https://betamasaheft.eu/LIT3593Miracle>.
- 38 The identification of not-yet-described miracle texts, as well as the distinction of recensions and corrections of previous identifications, are and will be common events as more and more manuscripts have been described thoroughly. This has become particularly apparent through cooperation with the PEMM project, to whose members we are very grateful for their indicating several new identifications and corrections.
- 39 Accessed 27 January, 2022 <https://betamasaheft.eu/LIT5907MMRain>.
- 40 For the use of relations, see, accessed 27 January, 2022 <https://betamasaheft.eu/Guidelines/?id=relations>, where all used values are listed, and Liuzzo (2019, 208–11) for a conceptual overview.
- 41 Accessed January 27, 2022 <https://betamasaheft.eu/LIT5108MiracleYohannes>.
- 42 This information has been encoded from Macomber (n.d.). Encoding the presence of the miracle text in all concerned TEI files for manuscripts would be preferable, but this must await a further stage of the work process.
- 43 Accessed 27 January, 2022 <https://betamasaheft.eu/LIT5108MiracleYohannes>.
- 44 This work has been carried out by Angela Müller. Please note however that the PEMM project's incipit tool is now available, which was not the case at the beginning of our work.
- 45 Accessed 27 January, 2022 <https://betamasaheft.eu/LIT3593Miracle>.
- 46 Accessed 27 January, 2022 <https://betamasaheft.eu/Guidelines/?id=schemaView>.
- 47 See for example Budge (1923, 208–13) for two recensions of a miracle of the monk who blew a horn. Macomber (n.d.) also distinguishes numerous recensions.
- 48 Accessed January 27, 2022 <https://betamasaheft.eu/LIT6033MMLadyGen>.
- 49 Accessed January 27, 2022 <https://betamasaheft.eu/LIT5017MiracleSophiaConfessor>.
- 50 Accessed January 27, 2022 <https://betamasaheft.eu/LIT3993Miracle>.
- 51 For the use of the term *cycle* and its limitations, see Cerulli (1943, 158).
- 52 Accessed January 27, 2022 <https://betamasaheft.eu/LIT5202MiracleBasilCon>.
- 53 Accessed January 27, 2022 <https://betamasaheft.eu/LIT5202MiracleBasilCo>.
- 54 Accessed January 27, 2022 <https://betamasaheft.eu/LIT5248MiracleStephanites>.
- 55 Accessed January 27, 2022 <https://betamasaheft.eu/Guidelines/?id=artThemes>.

- 56 Accessed January 27, 2022 <https://betamasaheft.eu/Guidelines/?id=decorationDescription>.
- 57 I am very grateful to Jacopo Gnisci for his advice in the creation of these TEI files, and his revision of them.
- 58 See above [section 3.1.1](#).
- 59 Accessed January 27, 2022 <https://betamasaheft.eu/AT1123MMElsabet>.
- 60 Accessed January 27, 2022 <https://betamasaheft.eu/AT1123MMElsabet>.
- 61 Accessed January 27, 2022 <https://betamasaheft.eu/AT1123MMElsabet>.
- 62 Accessed January 27, 2022 <https://betamasaheft.eu/BLorient650>.
- 63 Accessed January 27, 2022 <https://betamasaheft.eu/LIT3622Miracle>.
- 64 Such a revision would now also be possible, as the digital manuscript has been made available by the British Library. Updates to the description given here may appear in the future at <https://betamasaheft.eu/manuscripts/BLorient650/main>.
- 65 For the use of narrative unit IDs, see Liuzzo (2019, 83) and Villa (2018, 147–48).

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