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6 Inscriptions from Ethiopia. Encoding Inscriptions in Beta Maṣāḥəft

Abstract: This paper describes the available corpus of inscriptions from the Ethiopian and Eritrean regions giving an overview of this documentation. Some of the challenges involved with the inclusion of these documents in the Beta Maṣāḥəft project are presented: the connection to already digitally encoded texts, the encoding of the parallel *ḥidal* (i.e. Ethiopian script) and transcribed text, and the structuring of the data for the pseudo-trilingual inscription *RIÉ* nos 185 and 270 (that also has a second copy).

Keywords: Ethiopia, Eritrea, epigraphy, EpiDoc, multiple copies

6.1 Ethiopian and Eritrean Ancient Epigraphy

The Ethiopian and Eritrean region, despite the small numbers of inscriptions (amounting to some hundreds), offers examples for several case studies and a wide variety of languages and material epigraphic typologies. A rough estimation of the available inscriptions, arranged in chronological order and with obvious overlapping, including the few produced in Ethiopian languages or by Ethiopians in Antiquity, Late Antiquity and Middle Ages outside of Ethiopia (Yemen, Sudan, and Egypt), gives the rough figures detailed below.¹ Some of the entry numbers in the classical collection *Recueil des inscriptions de l'Éthiopie des périodes préaxoumite et axoumite* (*RIÉ*; Bernand, Drewes, & Schneider, 1991) are distinguished by an additional mark. In a few cases, one number refers to more inscriptions. This is typically the case of the two sets of the so-called “pseudo-trilingual” royal inscriptions, *RIÉ* nos 185 and 270, which correspond to two sets of three parallel texts each, respectively in Ethiopic in South Arabian script (*RIÉ* nos 185 I and 185bis I), in Ethiopic in Ethiopic non-vocalized script (*RIÉ* nos 185 II and 185bis II), and in Greek language and script (*RIÉ* nos 270 and 270bis). All in all, the two entries *RIÉ* nos 185 and 270 include six distinct inscriptions. Moreover, after the publication of *RIÉ* in 1991, additional inscriptions were discovered

¹ Islamic inscriptions, which are well represented, are excluded from this short survey because they belong to a tradition of their own.

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and published; notable among them are some new Sabaeen (or Sabaic) inscriptions from Təgrāy (Kropp, 2011), some metal royal inscriptions from the early Aksumite period, and the funerary Greek inscription from Gumālā (Fiaccadori, 2003).

The ancient and medieval inscriptions can be classified as follows:

- 1) 179 items (*RIÉ* nos 1–179) for the pre-Aksumite inscriptions. Most of these inscriptions are in the South Arabian (Sabaeen) language from the first millennium BCE, in the pre-Aksumite period. These inscriptions attest to the presence of Semites (Semitic-speaking people) in the region from the first millennium BCE; moreover, among the Sabaeen inscriptions, a sub-group can be distinguished with linguistic features of its own. In some cases, the same artefact bears both standard Sabaeen and non-standard Sabaeen texts.²
- 2) 90 inscriptions (*RIÉ* nos 180–269) from the Aksumite period. They comprise:
 - 2.1) A few early Ethiopic inscriptions (*RIÉ* nos 180–184).
 - 2.2) Also placed in this period are two recently discovered, now published, metal inscriptions (Gebreselassie, 2017; Nebes, 2017). Apparently of great importance, they bear royal names and, along with a previous example that is considered the earliest document of Ethiopic language (*RIÉ* no. 180), they were also inscribed on metal (probably bronze);
 - 2.3) This group includes the great royal inscriptions from Aksum (with only *RIÉ* no. 195 from Marib in Yemen). Of paramount importance for the history of the region (*RIÉ* nos 185–195), they document, in particular, the conversion from a peculiar paganism (at variance with the South Arabian pantheon of pre-Aksumite times) to Christianity of King ‘Ezānā around the first half of the fourth century. They also document the enterprise and military expedition of King Kāleb, especially important for having led to the conquest of South Arabia (Himyar) and to its control by the Aksumites for some years, in the second quarter of the sixth century CE. They also document, with the presence of biblical quotations, the likely accomplishment of the translation of the Bible into Gə‘əz by the early sixth century at the latest. Finally, they document the decay of Aksum with the last larger Aksumite inscriptions, poorly written and at present hardly readable, where linguistic phenomena typical of the later period start to appear. Most of the royal inscriptions were intended to be parts of votive thrones. However, only the evidence of the bases is, to some extent, preserved. The inscriptions, which were probably used as backs and/or side panels of the thrones, were removed over the course of time. They are found at present in various places at Aksum. Some have been discovered as

² These inscriptions can be found also in the DASI, *Digital Archive for the Study of pre-islamic Arabian inscriptions* database, where 49 inscriptions come from Ethiopia and 26 from Eritrea [<http://dasi.cnr.it/index.php?id=86&prjId=1&corId=0&collId=0&navId=0>]. The map demonstrates the geographical continuity.

they were reused as construction materials in private houses. These inscribed thrones certainly had the function of shaping the landscape and were part of a general plan where the iconic and emblematic meaning of the inscriptions played a particular role. One more point of interest is provided by the likely survival of the introductory protocol, as given by some of these inscriptions, in early medieval documents eventually preserved in Ethiopian archives and of which we have only scanty evidence in additional notes written on blanks of manuscripts, loose leaves and unbound quires. This evidence establishes a suggestive connection between archival practices and inscriptions.

2.4) Quite remarkable for its much disputed chronology (dated in a range between the ninth and the fourteenth century CE), the inscription from Ham, in Eritrea (*RIÉ* no. 232) provides an interesting case-study. Once built in the façade of an old half-ruined church dedicated to St Mary, along with other reused materials (including a second Greek inscription containing the monograms Α Ω), it has been moved and relocated inside the newly built church at Ham (in 1992). The inscription commemorates the death of a young woman and the selection of biblical passages of the text betrays and presupposes the use of a developed liturgy;

2.5) Others, all in Ethiopic (*RIÉ* nos 196–269).

- 3) 17 inscriptions in Greek, from the Hellenistic (one only, *RIÉ* no. 276, *Monumentum Adulitanum*, I) and Aksumite period (*RIÉ* nos 269–286). Among the inscriptions in Greek, the *Monumentum Adulitanum* is particularly remarkable. It consists of two inscriptions, the first is mutilated and the latter is acephalous; the first was issued by Ptolemaeus III (246–222 BCE), who is explicitly mentioned, whereas the latter part is due to an unknown Ethiopian king and was placed upon a throne. Neither of these inscriptions are preserved; they were copied and transmitted by Cosmas Indicopleustes in the *Topographia Christiana*, who also provides information on their material and arrangement. The *Monumentum Adulitanum* is also remarkable for having been used early by Johann Gustav Droysen as exemplary for his definition of “Hellenismus”, in linguistic terms (Canfora, 1995, pp. 15–18). A few years ago, an additional Greek funerary inscription from Gumālā was discovered and published (Fiaccadori, 2003).
- 4) One inscription in a known script (South Arabian of the type used in other Aksumite inscriptions), but in an unknown language (*RIÉ* no. 287), presumably still from the Aksumite period, is known, but not properly deciphered.
- 5) 98 inscriptions on objects (*RIÉ* nos 287–384): 5 seals (*RIÉ* nos 287–291), 18 small, inscribed bronze objects (*RIÉ* nos 292–309), 85 inscriptions on pottery, particularly from the city of Maṣarā in Eritrea (*RIÉ* nos 310–384).
- 6) 59 rock monograms (*RIÉ* nos 385–443), particularly from the region of Qoḥayto in Eritrea.

Excluded from the *RIĖ* repertory are several inscriptions, dated to a later period, on an artefact that is quite peculiar to Ethiopian Christianity, although its models or premises might go back to Coptic Egypt—the *manbara tābot* (plur. *manābərta tābot*), namely “altar chest” (Fritsch, 2010). The oldest altar chests are datable to the twelfth/thirteenth century, in the so-called “Zag^we period”. The *manbara tābot* is like a “chair” (*manbar*) that supports the altar. It can be made from one wooden block, or in rock or metal. The most remarkable examples that bear inscriptions, however, are all in wood. Particularly interesting is the connection between *manbara tābot* inscriptions and parallel texts transmitted in parchment manuscripts.

6.2 Beta Maṣāḥəft

The project Beta maṣāḥəft: Manuscripts of Ethiopia and Eritrea (Schriftkultur des christlichen Äthiopiens und Eritreas: eine multimediale Forschungsumgebung)³ is a long-term project funded within the framework of the Academies’ Program (coordinated by the Union of the German Academies of Sciences and Humanities) under survey of the Akademie der Wissenschaften in Hamburg. The Hiob Ludolf Centre for Ethiopian Studies at the Universität Hamburg hosts the project and aims at creating a virtual research environment that manages complex data related to the predominantly Christian manuscript traditions of the Ethiopian and Eritrean Highlands.⁴ The structure of the project is very simple with a TEI encoded XML file for each textual unit, one for each person, place repository and manuscript. Among the records of this last type, there are also inscriptions as they constitute part of the Ethiopian written documentation. The complexity of the corpus of inscriptions related to the scope of this project is evident and no final decision as to the criteria for inclusion and exclusion has been made. The data structure of the project hosts the transcriptions of manuscripts with their descriptions, and the edition of the texts in a separate text edition. This model would fail for inscriptions whose text is much better published directly with the metadata. There are also other projects, like the DASI project, which have already made valuable editions in TEI XML of texts in this corpus, which need to be taken into account in the encoding to guarantee continued interoperability among the existing resources. We will describe in the following section how we plan to encode inscriptions in this context, giving some examples.

³ [<https://www.betamasaheft.uni-hamburg.de/>].

⁴ A preliminary technical description can be found in Liuzzo, 2017.

6.3 Inscriptions in Beta Maṣāḥəft

Especially relevant for the project are the inscriptions in ancient Ethiopic language (Gəʿəz), regardless of the script used to write this language. The Greek inscriptions are also included for their historical relevance. The Beta Maṣāḥəft schema already enforces all of the EpiDoc specifications (Elliott et al., 2007) and the editions of texts validating to the project schema are also validated to the latest EpiDoc schema. We will describe here a few of the challenges encountered in the process of including these documents in the framework of the project: 1) the connection to digitally encoded texts that have already faced the problems of encoding a Semitic script (thus the need of working on and encoding the transcription), 2) the encoding of parallel *fidal* and transcribed text and 3) the structuring of the data for the pseudo-trilingual inscription *RIĖ* nos 185, 185bis, 270 and 270bis in the framework of the current project.

6.3.1 The Challenges of Encoding Inscriptions in Semitic Scripts

Inscriptions in Sabaean from Eritrea and Ethiopia are already published online within the DASI project (Avanzini et al., 2014). The Beta Maṣāḥəft project does not currently include those texts directly, but will include links to the DASI editions online by means of a simple *<ref>* element in a host XML file with the references. This has been produced from the XML corpus export by the project from which only the local ID, the main reference, the *<respStmt>* and titles were taken to make a mini record with a link to the actual resource in the DASI project website. In fact, although both projects work in TEI XML, the terms of use of the data and the structure of the records does not allow for a direct import of the data.⁵

The latter project has developed a highly sophisticated encoding method for the onomastic features, which is perfectly consistent with the mark-up practices of Beta Maṣāḥəft and validates to its schema, although the scope of the project does not currently allow for as deep an annotation as the one carried out in DASI. The inscriptions in Gəʿəz encoded in Beta Maṣāḥəft follow this encoding structure, especially for the techniques identified for overlapping semantic mark-up, allowing for a cross analysis of the inscriptions in the two projects.

The mark-up needs to be carried out on the transcription for these texts, especially with regard to the morphological aspects; this is also the approach taken by the TraCES project⁶ (Bausi, 2015) which includes morphologically annotated texts

⁵ Further cooperation is envisaged to integrate the collections and the mark-up of the inscriptions in the two projects.

⁶ [<https://www.traces.uni-hamburg.de/>] founded by the European Commission ERC-AG-SH5 - ERC Advanced Grant - Cultures and cultural production, grant number 338756.

of inscriptions elaborated by Maria Bulakh. Once these last annotations are imported into Beta Maṣāḥəft it will be possible to interrogate the onomastic features annotated in DASI, together with the morphological features.

Although it is, in principle, no problem to annotate the transliteration instead of the text in the original script, the current search functionalities of the Beta Maṣāḥəft online application⁷ prefer the *fidal* script and cannot perform a bidirectional conversion between *fidal* and transliteration for search purposes.⁸ To guarantee the presence of both an annotated text in *fidal* and transliteration (both are needed for the aims of our project and for interoperability purposes described above), texts of inscriptions are reproduced in both scripts.⁹ The following is an example with the first three lines of the inscription *RIĖ* 187

```
<ab xml:lang="gez-trsl">
  <lb n="1"/> <persName ref="PRS3938Ezana"><supplied reason="lost">'ezānā walda
    <persName ref="PRS3729ellaAm">'əle 'amidā</persName> bə 'əsayā ḥalen nəguša
    <placeName ref="LOC1310Aksum">'ak<lb
      n="2" break="no"/>sum</placeName> waza <placeName ref="LOC3868Himyar">ḥəmer</placeName>
      waza <placeName ref="LOC5333Raydan">raydān</placeName> waza <placeName
ref="LOC5395Saba">saba </placeName>
      waza <placeName ref="LOC5491Salhen">salhen</placeName> wa<lb
      n="3" break="no"/>za <placeName ref="ETH2065seyamo">šəyāmo</placeName></supplied> waza
    <placeName ref="ETH2263bega">bəgā</placeName> waza <placeName ref="ETH1768Kasu-
K">kāsu</placeName> <roleName type="title">nəguša
    <supplied xml:id="sup1" next="sup2" reason="lost">nagašt</roleName></persName>
    <supplied xml:id="sup2" prev="sup1" reason="lost">wa</supplied>
  </ab>

  <ab xml:lang="gez">
    <lb n="1"/> <persName ref="PRS3938Ezana"><supplied reason="lost">ዓዛና ወልደ፡
    <persName ref="PRS3729ellaAm">እሌ፡ ዐሚዳ፡</persName> ብእስዮ፡ ሐሊን፡ ንጉሠ፡ <placeName
ref="LOC1310Aksum">እክ<lb
      n="2" break="no"/>ሱም፡</placeName> ወዘ፡ <placeName ref="LOC3868Himyar">ሕመር፡</placeName> ወዘ፡
    <placeName ref="LOC5333Raydan">ረይዳን፡</placeName> ወዘ፡ <placeName ref="LOC5395Saba">ሰበእ፡
  </placeName> ወዘ፡
    <placeName ref="LOC5491Salhen">ሰልኬን፡</placeName> ወ<lb
      n="3" break="no"/>ዘ፡ <placeName ref="ETH2065seyamo">ጃያሞ፡</placeName></supplied> ወዘ፡
    <placeName ref="ETH2263bega">ብጋ፡</placeName> ወዘ፡
    <placeName ref="ETH1768Kasu-K">ከሱ፡</placeName> <roleName type="title">ንጉሠ፡ <supplied
xml:id="sup1g" next="sup2g" reason="lost">ነገሥት፡</supplied></roleName></persName>
  </ab>
```

The parallel mark-up shows the identified named entities and provides data that can be queried to list forms of the title of the king, for example.

⁷ Not yet available online. Data is available, with full documentation, here: [https://github.com/BetaMasaheft].

⁸ This task is currently being elaborated under the TraCES project.

⁹ The transliteration is produced with code available also via this self-standing application: [https://betamasaheft.github.io/transliteration/].

6.3.2 Multilingual Inscriptions

We will look now at the example of *RIÉ* 185, 185bis, 270 and 270bis. The texts of *RIÉ* 185 and *RIÉ* 270 and *RIÉ* 185bis and 270bis respectively, have been grouped in a single record for each stone to follow the praxis of one record for each manuscript. The concordance to the original references is preserved in the data. The internal text structure has been maintained inside the record, as also in *RIÉ*, instead of duplicating the record for the scripts employed. There are then two records in TEI XML for these two stones, which contain three parts each, and represent the actual distribution of the text on the different faces of the stone support.

The first problem posed by these texts is the relation between the three copies of the text in different scripts and languages and the relation between the main copy and the second copy. The first problem, as well as the changing text direction, is encoded in the diplomatic edition using *@xml:lang*. The second aspect is encoded in the XML data of Beta Maṣāḥəft using the relation element and properties from the SAWS ontology¹⁰ in its *@name* attribute.

```
<relation name="saws:isDirectCopyOf" active="RIE185bisand270bis" passive="RIE185and270"/>
```

The text has been edited in Ethiopic and Greek, and our record reflects this, leaving the transcription of the texts in their diplomatic form in the record about the stones, and the edition in a text. The relation among the stones and the text is made by means of the *<listWit>* element in the work records, and using *@corresp* attributes in the inscriptions records, corresponding to each relevant text part, as is generally the practice for the manuscripts and their contents' annotation in the project. The Gə'əz text will thus contain a list of witnesses.

```
<listWit>
  <witness xml:id="A" corresp="RIE185and270#RIE185I"/>
  <witness xml:id="B" corresp="RIE185and270#RIE185II"/>
  <witness xml:id="C" corresp="RIE185bisand270bis#RIE185bisI"/>
  <witness xml:id="D" corresp="RIE185bisand270bis#RIE185bisI1 RIE185bisand270bis#RIE185bisI2
RIE185bisand270bis#RIE185bisI3"/>
</listWit>
```

Here, it may be observed that we have to provide several IDs in the *@corresp* attribute of the witness D, because in the description of this document, the actual text of this version is split over three faces of the stone. The structure of the text on the stone is reflected in the description of the inscription in XML as follows (text has been omitted).

¹⁰ [<http://www.ancientwisdoms.ac.uk/>].

```

<div type="textpart" subtype="face" xml:id="A">
  <div type="textpart" n="1" xml:id="RIE270bis" xml:lang="grc" corresp="LIT4851greekRoyal">
    <ab></ab>
  </div>
  <div type="textpart" n="5" xml:id="RIE185bisII3" xml:lang="gez" corresp="LIT4850pseudotrilingual">
    <head>D part 3</head>
    <ab></ab>
  </div>
</div>

<div type="textpart" subtype="face" xml:id="B">
  <div type="textpart" n="2" xml:id="RIE185bisI" xml:lang="gez-sabaic" corresp="LIT4850pseudotrilingual">
    <head>C</head>
    <ab></ab>
  </div>

  <div type="textpart" n="3" xml:id="RIE185bisII1" xml:lang="gez" corresp="LIT4850pseudotrilingual">
    <head>D part 1</head>
    <ab></ab>
  </div>
</div>

<div type="textpart" subtype="face" xml:id="C">
  <div type="textpart" n="4" xml:id="RIE185bisII2" xml:lang="gez" corresp="LIT4850pseudotrilingual">
    <head>D part 2</head>
    <ab></ab>
  </div>
</div>

```

Note that the letters indicated traditionally for the four texts, are preserved both as abbreviation for the apparatus and as headers in the diplomatic edition. Also, the denomination of the different faces of the stone are preserved as *@xml:id* of the relevant text part.

The relation between the two texts, the Gəʾəz and the Greek text, is stated in both records by means of another relation element.

```

<relation name="saw:isVersionInAnotherLanguageOf" active="LIT4850pseudotrilingual"
  passive="LIT4851greekRoyal"/>

```

The editions of the texts do not need a line division, neither do they need to follow one of the scripts used, but the XML file can host any combination. The existing edition of the Gəʾəz text elaborated by A. Bausi uses the transliteration as the *RIĖ* texts and it is encoded in this way.

6.3.3 Inscriptions in Greek

Further issues are presented by the encoding of Greek texts like *RIĖ* 276, mentioned above, known only through manuscript tradition. In this case, we may have only a work record in Beta Maṣāḥəft with the text of an edition of the inscription. This allows the text to be linked to other resources and reflects its status without forcing the presence of an inscribed support. However the manuscript does provide this information and we encode them in a specific manuscript record as in the previous example. The encoding of these texts does not present special issues and follows the schema of the project validating also to EpiDoc.

6.4 Conclusions

Representing inscriptions along with manuscripts in The Beta Maṣāḥəft project using TEI, while posing challenges, provides a clear and documented XML representation of the information, enabling connection with other XML resources like those in the DASI project. Ahead of us lies the challenge of integrating the encoding used for inscriptions in the DASI project with the morphological annotation exported from the TraCES project inside the Beta Maṣāḥəft project data structure and schema.

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