

Annotation of Named Entities in Medieval and Early Modern Epigraphic Texts

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Abstract

Relying on the annotation scheme proposed by Álvarez-Mellado et al. [1], this paper attempts to refine the proposed model for the annotation of named entities and adapt it to the needs of (medieval and early modern) epigraphy, exemplified in this article by the case of the MEMIS corpus, which brings together medieval and early modern inscriptions from the area of present-day Slovenia. Digital humanities (DH) tools and protocols provide us with ways to access and process elements of historical evidence on epigraphic monuments as documents: In addition to actual events, they include, in particular, names of persons and places. Named Entity Recognition (NER) is therefore of paramount importance for the extraction of biographical, prosopographical, etc. data. Building on the previous work of DH researchers in the field of encoding standards for humanities texts, this paper focuses on the previously unexplored medieval and early modern inscriptions in the northern Istrian (now Slovenian) towns of the former Republic of Venice.

Keywords

Medieval epigraphy, Early modern epigraphy, Named-entity annotation, MEMIS

1. Introduction

As brief and seemingly silent as they may seem, epigraphic monuments are a rich source of historical data. So opulent and numerous they are, in fact, that they may even resemble an inexhaustible quarry of ... dead and crumbling stone. More often than not, they are written in half-legible long-faded script – and usually in Latin or some other presumably dead language. As a rule, they bear witness of people long dead and most certainly forgotten by the general audience of everyday passers-by.

And yet, epigraphic documents enjoy – perhaps now more than ever – *the* status of one of the most important historiographical sources: a huge portion of new information about the distant past is actually retrieved from inscriptions on stone or other durable materials. Even the most modest of inscriptions can convey a cartload of information on the political and/or cultural history of official structures as well as everyday life of people from all social strata. Individual efforts of researchers suggest that epigraphic materials represent a valuable historical resource; in the case of Greek and Roman inscriptions these prove to be an important contribution to the historical findings on the dynamics and dimensions of ethnic, economic, military etc. development in a given area, and also helped to define the dynamics of communication of a certain area with the neighboring (as well as more distant) regions. Studies of medieval and early modern inscriptions will produce important insights with the potential to either confirm or refute the currently valid historical findings and notions of cultural specifics of a particular area.

As a discipline, epigraphy has been around since at least the 15th century: one of the ground breakers in this discipline, Ciriaco d'Ancona (1391–1452), started compiling inscriptions soon after 1420 (his compilations are, unfortunately, all but lost). Systematic and scientific compiling of inscriptions and their scientific interpretation developed in the 16th century, but they took off

Biographical Data in a Digital World 2022 (BD 2022) Workshop, DH 2022, 25.-29. July, 2022

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https://doi.org/10.3986/9789610508120_06

particularly in the 17th and 18th century when top scientific papers started being published on the subject – and even became a popular object of epistolary distribution.

However, the bulk of this scientific production focused primarily on Greek and Roman epigraphic monuments so eminently researched and represented by the largest epigraphic project *Corpus inscriptionum Latinarum* (CIL), the still active undertaking of tracking epigraphic monuments, first published by the Berlin Academy of Sciences under the auspices of Theodor Mommsen in 1863 (the plans for the publication had already been drafted in 1815).

2. Digital Epigraphy Databases

In the past few decades – at least since the late 1980s –, Greek and Roman epigraphy made stellar breakthroughs in the world of digital humanities [2, 3, 4]. Several major digital epigraphic projects have come to represent just how energetically the epigraphic community embraced the digital tools: apart from CIL, which made its way online in 2007 [5], or the Clauss-Slaby Epigraphik Datenbank [6], an especially noteworthy project² is the Europeana network of Ancient Greek and Latin Epigraphy (EAGLE) [8], a collaborative database whose inscriptions search engine searches through several other existing collections: Arachne³, Archaia Kypriaki Grammateia Digital Corpus (AKGDC), Epigraphic Database Bari (EDB) [9], Epigraphic Database Heidelberg (EDH) [10], Epigraphic Database Rome (EDR) [11], Hispania Epigraphica Online (HE) [12], PETRAE [13], The Last Statues of Antiquity and Ubi erat lupa [14].

Medieval and early modern epigraphy is making similar progress though far less intensive and with a far lesser tradition (although the 17th century Dutch diplomat, historian, philologist and antiquarian Gisbert Cuper (1644–1716) dedicated his scientific work *Harpocrates, sive Explicatio imagunculae argenteae* (Utrecht, 1676) to epigraphical and numismatic problems – among them a medieval inscription of dubious origin from Iustinopolis – now Koper, Slovenia). In terms of the development of medieval epigraphy as a stand-alone scientific discipline, the thesauri of inscriptions from Italy, Spain [15] and Germany stand out. Collecting and studying inscriptions from the Italian countries have a particularly long tradition [16, 17]; addressing the important Christian centres, the scientific organisation of the *Monumenta epigraphica Christiana* strongly hints at CIL. Lately, these publications have only intensified in number; one such example (among many) is Paola Guerini's *Inscriptiones Medii Aevi Italiae* [18]. The medieval and early modern inscriptions, collected in Spain, are being systematically published in the so-called *Corpus inscriptionum Hispaniae medievalium* [19]; similarly, the medieval and early modern inscriptions, collected in the area of France, are published in the *Corpus des inscriptions de la France médiévale* [20]. However, these corpora remain, at least for the time being, on paper only. Only two noteworthy major corpora exist online i.e. the Deutsche Inschriften online [21] and the Epigraphica Europea [22].

Most of the above-mentioned projects (except the Epigraphica Europea, which is essentially a searchable image databank featuring some metadata) are based on the Leiden encoding system⁴. However, since the introduction of the EpiDoc initiative in the late 1990s [4, 24], several EpiDoc based epigraphic projects have been launched, perhaps most notably the Vindolanda Tablets Online⁵ and the Inscriptions of Aphrodisias (IAph2007) [25, 26] or lately for instance the Cretan Institutional Inscriptions [27]. More or less obvious advantages of the system such as controlled vocabularies⁶, metadata and a wide variety of possibilities for encoding semantically rich information – e.g. expanding abbreviations or supplying missing text with possible tagging of

² See [2], [3] & [7] for a more detailed list of online epigraphy databases.

³ <https://arachne.dainst.org/>.

⁴ First published in 1932, the Leiden system harmonized various styles of editing and publishing inscriptions and papyri; see <https://labs.brill.com/sedev/sego/leidenplus/> for basic information and sigla. Timothy Finney [23] proposed a set of guidelines for converting Leiden-based editions into XML.

⁵ <http://vindolanda.csad.ox.ac.uk/index.shtml>

⁶ See EAGLE/EpiDoc vocabularies (<https://www.eagle-network.eu/resources/vocabularies/>) describing the types of a) material, b) execution technique, c) type of inscription, d) object type, e) decoration, f) dating criteria and g) state of preservation, featuring up to 13 languages.

details as to why the text is missing – make EpiDoc “clearly the way forward ... [when] compiling or contemplating compiling a database of Greek or Latin inscriptions ...” [3], despite some voices of skepticism [28]. It may well be the case that for trained scholars – epigraphers, paleologists, papyrologists etc. – Leiden is still “easier” to produce and read, however, it is also beyond doubt that EpiDoc allows for better abstraction of the Leiden conventions into digital form [4].

3. The Slovenian corpus of medieval and early modern inscriptions (MEMIS) and EpiDoc

In Slovenia, medieval and early modern inscriptions received little attention by the professional epigraphic discipline so far. Consequently, medieval and early modern epigraphic material has been severely neglected in comparison with the Greek and Roman epigraphic material, which means that until recently there were no catalogues or systematically compiled corpora of inscriptions (or parts of them) in Slovenia.

The Epigraphic Corpus of Mediaeval and Early Modern Inscriptions in Slovenia (MEMIS) [29] is a growing online corpus that collects Latin inscriptions located or discovered in the territory of Slovenian coastal towns (with emphasis on Koper and Piran). Its aim is to provide a methodological basis for the processing of mediaeval and early modern inscriptions in Latin (and in the vernacular languages), focusing on the study of epigraphic material (in the broadest sense of the word) belonging to the insufficiently researched area of medieval and early modern epigraphy.

One of its main challenges is to create an appropriate standard for the compilation, cataloguing and encoding of medieval and early modern inscriptions. As with in any other epigraphic project, there are a number of difficulties (or rather: peculiarities) to overcome. Apart from the fact that most of these inscriptions are written in Latin, which requires a clear distinction of morphological structures (especially noun cases) there is also the fact that these epigraphic documents, already faded and damaged, as they are, feature specific orthographic conventions and norms as well as possible errors. The corpus brings together inscriptions that are either still located in their primary context or have been moved or even destroyed and are therefore only accessible in transcriptions; the material was collected through fieldwork i.e., the recording and documentation of inscriptions *in situ*.

At this stage, the corpus features individual entries containing (in the order listed below):

- inscription ID
- physical description based on the EAGLE/EpiDoc vocabularies:
 - object description
 - material description
- history of the inscription
 - findspot/original location
 - current location
- links to photographs
- related bibliography if available
- the transcription of the text
- the (Slovenian) translation

Ligatures and abbreviations in the inscriptions have been properly expanded, missing text was supplied and the named entities were annotated. For example, a Leiden-based transcription of a hitherto little-known inscription of the Vergerii brothers from Iustinopolis (now Koper, Slovenia) – all high-profile clergy –, is supplied below. Located (until recently) in the Koper Assumption Cathedral, the inscription (Figure 1) was hidden from sight in the walled staircase leading to the choir. It commemorates Aurelio Vergerio (?–1532) the oldest of the three Vergerii brothers, the youngest of whom was Pier Paolo *il Giovane* (‘the Younger’; 1498– 1565), Justinopolitan bishop and famous apostate. Because of his apostasy, Pier Paolo suffered the fate of *damnatio memoriae* shared by his older brother Giovanni Battista (1492–). The most striking

feature of the otherwise exceptionally beautiful inscription with a very complex history [30] is the *damnatio memoriae*⁷:

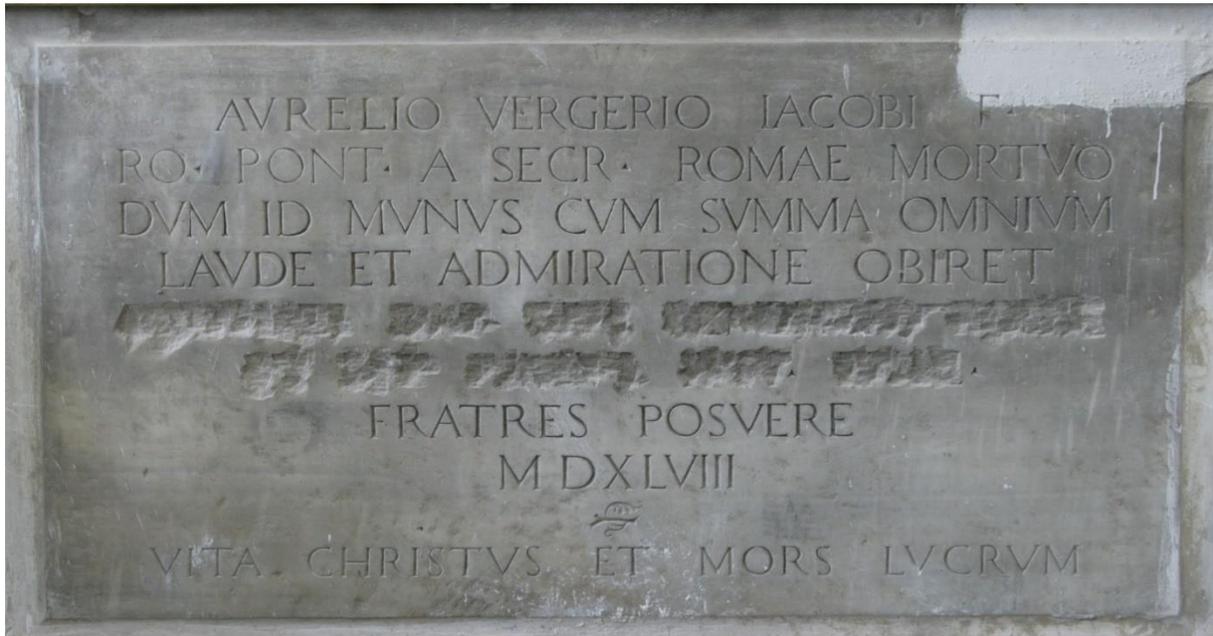


Figure 1: The Vergerio inscription (Photo: T. Benedik, Restoration Centre)

Aurelio Vergerio Iacobi f(ilio)
 Ro(mani) pont(ificis) a secr(etis) Romae mortuo
 dum id munus cum summa omnium
 laude et admiratione obiret
 [[Ioannes Bap(tista) pius beneficio Polae]]
 [[et Pet(rus) Paulus Iust(inopolitanus) episc(opus)]]
 fratres posuere
 MDXLVIII
 Vita Christus et mors lucrum

‘To Aurelio Vergerio, the son of Giacopo. He died in Rome while performing his duties as the secretary to the Pope, much to the general admiration. [This inscription was erected by] his brothers Gianpaolo Vergerio, blessed by his noble deeds for Pola, and Pierpaolo Vergerio bishop of Justinopolis, 1548. To live is Christ, to die is gain.’

In comparison, this is how the text is rendered in EpiDoc:

```
<lb n="1"/><persName>Aurelio Vergerio</persName>
<persName>Iacobi</persName> <expan>f<supplied
reason="abbreviation">ilio</supplied></expan>
<lb n="2"/><expan>Ro<supplied
reason="abbreviation">mani</supplied></expan>
<expan>pont<supplied
reason="abbreviation">ificis</supplied></expan> a
<expan>secr<supplied reason="abbreviation">etis</supplied></expan>
<placeName>Romae</placeName> mortuo
<lb n="3"/>dum id munus cum summa
<lb n="4"/>laude et admiratione omnium obiret
```

⁷ For details about the inscription and the circumstances of its defacing, see [31].

```

<lb n="5"/><damage><supplied
reason="damnatioMemoriae"><persName>Ioannes <expan>Bap<supplied
reason="abbreviation">tista</supplied></expan></persName>
<unclear>pius</unclear> beneficio
<placeName>Polae</placeName></supplied></damage>
<lb n="6"/><damage><supplied reason="damnatioMemoriae">et
<persName><expan>Pet<supplied
reason="abbreviation">rus</supplied></expan> Paulus</persName>
<expan>Iust<supplied
reason="abbreviation">inopolitanus</supplied></expan>
<expan>episc<supplied
reason="abbreviation">opus</supplied></expan></supplied></damage>
<lb n="7"/>fratres posuere
<lb n="8"/><date>MDXLVII</date>
<lb n="9"/>Vita Christus et mors lucrum

```

4. Named Entity Annotation

One of the major and, indeed, fundamental [32] tasks is the annotation of medieval inscriptions relates to named entities (NE) – in our case particularly the person names – which seems straightforward enough, but isn't without its specific problems [33]. In Greek and Roman inscriptions person names can be anything from first names (*praenomen*, e.g. *Gaius*), family names (*nomen*, *nomen gentilicium*, e.g. *Iulius*), a nickname (*cognomen*, e.g. *Caesar*) or a combination thereof: *Gaius Iulius Caesar*. In the case of medieval and early modern inscriptions from the Venetian towns in present-day Slovenia, it is generally a combination of the first name and surname: *Antonius Zarottus*.

As a rule, Venetian-controlled cities of northern Istria had to be organised according to the Venetian legislature, featuring therefore a so-called *maggior consiglio* (Figure 2) consisting of all the major aristocratic families who participated in the administration business, contributing over time a vast number of family members' names to the long roster of the city councils, consuls, *syndaci* etc. Often, these names become repetitive to a point where confusion may occur, leading to potential faulty structuring, mismatching and misinterpretation in their ensuing prosopographical/biographical processing.

Millesimo quadragesimo trigesimo primo, Indictione ix. die primo Mensis Martii infrascripti sunt Nobiles de Majori Consilio Justinopolis hic inferiusseriatim registrati Mandato Sp., & Gen. Viri Hominisboni Gritis in ejus secundo Regimine Potestatis, & Capitanei Justinopolis.

Serenissimus, & Excell. D. Thomas Mocenigo D. G. inclitus Dux Venetiarum	-	Exc. Philippus de Pola
Sp., & Gen. Vir D. Antonius Contareno Proc. Ecclesiae S. Marci	-	Exc. Marcus Farello
Sp., & Gen. Vir D. Jacobus de Ripa Miles	-	* Exc. Variendus de Tarfia
Sp. D. Vitalis Miani cum Fratribus suis	-	* Exc. Ambrosius Lugnano
Sp. D. Castellanus Minio	-	Exc. Grimaldus Telta
Sp. D. Julianus Lauredano Castellanus Castri Leonis	-	Exc. Nicolaus de Elio
Excell. Franciscus Beuazano Cancell. Venetiarum	-	Exc. Nicolaus Bonacurtio
Exc. de Colmanus de Vergetiis	-	Exc. Jeremias Malgranello
Exc. Christophorus de Senis	-	Exc. Damianus Canis
Exc. Natalis de Baldeno	-	- Exc. Philippus de Gauardo
Exc. Augustinus de Serenis	-	* Exc. Franciscus de Almerigoto
Exc. Bertus de Vanto	-	Exc. Michael de Nedelo
* Exc. Johannes Belgramonus	-	Exc. Cristophorus Spataris
Exc. Gaspar de Bratis	-	Exc. Joannes de Trefoldo
Exc. Nicolaus Grixonius	-	- Exc. Hieronymus Albanensis
Exc. Dominicus de Muxela	-	Exc. Vincentius de Fino
Exc. Sanctorius de Bonzanigo	-	Exc. Zan nus de Chofa
* Exc. Basilius de Basilio	-	- Exc. Nicolaus de Spelatis
* Exc. Joannes de Sabinis	-	Exc. Jacobus de Languschiis
Exc. Victorius de Victore	-	* Exc. Hieronymus Joannis
Exc. Joannes de Ingaldeo	-	* Exc. Almericus de Verziis
Exc. Dominicus de Petronio	-	Exc. Bernardus de Pellegrino
Exc. Nazarius de Oliua	-	* Exc. Petrus de Azzo
Exc. Georgius de Luciato	-	- Exc. Jacobus del Seno
Exc. Joannes de Guizardo	-	- Exc. Victor de Rino
Exc. Dominicus de Oclatio	-	- Exc. Jacobus de Barbo
Exc. Lucas Scribano	-	Exc. Joannes de Rauenna
	-	Exc. Nicolaus de Plateo
	-	Exc. Joannes de Roma
	-	- Exc. Petrus de Salo
	-	Exc. Nazarius de Salo
	-	Exc. Petrus Paulus de Zarotti
	-	Exc. Cristophorus della Corte
	-	Exc. Nicolaus Agresta

Exc.

Figure 2: The list of families constituting the *maggior consiglio* of Iustinopolis.

For instance, several inscriptions on the main square (the once *Piazza del Duomo*) of the Venetian city of *Iustinopolis* (present-day *Koper*) bear the name *Pietro Loredan*. Others will name several *Maffei* – not all of them the same person. The above-mentioned case of a *Pier Paolo Vergerio* (Lat. *Petrus Paulus Vergerius*) may refer to two persons from Iustinopolis i.e., *Pier Paolo Vergerio il Vecchio* ('the Elder'; 1370–1444/45), the famous 15th century humanist, or *Pier Paolo Vergerio il Giovane*, the famous 16th century humanist and apostate. In MEMIS we are generally dealing with all the categories of named entities from the expanded list [1]: person names, location names, organization names, role names and, to a lesser extent, miscellanea. The introduction of **role names** is a particularly welcome addition, since the societal and inter-

personal roles make a highly represented category on inscriptions, making them an important source of information on the relationships between different persons mentioned on either a single inscription or several seemingly non-related monuments. Furthermore, when the MEMIS database grows to a more considerable extent, annotated role names will make it possible to analyze the occurrence and relevance of occupations, positions, military expertise etc.

As we've already mentioned, the EpiDoc guidelines (the latest version 9.5 was released on 26 April 2002) provide a solid and comprehensive system of controlled vocabularies, metadata, and a variety of ways of encoding semantically rich information, which is particularly important for one of the most common epigraphic features, i.e. the expansion of the ubiquitous abbreviations and/or the provision of missing text with the provided TEI tags, which is common practice in EpiDoc. So far, this approach seems to be error-proof and only requires possible further refinement - if and where necessary.

Apart from providing a consistent format, there is another crucial aspect to working with the EpiDoc/TEI schemas. As we've already mentioned, several epigraphic databases already work with them; this ensures not only their interoperability – as manifested by the EAGLE project – but also the fulfilment of all the FAIR components (findable, accessible, interoperable and reusable), since they are accessible via bulk EpiDoc XML/TEI downloads [34].

4.1. A more finely granulated version of NE annotation

In this particular instance we are especially concerned with person names, for which Álvarez-Mellado et al. propose the user-friendly annotation scheme, suggesting the use of the simple XML-TEI tag `<persName>`. An additional nested tag `<addName>` is suggested for epithets, regnal numbers and nicknames (*cognomina*) as part of the official name [1], which is a welcome addition. An additional attribute to `<persName>` is suggested in the case of lone nicknames, deities and divine figures. According to this scheme it will suffice to annotate the entire name as:

```
<persName>Aurelio Vergerio</persName>
```

This is a great starting point; however, in the case of MEMIS – or other corpora of Latin inscriptions –, this scheme doesn't quite cover all the aspects, particularly with the problem of inflection where the proper noun (a name) occurs in any of the oblique cases e.g., dative: Aurelius Vergerius > Aurelio Vergerio. For Latin and especially for medieval and early modern inscriptions, a more granular annotation is therefore desirable, with the nominative case as the attribute as well as reference for later computer manipulations of the text:

```
<persName key="Aurelius Vergerius" ref="AuVerg"><name  
type="forename">Aurelio</name> <name  
type="surname"/>Vergerio</persName>
```

It is beneficial to think of combined named entities, particularly `personName` and `roleName`, the latter nested inside the main `<persName>` tag. For this purpose, let us take a look at a heavily damaged and linguistically interesting inscription for one Antonio Zarotto [35, 36] from Justinopolis who died during the Ottoman–Venetian War (1537–1540), perhaps during the battle in the Ambracian gulf or later during the siege of Castelnuovo (1539). PersonNames are rendered in bold characters, roleNames in italics and – very important to the mapping of interpersonal relations – relation types are rendered in underlined characters:

Antonio Zarotto
equiti splendidior(i)
qui b[el]lo contra
Turcas suscepto
triremi Venet(ae) pro

Iustinopolitanis
 praefectus Cret<a>e
 sum<m>o cu(m) totius
 classis m<a>erore
 de qua optime
 meritus erat
 e vita decessit
 an<n>o D(omini)
 MDXXXIX aetatis LV
Franc(iscus) frater
 et ex hoc nepotes
Nicolaus eques
Leander doctor
Zar(otus)
 et **Io(annes) Paulus**
 m<a>estiss(imi) posuerunt

‘To Antonio Zarotto, the most splendid knight who, in the name of Justinopolitans, went to war with the Turks as a captain of a Venetian trireme and died aged 60 in 1539, much to the dismay of the whole fleet, off the shore of Crete for which he so valiantly fought. [This monument was] erected by his sorrowful brother Francesco and, by him, his nephews knight Nicolo, barrister Leandro Zarotto and Gianpaolo.’

In EpiDoc, the transcription is far more granulated, with familial relations sketched under the tag <listRelation>:

```
<lb n="1"/><persName key="Antonius Zarottus" ref="AntZar"><name
type="forename">Antonio</name> <name
type="surname"/>Zarotto</persName><lb n="2"/><roleName
type="honorific"><expan>equit<supplied
reason="abbreviation"/>i</expan></roleName>
<expan>splendidior<supplied reason="abbreviation"/>i <...>
<persName key="Franciscus Zarottus"
ref="FrZar"><expan>Franc<supplied
reason="abbreviation">iscus</supplied></expan></persName>
<expan>fr<supplied reason="abbreviation">ater</supplied></expan>
<lb n="16"/>et ex hoc nepotes
<lb n="17"/><persName key="Nicolaus Zarottus" ref="NicZar"><name
type="forename"><expan>Nicol<supplied
reason="abbreviation">aus</supplied></expan></name></persName><ro
leName type="honorific">eques</roleName>
<lb n="18"/><persName key="Leander Zarottus" ref="LeZar"><name
type="forename">Leander</name> <roleName
type="occupation">doctor</roleName>
<lb n="19"/><name type="surname"><expan>Zar<supplied
reason="abbreviation">otus</supplied></expan></name></persName>
<lb n="20"/>et <persName key="Ioannes Paulus Zarottus"
ref="GPZar"><name type="forename"><expan>Io<supplied
reason="abbreviation">annes</supplied></expan>
Paulus</name></persName>
<lb n="21 m<supplied reason="missing">a</supplied>estiss<supplied
reason="abbreviation">imi</supplied>
```

```

</expan> <expan>p<supplied
reason="abbreviation">osuerunt</supplied></expan>
</ab>
<listRelation type="personal">
<relation name="sibling" mutual="#AntZar #FrZar"/>
<relation name="parent" active="#FrZar" passive="#NicZar #LeZar
#GPZar"/>
</listRelation>

```

None of the tags of this very “verbose” description [4] are actually displayed. In fact, converted by the IJS interface⁸ that runs some recent version of the TEI Stylesheets with various local profiles, it looks (quite unattractively) something like this:

Antonio Zarotto
 equiti splendidi
 qui bello contra
 Turcas suscepto
 triremi Venetae pro
 Iustinopolitanis
 praefectus Cretae
 summo cum totius
 classis maerore
 de qua optime
 meritus erat
 e vita decessit
 anno Domini
 MDXXXIX aetatis LV
Franciscus frater
 et ex hoc nepotes
Nicolaus eques
 Leander doctor
Zarottus
 et Ioannes Paulus
 maestissimi posuerunt

The elements of Antonio Zarotto’s name as well as names of other family members mentioned on the inscription are annotated so that they may be searched for other occurrences in the corpus. The main person of interest on this inscription is clearly Antonio Zarotto, but the inscription links him with other persons (Francesco, Nicolo, Leandro, Gianpaolo) mentioned, apart from this particular case, by at least two other monuments. On the other hand, Antonio Zarotto must be disambiguated from at least one other known contemporary and Antonio’s namesake from Parma.

For this purpose, ‘key’ attribute – the name in the nominative case – is added to the <persName> tag as well as a reference attribute (name acronym in this case) element, in order to standardize the lists for searching, lest the machine searches for “Antonio” or even “Nicol”, “Zar” and “Io” only.

5. Conclusion

⁸ <http://nl.ijs.si/tei/convert/>

The above-listed solutions reached with the TEI/EpiDoc solutions being only a fragment of the vary vast array of possibilities at hand, “things are coming together” [3] for digital epigraphy – and particularly the Slovenian project MEMIS.

But it is precisely because of the nature of the material that some very interesting and indeed fundamental research questions have already been raised, among them perhaps the most obvious: is it possible to map the networks of people mentioned in medieval and early modern inscriptions, which are far more numerous than Greek and Roman monuments? Each church contains dozens, if not hundreds, of them.

The solutions to the problems of NE annotation proposed by the article cited in the introduction to this paper [1] are indeed useful, but as we've pointed out, they require further refinement and granularity because of the linguistic differences in the material.

There is another aspect of the more finely granulated annotation this paper proposes i.e., the elements of the `<listRelation>` tag, which will expectedly – with time – yield the possibility to visualise a network of family relationships, professional relationships, commercial patterns etc., or even build prosopographical profiles of otherwise less known but historically important individuals like Antonio Zarotto.

The `<persName>` tag will only enable searching for connections of the inscriptions that mention the same name (but not necessarily the same individual!), whereas other attributes like `<roleName>` and particularly the elements of the `<listRelation>` tag give hope of exciting new discoveries as well as exciting new possibilities of data visualisation.

Acknowledgements

This paper owes its existence to the work conducted within the framework of the project ‘INTAVIA: In/Tangible European Heritage Visual Analysis, Curation & Communication’, has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No. 101004825, as well as the project ‘The Pretorial Palace of Koper/Capodistria: Form, Meaning and Function’ (J6-2588), which has received funding from the Slovenian Research Agency (ARIS) and research program P-0440 funded by the Slovenian Research Agency (ARIS).

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