

# Digital Diplomatics: The Evolution of a European Tradition or a Generic Concept?<sup>1</sup>

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## Introduction

The use of writing in societies has created documents all around the world, which can be called “charters” or “instruments”, i.e. written pieces recording the explicit establishment of social relationships like ownership, political power etc. There is the system of imperial Chinese edicts and letters (Wilkinson 2015: 280–285), Malayan documents (Ché-Ross 2005 with further references), the documents from the Japanese 正倉院 *Shôsôin* (Yoshiyasu 1987), the whole range of official documents from the Islamic rulers in the Middle East (Björkman et al. 2012 with further references), the vast range of contracts from the Greek, Arabian or Jewish communities documented in North African papyri (Grohmann 1924, 1954; Grohmann/Mayr 1966; Khoury 1993; P.M. Sijpesteijn 2009; P.J. Sijpesteijn 2005; Grob 2010; Rupprecht 1994; Wolff 1978; Goitein 1973), Mamlük documents, to which Reinhardt (2013) and Bauden (2005) give an overview, the copies of royal grants in the Ethiopian religious books as recently studied by Anaïs Wion (2006, 2011), as well as European imperial, royal and papal privileges and writs and many more. Diplomatics is the branch of scholarship studying this kind of written documentation in all its facets (Duranti 1998). It is thus close to many other disciplines: Epistolography deals with written communication; codicology is studying material aspects of written heritage; archival sciences are concerned with the

1 I have to thank Karlheinz Mörth for his support with Arabic, one of the many languages I am not familiar with.

preservation of documentation; papyrology takes care of everything written on papyrus, which is mostly documentation covered by diplomatics but does not always have to be; legal history is interested in the legal forms of the social relationships expressed in charters, instruments, wills and similar; administrative history considers the documents as traces of political administration, and source criticism their use as primary sources of historical research. The term has a strong tradition in European scholarship where it was coined in the context of legal actions in the 17th century and revisited in the 19th century by historians (Kölzer 2010). It has influenced scholarship on the documentary tradition in other cultures. Even the article in the second edition of the *Encyclopedia of Islam* (2007/2012) by Walther Björkman continuously describes the Arabic documentary tradition in contrast to European concepts. Translating the term “diplomatics” into other languages might mix it up with any of the named research endeavors. I suggest using the term, when talking and writing in English, to address the richness of what humankind did and does with the technique of writing to document its social relationships for future reference and I do so in this paper. When I talk about “documents” in the following, I am usually referring to documents as they are studied by diplomatists. I will use “charters” as a synonym.

### **What is Digital Diplomatics?**

Traditionally the diplomatists study charters as physical objects carrying traces of their production, preservation and use (the so-called “external features”), as well as texts reporting actions of people (the so-called “internal features”). Diplomatists are interested in the rules applied to the physical and the linguistic form of the charters, as well as the description and understanding of individual pieces. Digital diplomatics does the same, but it uses modern information technologies. This can change the methods of diplomatics significantly (Vogeler 2014): Using controlled vocabularies and formal ontologies for metadata characterizes the verbal description as classification rather than representation. Visual evaluation is enhanced by easy access to images and by the help of image analysis software. Full text search supported by natural language processing software makes it possible to connect a single charter to others hidden in large charter corpora. Statistical methods and visualization of large data sets help to see the single

charter in its full contemporary context. Digital scholarly editions can aggregate work done separately in one common representation and make the editor's knowledge of the documents explicit.

At the current state of scholarly discussion and software development, there are two major areas of activities in the application of computer technologies to diplomatics: 1. representing diplomatic knowledge about charters digitally and 2. using digital methods to create new diplomatic knowledge. With the first approach comes a wide range of charter databases. Many more have been created since I gave a brief overview on the state of the art in Europe in 2010 (Vogeler 2010). This approach includes attempts to create schemata for the mark-up of diplomatic texts (Vogeler 2005; Poulimenou/Asonitis/Poulos 2009; Desenclos/Jolivet 2014; Lobo Puga et al. 2014) and to build a formal ontology of diplomatics based on the *Vocabulaire Internationale de la Diplomatique* (VID) (Cárcel Ortí 1997; Vogeler 2013). The second approach consists of a continuously growing number of single research studies, of which the papers given at the international *Digital Diplomats* conferences in 2007 (Vogeler 2009), 2011 (Ambrosio/Barret/Vogeler 2014) and 2013<sup>2</sup> give an impression, e.g. what counting words in charter corpora can achieve (De Paermentier 2011; Perraux 2014).

In the following, I will discuss four examples showing how the digital methods should be applied to diplomatics in order to keep them “global”:

1. Compare the scope of *monasterium.net*, the *Digital Persian Archive* and the *Taiwan Historical Digital Library* as charter databases.
2. Compare the suggestions for standards to described charters digitally by the *Charter Encoding Initiative* (CEI) and by Poulimenou/Asonitis/Poulos (2009).
3. Discuss XML as a tool for marking up the diplomatic discourse, in particular comparing the models in the *inshā'* literature with the CEI and the *Vocabulaire Internationale de la Diplomatique*.
4. Discuss the objectives of digital diplomatics methods trying to find the connections between the *Discrimen veri ac falsi* (“separation of the true and the false”, i.e. detection of forgeries), concepts like Wenshuxue (文書學) and phenomena like the mention of *qal haṣe gwālač* and *tägwazagwaza* in Ethiopian charters.

2 <http://www.cei.lmu.de/digdipl13/>.

## Databases

Databases of charters are not a European phenomenon. *Monasterium.net* (2004–2016) is probably the largest database in the world dedicated to charters. It carries a name which refers to Latin Christianity. However, in fact it has a wider range, as it includes not only Serbian documents, which are based on the Byzantine tradition (Vujošević 2006, *monasterium.net/Srbija*), but also Ottoman documents from the Franciscan Archives in Budapest (*monasterium.net/Magyar Ferences Levéltár*). There are several pure Latin charter databases online like *Chartes originales* (1971–2012), DEEDS or the *Codice Diplomatico della Lombardia Medievale*. Nevertheless, there are also databases dedicated to documents outside of Europe. *Digital Persian Archive* has digitized a substantial amount of already published and a growing amount of unpublished documents from Persia. Most recently, the list of Arabic papyri compiled by Pieter J. Sijpestejin (2005) has been transferred into a database (Thomann 2015). The *Taiwan Historical Digital Library* (THDL) contains a large number of texts from land deeds. Charters are also included in the *International Dunhuang Project*. The *Turfan Archives* contain many charters, and they are continuously published online. Archives are increasingly publishing their descriptions all around the world (e.g. the *National Palace Museum Database* in China to cite a major example outside of Europe). In the South Asian/Tibetan area, which is of special interest in this volume, there is the *Digitized Tibetan Archives Material* at Bonn University (1998–2005), a database of images and transcriptions from the collections initiated by Peter Schwieger and Dieter Schuh. Charles Ramble and the Tibetan Social History Society are publishing the *Documents of Mustang* online (Ramble 2012–2016), while the printed versions of the documents (Ramble 2008, forthcoming) are in preparation. Only recently a large database of Nepalese documents has been put online by the Heidelberg Academy of Sciences and Humanities in collaboration with the National Archives, Nepal, the *Documenta Nepalica* (2016), which offers a catalogue of published and unpublished historical documents from Nepal and scholarly editions of selected documents. The catalogue makes use of the work of the *Nepal-German Manuscript Preservation Project* in Hamburg, which recorded Nepalese manuscripts to enhance their preservation in the form of microfilms. The editions include images taken from the microfilms.

All these databases demonstrate that the digital representation of charters can have different research interests. However, they are shared

independently from the cultural context: the THDL offers access to full texts like the *Chartes Originales* and DEEDS, although the complexity of search functionalities (Chen et al. 2007) is considerably higher in the Taiwan database than in the French and the American ones. The *Persian Digital Archives* or the Bonn databases aim at publishing images like *monasterium.net* does. Archival databases give brief descriptions of the content of documents all over the world. The *Codice diplomatico della Lombardia Medievale* aims at scholarly editions like the *Documenta Nepalica* and the *Documents of Mustang*.

Publishing charters online in databases is facilitated by the fact that the genre fits very well in the intellectual schema of a database: each document is easily identifiable as a database record that can be described by structured metadata. The databases differ only in their digital representation of the charter itself: it can be a textual document or a physical object with no possibility of digital representation or with an image as digital representation. The special situation of a transmission of charters outside archival organization leads to the insertion of the documents into databases of artefacts in which they often are only described generically as a “document” and lack even minimal information on the content of the document. Digital diplomacy enforces the perception of charters as physical objects outside archival organization. Global diplomacy thus cannot reduce itself to a sub-branch of archival science.

## Description Standards

This similarity between the databases dedicated to charters suggests that they share a common data structure. They may even support the exchange of information by using a common format to export the data. In 2004 the *Charters Encoding Initiative* (CEI) was founded to foster this interest (Vogeler 2004). It developed a proposal for an XML mark-up of charter descriptions (Charters Encoding Initiative 2004–2016). A group of Greek scholars published an independent suggestion for an XML description (Poulimenou/Asonitis/Poulos 2009). The comparison of the two mark-ups gives a good insight into what diplomatists could share when creating digital descriptions of charters. The Greek proposal distinguishes three major groups of information: general observations, the text itself, and diplomatic observations. The general observations include the general identification by category, date and abstract and a

description of the original document. The text includes mark-up for palaeographical observations, names and the diplomatic discourse. The diplomatic observations give some more detailed information on the object. This is useful to evaluate the authenticity of the document like the scribal hand, anomalies in writing and material, and finally specific details of Byzantine privileges. In the CEI you find a proposal for a very similar mark-up. The charter description (`cei:chDesc`) contains metadata on the charter, like the date and place of issuing, an abstract, the description of the original, means of authentication and generic diplomatic descriptions. The text can contain palaeographical mark-up, names and other references for indexing and the diplomatic discourse. It is usually less specific than the Greek mark-up and extends the possibilities of mark-up to diplomatic facts missing in the Byzantine Chrysobulls, like subscriptions by a public notary.

Both proposals for standards share many features. Palaeographical observations and names are generic mark-ups for every kind of text. However, they share three groups of categories specific for the work of diplomatists: the double representation as a text and as an abstract of the content (1), descriptive information dedicated to concepts of diplomatists (2), and a text structure typical of the diplomatic texts (3). In particular, the first of the three categories can be found in the databases I have described as well: archival databases are focusing on the description of the content and basic observations of the material aspect, but share this kind of information with many databases dedicated to charters.

The CEI and the Greek proposal share their technical approach. They suggest encoding the information in XML. That is partially due to the fact that XML was the dominant standard for data exchange at the beginning of this century. When it comes to the text, XML offers additional possibilities to handle text, which are beyond this historical coincidence. Mark-up explicitly shows the structure of a text without destroying the representation as a sequence of characters. It is therefore appealing to use XML to encode the typical textual structure of charters, the so-called “diplomatic discourse”.

A good example is given by the structural analysis of a royal Ethiopian document published by Anaïs Wion (2011: 62). To fulfill the syntactic requirements of XML, you just have to add two tags as a root element surrounding the document as a whole, delete spaces from the names for the structural parts given by Wion, and add a closing tag for each part:

*Listing 1: Charter of King Lebna Dəngəl of Ethiopia, 1526 XII 12: diplomatic structure given by Wion (2011: 62) encoded in XML.*

```

<charter>
  <Invocation>To the glory of the Father, Son and Holy
    Spirit.</Invocation>
  <Subscription> I, Wānag Sägäd whose reigning name is
    Lebna Dəngəl,</Subscription>
  <Provision1> have granted under the gwält statute [on
    landed property] 13 to my mother, Queen Mary, in
    Amba Sännäyt, the church (mäqdäs) of Maryam called
    Bädəglät: [list is given of the 41 parcels of land
    in the donation].</Provision1>
  <ListOfRoyalDignitaries> While the aqabe sä'at is
    Nägädä Iyäsus;14 the bəth wäddäd [is] Ros Näbiyat;15
    the lä'aqatač [is] Bəlul Žan; the governor of Tigre
    [Təgre makwännən] [is] Robel;16 the qal haše mäşşaf
    bet [is] Abreham; the azzazi [is] Täklä Iyäsus; the
    liqä mäşani [is] Sərgis; the žan mä'esare [is] Täklä
    Maryam; the žan şerur [is] Abəl; and the žan häşana
    [is] Giyorgis.</ListOfRoyalDignitaries>
  <ListOfLocalDignitaries> While the nəburä 'əd of Aksum
    [the spiritual leader of the Aksum Şeyon church] is
    Nob; the qäysä gäbäz [is] Iyaqem; the head deacon
    [is] Bäse'elat; the liqä mərəht [is] Zä-Mika'el;
    the qaŋgeta [is] Kəflom; the grageta [is] Abib;17
    the mäčänot [are] Zäwday and Gäbrä Krəstos; the bet
    təbaqi [are] Sənə'enä Maryam and his son Pantaléwon;
    the däbtära, who is to implement the gwält (za-
    agolata) [is] Šärşä Giyorgis and the writer of this
    document [şəhäfihu] [is] Amdä Mika'el.
  </ListOfLocalDignitaries>
  <Provision2> Those who are installed [täşär'u] in the
    Maryam church are: nəburä 'əd Asratä Maryam, qäysä
    gäbäz Šärşä Maryam and raq məsare Mosa Egzi.
  </Provision2>
  <Date> The 18th year of the reign of Lebna Dəngəl, the
    year 160 of mercy, 12th of Taşśas [December 1526
    CE].</Date>
  <ClauseOfImmunity> Neither the governor of Tigre nor
    the representative [heduğ] of Amba Sännäyt nor
    the appointed head [şeyum], nor the "master of
    authority" [gäza'i mäläkayna] nor any horseman nor
    the mule nor the lion [are authorized to trespass on
    these church lands].</ClauseOfImmunity>
  <ReligiousSanction> May whoever transgresses, or
    infringes on [this act], be cursed by the mouth of
    the Father, the Son and the Holy Spirit, by the
    mouth of Our Lady Mary, by the mouth of the twelve
    // Apostles, by the mouth of the fifteen Prophets, by

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    the mouth of the twenty-four heavenly priests
  </ReligiousSanction>
  <ConcludingFormula> Forever and ever, amen.
  </ConcludingFormula>
</charter>

```

Wion gives her formal description to demonstrate the textual structure and the formulaic language used in Ethiopian royal documents. Scholars from all around the world are aware of the structure and the formulaic style of charters: Szu-Pei Chen and his colleagues described the 19<sup>th</sup>-century land deeds of Taiwan stored in the TDHL as follows:

Land deeds usually have a fixed format, many of which differ only in the names of the parties involved, the names of the witnesses and scrivener, location and boundary of the land, and the date. (Chen et al. 2007: 54)

James Clark—referring to earlier work by the Japanese scholar Yamada—could create tables of parts of the text in the Uigur documents he studied:

After the date and the main body of the contract or document stands a section normally composed of the names of attesting witnesses, the identification of the attached seals or personal signs, and the certification of the scribe. (Clark 1975: 298)

The observations from South Asia that Timothy Lubin and others present in this volume add another example of formulaic writing with a wording that is more than just a reflection of the identical legal facts documented. Digital diplomacy offers XML as a useful tool to explicitly encode this structure.

The Ethiopian example from listing 1 shows that an XML vocabulary like the CEI could be applied to this extra-European text. A translation into the Latin vocabulary used by the CEI is shown in listing 2. It highlights the differences to the description of the structure given by Anaïs Wion (2011: 62): Elements with changed names are given in italics. Elements added are marked with grey background.



Listing 2: Charter of King Lebnä Dəngəl of Ethiopia, 1526 XII 12: diplomatic structure given by Wion (2011: 62) encoded in XML/CEI.

```

<charter xmlns="http://www.cei.lmu.de/ns/1.0">
  <invocatio>To the glory of the Father, Son and Holy
    Spirit.</invocatio>
  <intitulatio>I, Wānag Sägäd whose reigning name is
    Lebnä Dəngəl, </intitulatio>
  <dispositio>have granted under the gwält statute
    [on landed property] to my mother, Queen Mary, in
    Amba Sännäyt, the church (mäqdäs) of Maryam called
    Bədəglät: [list is given of the 41 parcels of land
    in the donation].</dispositio>
  <testes type="royalDignitaries">While the aqabe sä'at
    is Nägädä Iyäsus;the bəth wäddäd [is] Ros Näbiyat;
    the lä'aqatač [is] Bəlul Žan; the governor of Tigre
    [Təgre makwännən] [is] Robel; the qal haše mäşşaf
    bet [is] Abreham; the azzazi [is] Täklä Iyäsus; the
    liqä mäşani [is] Särġis; the žan mä'əsare [is] Täklä
    Maryam; the žan şərur [is] Abəl; and the žan häşäna
    [is] Giyorgis.</testes>
  <testes type="localDignitaries">While the nəburä 'əd
    of Aksum [the spiritual leader of the Aksum Şeyon
    church] is Nob; the qäysä gäbäz [is] Iyaqem; the
    head deacon [is] Bäse'elat; the liqä mārāht [is]
    Zä-Mika'el; the qaŋgeta [is] Kəflom; the grageta [is]
    Abib; the mäčənot [are] Zäwday and Gäbrä Krəstos; the
    bet t̄abaqi [are] Sənə'ənä Maryam and his son Pan-
    taléwon; the däbtära, who is to implement the gwält
    (za-agolata) [is] Šärşä Giyorgis and the writer of
    this document [şähäfihu] [is] Amdä Mika'el.</testes>
  <dispositio>Those who are installed [täšär'u] in the
    Maryam church are: nəburä 'əd Asratä Maryam, qäysä
    gäbäz Šärşä Maryam and raq mä sare Mosa Egzi.
  </dispositio>
  <datatio>The 18th year of the reign of Lebnä Dəngəl,
    the year 160 of mercy, 12th of Taḥśas [December 1526
    CE].</datatio>
  <sanctio>Neither the governor of Tigre nor the
    representative [hedug] of Amba Sännäyt nor the
    appointed head [şəyum], nor the "master of authority"
    [gäza'i mäläkayna] nor any horseman nor the mule nor
    the lion [are authorized to trespass on these church
    lands].May whoever transgresses, or infringes on
    [this act], be cursed by the mouth of the Father,
    the Son and the Holy Spirit, by the mouth of Our
    Lady Mary, by the mouth of the twelve Apostles, by
    the mouth of the fifteen Prophets, by the mouth of
    the twenty-four heavenly priests.</sanctio>
  <apprecatio>Forever and ever, amen.</apprecatio>
</charter>

```

The formulaic style of the documents is not a fresh observation of the modern researcher studying old documents. It is a practice already documented in contemporary literature. There is the European tradition of the *ars dictaminis* (Camargo 1991; Witt 2005) that influenced the style of charters to the same extent as legal language did. The Arabic literary culture has developed a similar textual genre, the *inshā'*, centred on the style. It includes model letters with some of them focussing on administrative writing. These genres spread widely (Römer 2012). In the Arabic world, the *Ṣubḥ al-a'shā fī ṣinā'at al-inshā'* of al-Ḳalkāshandī (1355–1418) can be considered the summit of this genre (Bosworth 2007/2012). It offers a terminology for the structure of Islamic princely documents. Momin Mohiuddin (1971) gives an example of the Moghul tradition in the 16th century: the document is introduced by a *sar-nāma* (“introduction”) which contains the invocation of God. The major visual element is the following *tuḡhrā* of the sultan and the muhr, a stamp of a seal. The *inshā'* developed a complex system for the intitulations, used in the *alqāb* (“titles”) of the issuer and the addressee in the *khitāb* (“public address, oration”) with the appropriate greeting clauses of the *du'ā* (“calling, invocation, supplication”) and *thanā'* (“commendation, praise”). The text is closed by clauses to sanction the disposition, the *ta'kīd* (“assurance, confirmation”) and *tahdīd* (“threat, menace”). The documents can bear a date (*tārīkh*) and certainly a vast number of notes as a result of the execution of the decree (*ḍimn* “inside of, within [also for time expression]”).

This could be expressed with the CEI, as it can be used to encode the basic diplomatic concepts of the text, i.e. the existence of formulaic language. Any kind of formulaic language can be identified as “set-Phrase” and specified by an attribute to reference the special type. The structure of a document given by the *inshā'* as described by Momin Mohiuddin would then be expressed in the following way:

*Listing 3:* XML/CEI elements for the *inshā'* analyzed by Momin Mohiuddin (1971).

```
<setPhrase type="sar-nāma">
<pict type="tuḡ_h_rā">
<pict type="muhr">
<setPhrase type="alqāb">
<setPhrase type="du'ā">
<setPhrase type="k_h_iṭāb">
<setPhrase type="ta'kīd">
<setPhrase type="tahdīd">
<setPhrase type="ḍimn">
```

The European tradition had already developed a terminology for these structural parts very early on. This terminology became part of diplomatics scholarship in the 19<sup>th</sup> century. It is no surprise that European scholars like Lajos Fekete (1926), Heribert Busse (1961), or Dieter Schuh (1978), working with charters from outside Europe, reused this terminology to describe textual structures they found in Ottoman, Persian or Tibetan documents.

The example given of Moghul *inshā'* discussed by Mohiuddin could be aligned with the Latin terminology of the European diplomatist as in table 1.

Table 1: Alignment of formulae from the *inshā'* analyzed by Mohiuddin (1971) with XML/CEI-element names.

<i>sar-nāma</i>	cei:invocatio <sup>i</sup>
<i>ṭuḡhrā</i>	cei:pict type="monogram"
<i>muhr</i>	cei:seal
<i>alqāb</i>	cei:intitulatio
<i>du'ā</i> and <i>thanā'</i>	cei:salutatio
<i>khitāb</i> with <i>alqāb</i>	cei:inscriptio
<i>ta'kīd</i>	cei:sanctio
<i>tahdīd</i>	cei:sanctio
<i>ḍimn</i>	cei:nota

<sup>i</sup> In the use of *sar-nāma* for the introductory text to the charter it corresponds to the `cei:protocol` element.

In terms of digital diplomatics, this could mean that the CEI would not only cover Latin, but also Ethiopian and Persian documents. However, we have to be careful. Names can carry specific notions bound to their language. *In nomine sancta et individuae trinitatis* (“in the name of the holy and indivisible trinity”) is the default invocation of Medieval Latin imperial charters. Calling it *basmala*, i.e. using the term for the invocation of god in Arabic documents, might cause a thorough theological controversy. Digital diplomatics can help to avoid this possibility of misunderstanding. For the computer the name is only used as an identifier and has no cultural references. It can therefore be replaced by abstract identification schemes distinguishing them from the names used to talk about them. It is still necessary to give a definition of the function of the identifier for its correct application by humans, but this can avoid a cultural bias more easily.

The definition of the XML-element *invocatio* by the CEI states

*invocatio* marks the part of the text the CID describes under n. 185: L'invocation verbale ou simplement invocation est la formule de dévotion par laquelle s'ouvre le protocole des actes pour que le contenu en soit placé sous la protection divine et éventuellement (ou secondairement) sous le patronage d'un saint, le tout pouvant s'achever par 'Amen'. Elle peut s'accompagner d'une corix ou d'un \*invocation figurée.

This refers to a supra-lingual framework developed by the Commission Internationale de la Diplomatie (CID). This committee of international scholars is a subcommittee of the Comité international des Sciences historiques/International Committee of Historical Sciences and was founded in 1971. In the 1980s it worked on an international terminology of diplomatics terms. The result of this work is the *Vocabulaire Internationale de Diplomatie* (Cárcel Ortí 1997). It is clearly a Western European endeavor: all concepts collected and defined in the *Vocabulaire* describe phenomena from documents from Latin Christianity. The major languages of the terms that are listed for each concept are French, German, English, Italian and Spanish and in the definitions you can find Latin expressions.<sup>3</sup> However, identification numbers are added to these terms with definitions abstract enough to cover phenomena from outside of Europe: e.g.

Le **sceau** (lat.: *sigillum*) est une empreinte obtenue sur un support par l'apposition d'une matrice présentant des signes propres à une autorité ou à une personne physique ou morale. (n. 502, pp. 121)

or

La **titulature** est, dans la suscription, la formule qui précise les titres et qualités (réels ou prétendus) de l'auteur de l'acte écrit—lesquels peuvent évidemment différer de ceux que porte la suscription ou le sceau—en les complétant éventuellement d'une indication sur l'origine ou la nature du pouvoir exercé ou d'une formule de dévotion ou d'humilité. (n. 189, pp. 55)

3 There are references in seven other European languages: Catalan, Danish, Hungarian, Dutch, Portuguese, Romanian and Czech.

Thus, the correspondence between the terminology of the Moghul *inshā'* and the Latin diplomatics terms could be expressed by referencing the numbers of the CID instead of using culturally biased words:

Table 2: Alignment of formulae from the *inshā'* analysed by Mohiuddin (1971) with identifiers from the *Vocabulaire Internationale de la Diplomatie* (Cárcel Ortí 1997).

<i>sar-nāma</i>	<i>Invocatio</i>	VID_185 <sup>i</sup>
<i>tuḡhrā</i>	Monogram	VID_148
<i>muhr</i>	Seal	VID_502
<i>alqāb</i>	<i>Intitulatio</i>	VID_189
<i>du'ā</i> and <i>thanā'</i>	<i>Salutatio</i>	VID_194
<i>khīṭāb</i> with <i>alqāb</i>	<i>Inscriptio</i>	VID_192
<i>ta'kīd</i>	<i>Sanctio</i>	VID_237
<i>tahdīd</i>	<i>Sanctio</i>	VID_561
<i>ḡimn</i>	<i>Notae a tergo</i>	VID_347

i The interpretation of *sar-nāma* with *protocol* would lead to VID\_182.

The World Wide Web Consortium (W3C) has proposed a method for constructing formal—but simple—descriptions of knowledge supporting this kind of abstract identification. To create interoperability in the web not only for documents, but for structured data as well, the W3C suggests using the Resource Description Framework (RDF). This allows the identification of resources and concepts with a unique identifier in the syntax of a web address, the so-called International Resource Identifier (IRI), which is an international version of the Unique Resource Locator (URL). These IRIs are organized in triples, which are interpreted as assertions of the form <subject> <predicate> <object>. The formal assertion of the identification of the second phrase in the Ethiopian example given in this style could read like listing 4. It states that something which can be identified by the unique identifier <http://ethiopiancharters.et/1526-12-12#phrase2> has text and is something of the type defined by [http://www.cei.uni-muenchen.de/VID/#VID\\_185](http://www.cei.uni-muenchen.de/VID/#VID_185). Further assertions can express that the phrases are part of a document identified by <http://ethiopiancharters.et/1526-12-12> and that [http://www.cei.uni-muenchen.de/VID/#VID\\_185](http://www.cei.uni-muenchen.de/VID/#VID_185) is a concept defined by the VID under the Latin label *invocatio*.

*Listing 4:* RDF statement linking a formula from the charter of King Lebnä Dəngəl of Ethiopia, 1526 XII 12 (Wion 2011: 62) to the *Vocabulaire Internationale de la Diplomatique* (Cárcel Ortí 1997).

```
<http://ethiopiancharters.et/1526-12-12#phrase2>
  ex:hasLiteral "I, Wānag Sägād whose reigning name
  is Lebnä Dəngəl";
  a <http://www.cei.uni-muenchen.de/VID/#VID_189>.
```

Based on these methods the W3C has proposed a vocabulary to create simple knowledge representations, the Simple Knowledge Organisation System (SKOS, 2009). It provides a common vocabulary to identify concepts (`skos:Concept`) with an IRI, give a definition (`skos:definition`), and list labels in different languages used to refer to the concept (`skos:prefLabel`, `skos:altLabel`). With this the *invocatio* could thus be described formally as in listing 5.

*Listing 5:* A possible RDF representation of the concept of “invocation” expressed in SKOS.

```
<http://www.cei.uni-muenchen.de/VID/#VID_185> rdf:type
  skos:Concept ;
  skos:definition "is a call upon a religious entity
  to put the document under its protection"@en ;
  skos:prefLabel "invocatio" ;
  skos:altLabel "invocation"@en .
```

This method is appealing in its simplicity and is spreading in the digital realm. Thus I converted the VID into a SKOS resource and published it online (Vogeler 2013)<sup>4</sup> in the hope that diplomatists around the globe would refer to this resource when they want to express their interpretations of diplomatic facts—and not only diplomatic discourse—in compliance with the definitions of the VID. However, the VID still contains many definitions which are clearly focused on European diplomatics. Suggestions to enhance it are welcome. They will be published as a SKOS resource clearly stating the intellectual property of the author alongside the VID.

The integration of concepts foreign to the VID poses a problem, apart from the cultural bias of terminology. Bert Fagner (1999) has argued against the transfer of the European concepts to Persian documents not from a terminological, but from a structural point of view. The mention of the addressee and the beneficiaries can be part of the

4 The URL of the resource is <http://www.cei.lmu.de/VID>.

*arenga* (“general introduction”) and in many documents the *arenga* cannot be separated from the content. Thus the scholar cannot clearly distinguish between protocol and main text. The linguistic structure in this case is less clear than the formulaic conceptualization of the documents assumes.

The complex relationship between formulaic language and linguistic instances can be shown in the three following examples. Latin diplomacy is familiar with the term *publicatio*, which is defined as “une formule par laquelle ce qui suit est porté à la connaissance” (VID: 56, n. 196). A typical example of this introductory phrase in Latin private charters is: *Notum sit omnibus Christi fidelibus tam presentibus quam futuris* (“It should be known to all faithful to Christ in present and future”) in Latin private documents from the Southern German area. Arabic private documents usually start with *ام الله* “That is, what ...” (Grohmann 1954: 113). The *Dúduàn* (獨斷) states that letters from the Chinese emperors to their officials should start with “制詔三公” (“A decision instructs [one or more members of] the executive council”, Giele 2006: 207). These two phrases express concepts completely different to the “making public” of the Latin *publicatio*. But they share the function in the formulaic structure of the documents of marking the beginning of a performative linguistic act which creates obligations and brings legal facts into existence. A comparison of these phenomena in a digital corpus would thus profit from analytic tools which could abstract from the culturally well-defined terms to a more general diplomatic concept, like “opener”.

In fact, digital tools like SKOS can help with that. Properties like `skos:related`, `skos:broader` (for the narrower->broader-relationship) and `skos:narrower` (for the broader->narrower-relationship) defined in SKOS allow the encoding of relationships between concepts. Extending the digital VID to extra-European diplomatic phenomena would thus mean making use of this kind of method: *basmala* and trinitarian invocation of god could be described as narrower concepts to a “religious opener” that could refer to the broader concept of “opener”.

With the use of XML mark-up, digital diplomacy thus offers a technology for the identification of textual structures. There are two vocabularies for the mark-up that cover phenomena of diplomacy studies, the CEI and *Text Encoding Initiative* (TEI). As they broadly overlap, the work in merging the two is under way. Both of them were built in the context of Western culture but both cover phenomena which occur globally. Nevertheless, the terminology used particularly in the description of

the diplomatic discourse shows that there is still work to do. The work of identifying the diplomatic facts, not with terms but with abstract identifiers, has already started with the conversion of the VID into RDF/SKOS. This includes a small amount of work on abstracting concepts from different cultures, but there is still much to be done in order to establish a global ontology of diplomatics. With the help of this kind of ontology, the mark-up of the textual structure as well as the description of features of documents interesting to diplomatists can be compared in a more efficient way. The development and distribution of methods of authentication, the sequence of formulaic parts would then be described formally. If the above mentioned charter databases would apply the ontology to their data, it could lead to a global view of the social anthropology of written documentation based on empirical evidence.

## Objectives

The extension of the VID into extra-European areas would certainly be an interesting endeavor in comparative diplomatics and yield probably many insights into the functions of formulaic language. This leads to the last point of my argument. What are the objectives of digital diplomatics?

The classical European interest in diplomatics is the *discrimen veri ac falsi*, the detection of forged documents. The digital representations of the charters have to support that, e.g. by indicating the means of authentication that those contemporary to the document expected. However, diplomatics has shown that these were of particular interest for the forgers as well. Diplomatists therefore check authenticity with historical methods, which go beyond what the contemporaries could do. A major approach is to compare a single document to the rules of contemporary charter production (“Kanzleimäßigkeit”, Sickel 1867, 1876 and 1879: I–XIX). These rules are extracted from the surviving documents. The documentation of diplomatic features in charter databases following a common descriptive standard can support this: they establish the empirical base. They form the data to which digital diplomatics methods could be applied. Forgery detection could therefore start with finding statistical outliers in this data. There are studies supporting forgery detection with digital methods (Fiebig 2000; Brousseau 2002). However, forgeries are not found so often. The DEEDS database has shown that a statistical approach can still lead to interesting



research results: The vast amount of undated charters in England in the 12th and 13th centuries helps to find phrases statistically significant for specific time spans and thus help to date these documents (Tilahun/Feuerverger/Gervers 2012). If we accept that formulaic writing and a significant relationship between internal and external features of charters and a specific production context are a global phenomenon, statistical analysis of this data is a global digital diplomacy method.

The *discrimen veri ac falsi* is not the only objective of diplomacy. Neither is the pure classification of documents by their features. Another core interest is to understand the legal content of the charter and its value as a historical source. The interest in the history of law, for example, has triggered lots of research not only on Latin European Charters, where even the historical diplomacy in the 19<sup>th</sup> century includes a strong legal interest (Ficker 1877–1878), but also on charters in ancient Egypt (Sethe 1920) or on the Greek papyri (Wolff 1978).

A look at Chinese scholarship on the formal analysis of documentation extends this perception. It forms part of *Wenshuxue* (文書學), in which the major interest is the organization of a bureaucratic system and its written production (Pan 2015). This has a long tradition. The *Dúduàn* (獨斷), to which I referred already earlier, was written by Cai Yong (蔡邕) in the Eastern Han period (Cai Yong lived 132–192 CE). This text does not address the means of authentication, but the form of the written documentation of an imperial decision (Giele 2006). The touching of the seal by the Chinese emperor, the scribes noting continuously the verbal decisions of the emperor, all this refers to a world in which the document itself has less importance than the action of the emperor.

The Ethiopian example I cited earlier points in the same direction. Anaïs Wion (2011) has demonstrated that the list of persons named in the middle can be considered a trace of a ritual in which the very transfer of the land granted was executed. The names are divided into two groups, representatives of the king and the local representatives. Many of them can be attributed to ritual functions—and in the end the scribe probably as well. It lays a track from formulaic writing to ritual actions and adds a socio-anthropological note to diplomacy. This trend in diplomacy can be identified for research on the documentary heritage in other areas as well. Lucian Reinfandt (2013: 297–299) reports on recent research in this direction on Mamlūk documents. Hagen Keller (2001a, 2001b, 2004, 2005) has introduced this perception for European charters.

Digital Diplomatics thus cannot remain with the description of existing documents to be used for the detection of outliers or their classification with more or less statistical methods. It has to relate the document to the social action. The abstract as part of the data structures earlier cited is one result of this need. It gives a verbal description of the legal act documented in the charter. The VID distinguishes clearly between the *acte juridique* (VID: 22, n. 4) and the *acte écrite* (VID: 22, n. 6). It offers some typology of legal transactions documented in charters, but again they are clearly focussed on Europe (VID: 107–121). It defines concepts like “author” (VID: 24, n. 15), “issuer” (VID: 24, n. 16) and “beneficiary” (VID: 24, n. 17), which describe the relationship of the people involved in the legal action. However, witnesses to the legal act are only mentioned as part of the text (VID: 68, n. 263). Other roles in the decision-making and the legal act are lacking. When the text of the Ethiopian diplomatics gives only hints to the form of the legal action, a much more elaborate taxonomy of persons involved is necessary.

Nevertheless, digital methods can already offer more. *The People of Medieval Scotland* (PoMS) database (2012–2015) is not only a prosopographic database but a diplomatic database as well, as the persons in the database are extracted from charter abstracts that are included in the database. It allows interpreting the charters as documents of social relationships and displays the resulting networks (plate 1).

The ChartEx (ChartEx 2012–2014) project went even further. It used methods from computer linguistics to extract a formal description of the legal actions represented in abstracts of English charters. The researchers encoded persons, their interactions with each other, and places involved in these interactions. The methods applied in the project started from human annotations. With this training, the computer linguists were able to extract information automatically from the abstracts of charters in English language—not the original Latin of the documents. That does not mean that Natural Language Processing and extraction of information from text is a European method. Work is being done on other languages, like Schinke et al. (1996) or Collatinus (2015/2016) for Latin; Wong et al. (2009) give an overview of the Natural Language Processing of Chinese, Habash (2010) for Arabic. But still, the path towards a more intense use of the data for research on the administrative, legal, and cultural practice involving charters is long, as it needs the fundamental work of documenting and scholarly editing of many charters and the extension of formal descriptions of

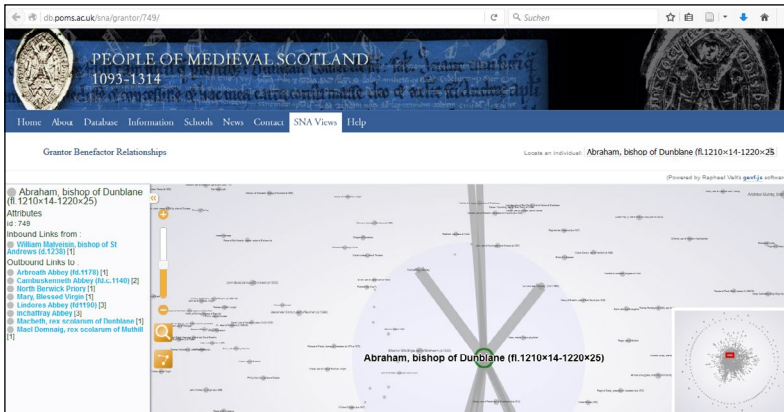


Plate 1: Social network of Abraham, bishop of Dumblane in PoMS <http://db.poms.ac.uk/sna/749/>.

the social actions which initiate the charters and in which they were used. A start has been made with charter databases, vocabularies for their description and technologies to identify the formulaic structure of the texts. How long the way to global digital diplomacy might be, it seems worth it.

## Abbreviations

CEI	<i>Charters Encoding Initiative</i>
CID	<i>Commission Internationale de la Diplomatique</i>
DEEDS	<i>Documents of Early England Dataset</i>
ICADL	<i>International Conference on Asian Digital Libraries</i>
IRI	International Resource Identifier
MGH	<i>Monumenta Germaniae Historica</i>
PoMS	<i>The People of Medieval Scotland</i>
THDL	<i>Tawain Historical Digital Library</i>
URL	Unique Resource Locator
VID	<i>Vocabulaire Internationale de la Diplomatique</i>
W3C	<i>World Wide Web Consortium</i>
XML	eXtensible Markup Language

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