



Encoding Medieval Charters in Preparation of a Diplomatic Semantic Web

Combining the TEI with the Vocabulaire International de la Diplomatique

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AUTHOR'S NOTE

Author contributions

Both authors contributed equally to the text. Expertise about Serbian diplomatic production mostly stems from Zarko Vujosevic, expertise in XML/TEI encoding mostly from Georg Vogeler.

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Introduction

- ¹ This paper is dedicated to Michael Gervers, one of the pioneers of Digital Diplomatics, on the occasion of the 50th anniversary of his D.E.E.D.S. Project, which was founded in 1975 (University of Toronto n.d.; Gervers 1978). Since then, Michael Gervers has continuously contributed to the further development of Digital Diplomatics. The increased integration of digital representations of charters in portals like Monasterium.net or Diplomata Belgica is one major future perspective.¹ Nevertheless, other paths should also be explored. In particular, data sets from different sources could be aggregated in a Linked Open Data environment by establishing data models and descriptive standards; and the Web of Data activities of the W3C, also known as the Semantic Web, could help create a kind of global database of charters (W3C 2013; see

also Berners-Lee et al. 2001 for the initial vision). Integrating charter databases provided by diplomatic research or archives requires several steps. First, the consistent identification of documents and the entities mentioned therein via URIs. Archives are moving in this direction. Canonical referrers to established reference editions like Monumenta Germaniae Historica (MGH) Diplomata series and inventories like Regesta Imperii also contribute to this.² They are the baseline for respective services (Radl n.d., 2006, Regesta Imperii n.d.). A second step would be providing access to charter databases via a publicly described programming interface, e. g. SPARQL endpoints or downloads in RDF format. There are no examples for this approach. However, downloading raw data is established in digital edition projects and has long since been part of the Monasterium.net portal. The data is mostly provided in the local XML encoding of the projects, following a rich variety of schemata and annotation practices. A third step, therefore, is to create a shared descriptive model that is accessible in the Semantic Web. Sippl and Burghart (2023) have proposed using CIDOC CRM for this, which separates the Semantic Web description from the XML standards. In the following, we would like to argue that Semantic Web constructs can be integrated into the established XML-based standards.

- 2 The path towards a descriptive standard already began 22 years ago, when diplomatists suggested an XML schema for charters – the Charters Encoding Initiative (CEI; Vogeler 2004; 2005; 2006; 2010). Since then, other standards have improved and, in particular, the Text Encoding Initiative (TEI) has become the major reference for many research questions in the humanities. It covers a good part of diplomatists’ area of interest (Vogeler 2015; 2019). On this basis, Sean Winslow has recently suggested extensions of the TEI to meet the needs of diplomatists (2018, 2019, 2020–2022). However, XML/TEI is not designed to be used directly in the Semantic Web.
- 3 This paper will discuss how this development and the Web of Data proposals by the W3C could be integrated to help diplomatists publish full digital representations of charters, containing transcriptions, descriptions, and commentaries, which other scholars can reuse for different research questions. Nicolas Perreux has invested tremendous efforts in creating a European corpus of charter texts (Cartae Europae Medii Aevi – CEMA; Perreux 2020; Magnani, Perreux 2020). His work demonstrates the research possibilities of such a corpus, although it currently uses only plain text and basic descriptions of charters. Taking up the impulse by Michael Gervers, we will try to demonstrate how the integration of Semantic Web resources and XML encoding could foster Digital Diplomats. To that end, we will discuss needs and perspectives from the diplomatists’ point of view, using the experience of the Diplomatarium Serbicum Digitale.³

An abstract model of Diplomats’ research interest

- 4 One core task of diplomatic research is the *discrimen veri ac falsi*, i. e., the evaluation whether a historical document (mostly recognised as a “charter”) is what it purports to be. While diplomatic research has mostly been done in non-English European languages, Kölzer (2010) has summarised its history, and Gallo (2024) introduced the essential definitions in English. A basic concept in this research is the “charter”, designating a single legal act documented in written form and authenticated by seals, signatures, and similar methods. However, diplomatists are aware that this includes a

distinction between the (1) legal act, (2) historical information provided by a document, and (3) the document itself, the “written artefact” (Vogeler 2019). That means that one legal act could be (and mostly is) presented in more than one written artefact (original, copies, register entries, excerpts, inserts or “*transsumpta*”, forgeries...). Copies of documents (including “diplomatic” forgeries, i. e. documents that use inadequate means to authenticate a document but don’t introduce new legal claims) can report a legal act correctly, although their diplomatic form is not original or they don’t carry any means of authentication. On the other hand, even a “historical” forgery (i. e. a document that never existed in this form at the time of its purported creation) can contain correct information about historical reality, although the legal act described in the document has never happened.⁴ According to this, Diplomatics editors usually consider charters in a mixture of their textual and their physical form, while archivists focus on the latter. Many Diplomatics editors consider themselves historians. Therefore, they additionally extract a core of historical information from charters and discuss their value as historical sources.

- 5 In the research tradition dominated by printed books, the oscillating combination of legal act, historical information, and written artefact is not always easy to identify. Therefore, those different perceptions of charters may not be clearly expressed, as classical research structures material through “numbers”, merging various written artefacts (“diplomatic items”) of a single legal act into a single text, as for instance in the critical editions created in the MGH *Diplomata* series, or into a single “diplomatic unit”, as in the *Diplomatarium Serbicum Digitale* (Vujosevic 2025, 244 and footnote 5 on distinguishing between “diplomatic unit” and “diplomatic item”). But even Michele Ansani, who has argued against a New Philology approach toward charter texts, acknowledges the ontological distinctions (2006). Digital Diplomatics offers better solutions in this regard. It can go beyond the (digital) edition itself and use Semantic Web technologies for standardised representation and recognition of all facets of charters. Following a pluralistic notion of text, as proposed by Patrick Sahle (2013, 2016), different perceptions of charters can be unified in a multi-perspective model (Vogeler 2019), in which all of them reference each other, but none of them is essential for defining an abstract model such a “diplomatic unit”. That is particularly important as diplomatists and historians deal with all forms of a “diplomatic unit” even if some of them no longer exist: editions of charters in the tradition of the MGH contain “*deperdita*”, i. e. descriptions of lost documents; they extrapolate on the palaeography of the model used for a forgery, and they also try to “reconstruct” texts (contents) of lost originals (examples: Merowinger 2, 2001, 489–495 on dealing with the respective *deperdita*; Koch, 2018, 77–90 concerning the *Privilegium minus/maius*).
- 6 Semantic Web technologies support this as they don’t need a single ontological decision for the representation of information. The Diplomatics knowledge graph, created with Semantic Web technologies, consists of pointers between conceptual entities: A written artefact points to a legal act (documenting it) and vice versa; an authentic copy points not only to the written original but also to the legal act; a physical forgery can point to a social reality although no legal act has happened. Witnesses authenticate a legal act even without a written artefact, while a seal authenticates any kind of physical objects, even if they don’t represent a legal act. The “diplomatic unit” is established by closing and clustering the network of these references. Currently, no formalism can be given for this. For instance: one could perceive the relationship in terms of FRBRoo and its

recent replacement LRMoo (Bekiari et al. 2015, 2024), which describes documents from a library perspective, distinguishing between the intellectual creation (“work”), its verbal expression, and the physical manifestations. In these terms, the legal act would be considered a work, its textual representation an expression, and the written document a manifestation singleton. However, this would leave the relationship between the physical means of authentication (e. g. a seal or a signature) and the legal act out of scope, and would describe the legal act only as an intellectual creation (“work”), but not as a social reality that changes the status (ownership, rank, ...) of real historical people. Another example would be the proposal by John Bradley and his colleagues (2019) to model charters as factoids focussing on their historical content. This helps model the historical information provided by a charter, but neglects the physical and textual form, how charters convey this information, and the diplomatic considerations on the form.

- 7 Fortunately, these theoretical modelling questions do not have to be decided. With the Semantic Web, the W3C provides a technology to express the references as structured data, allowing multiple proposals for vocabularies and ontologies. Under the open world assumption, the clustered networks of references will manifest themselves, when, for instance, the *Abbildungsverzeichnis europäischer Herrscherurkunden* points to the archival identifiers and critical editions, the *Regesta Imperii* point to critical editions, and *Monasterium.net* points to the MGH or the *Regesta Imperii*, historians create prosopographical databases pointing to critical editions or archival resources, like in the POMS and PASE projects (Bradley et al. 2019) etc. The Semantic Web is the standard to publish data on the web and to interconnect it, and it is a good method to describe Diplomatics’ multi-perspectivity on charters, whatever concept (e. g. of legal act, written artefact, or “diplomatic unit”) or objective of diplomatic interest particular editions and projects may follow.
- 8 Therefore, the task at hand is finding a way that brings the richness of Semantic Web-based models of charters into the practice of XML encoding. The following will make a proposal on how this can be achieved.

XML/TEI

- 9 Charters and their diplomatic descriptions are texts, and the digital humanities have established XML encoding as the standard of digital representation of texts. XML, as embedded markup, supports the structural analysis of texts very well. For textual objects in general, the guidelines of the TEI have established themselves as the major standard. However, there are currently no common standards that apply to charters. Attempts like the proposal by Poulimenou et al. (2009) for an XML schema to describe charters, were never used to publish data that is accessible to diplomatists. Other XML schemata like the CDLM proposal by Michele Ansani (2000–2020) or the XML used in the Cartago charter database (Alma 2015) remained project-specific. Only the CEI has found wider application: *Regesta Imperii*, *Monasterium.net*, the pre-publication of the *Constitutiones* of Charles IV by the MGH working group at the Berlin-Brandenburgische Akademie der Wissenschaften (*Monumenta Germaniae Historica*, Arbeitsstelle Berlin, 2016), and some reuse in small collections (Ivanovs, Varfolomeyev 2017).
- 10 Compared to these domain-specific standardisation attempts, the TEI is established as a *de facto* standard for working with texts in the humanities, and is being used for

charters: the Anglo-Saxon charters prototype of King's College, London (Nelson et al. 2005–2018), the projects in the Elec-portal of the École des Chartes (Elec 2016–), the Spanish CHARTA corpus (Isasi Martínez et al. 2014), or the ACTÉPI project (Combalbert 2018–2024), technically realised by the Pôle Document Numérique de la MRSH, Caen. As Vogeler (2015) has described, the TEI-P5 version covers much of what diplomatists need. But still, it does not support data exchange for diplomatists very well, as they have to create individual interpretations. For instance, the Spanish CHARTA project was not interested in features specific to medieval charters, but only in a solid transcription (Spence 2014), while Diple (Desenclos, Jolivet 2014) and the encoding of the Anglo-Saxon charters (Nelson et al. 2005–2018) use XML/TEI with individual typing of diplomatic structure. In order to offer further solutions within this concept, Sean Winslow (2018, 2019, 2020–2022), himself a student of Michael Gervers, recently has suggested a standardised extension to the TEI.

- 11 This may not be satisfactory for data exchange. We would like to argue that diplomatists are better served with a combination of Semantic Web representations of diplomatic knowledge and XML/TEI encoding. TEI offers a good foundation for the general description of manuscript documents and the text written on them. An extension of TEI with different features and concepts, specific for diplomatic research, is a long and incalculable process, and Sean Winslow did well to make a proposal for this already, suggesting controlled vocabularies to create a granular description of more generic Diplomatics-related elements, such as “diploPart” or “auth” (Winslow 2020–2022). For the time being, an alternative approach is using the basic nomenclature (i. e. elements) of the TEI as it is, specifying taxonomy and descriptions with the help of attributes (on TEI structure and rules of procedure, see the TEI Consortium 2025b). The ACTÉPI project is applying this system, offering an example of quite successful use of TEI for diplomatic purposes (Combalbert et al. 2020). This approach can go a step further in order to facilitate data exchange and tool reuse. Instead of developing own attribute values (such as “analyse” or “contre-sceau”), we suggest using the already established system of diplomatic terminology: the *Vocabulaire International de la Diplomatie* (VID). A similar path has been taken with the *Vocabulaire International de la Sigillographie* (Vogeler 2025), while the above-mentioned Diple methodology already references the definitions of the VID in its schema (Guyotjeannin [2010–]). We will exemplify this with the charters of the Serbian medieval rulers as they are recorded in the *Diplomatarium Serbicum Digitale* (DSD, see footnote 3 above) but claim that the approach is independent from the specificities of this charter tradition, as diplomatic concepts can be generalised into global concepts (Vogeler 2018). Therefore, we will first present a proposal how to modify the VID to address general criticisms and, in particular, to make it serviceable for encoding Serbian charters in the context of the DSD project. We will then describe the XML/TEI encoding for two examples of the charters, making use of these modifications.

Vocabulaire International de la Diplomatie (VID) – SKOS version and modification proposals

- 12 Many of the concepts that are of interest to diplomatists and unavailable in the TEI are covered by a standardisation attempt of the Commission Internationale de la Diplomatie – the *Vocabulaire International de la Diplomatie* (Carcél Ortí 1997, 1st

ed. 1994), which summarises previous diplomatic research in manuals like the French one by Giry (1925), and is a reference for more recent ones like Guyotjeannin/Pyke/Tock (2006), or Gallo (2024). This work can be used in a digital environment. Already in 1999, Michele Ansani suggested using it as the starting point of a domain ontology (Ansani 1999). Since 2013, it has become part of the Semantic Web (Vogeler 2013; 2005/2023), and in 2015, Francisco Alvarez Carbajal suggested a path to integrate the VID into TEI encoding (Alvarez Carbajal 2015). However, the VID is not complete enough to be considered the only authority for the common set of Diplomatics knowledge. Right after publication, Bernard Barbiche (1995), Rolf Große (1996), and Olivier Guyotjeannin (1996) pointed out missing concepts or definitions falling behind the state of research.

- 13 The VID was created as a multilingual thesaurus, i. e. a list of terms in various languages. The terms are organised by headings in two levels. Some terms are organised in lists of sub-terms, and many include pointers to related terms. The terms and the headings can easily be converted into structures made available by the W3C Simple Knowledge Organisation System (SKOS) vocabulary (W3C [2004-]; Isaac, Summers 2009; Vogeler 2025, § 4–5). This has been achieved in the online representation of the VID by automatic conversion (Vogeler 2013). The SKOS version has several advantages: For instance, the separation of names (“label”) and abstract concept as well as the organisation of the logical concepts independently from the numbering scheme and the sequence in the text – e. g. avoiding the workaround of VID_196bis to insert the “arenga” (proem; the charter’s preamble, giving a generic justification for its creation) at a specific position in the numbering sequence once the numbers are finalised.
- 14 Making use of these advantages, the SKOS version of the VID could be improved by manual curation keeping the existing formal definitions. For instance, VID/SKOS models the headings of the printed versions as concepts: The concept identified by http://www.cei.lmu.de/VID/#VID_TOC_15 (“Nature juridique des actes”) is only a result of the headings in the printed VID. It is synonymous with the entry no 424 <http://www.cei.lmu.de/VID/#424> in the VID. This can be easily declared by a `skos:exactMatch`. The possibilities of SKOS to express hierarchies of concepts (`skos:broader`, `skos:narrower`) helps integrate diplomatic phenomena that are currently missing in the VID as sub-terms without changing existing descriptions and numbers. Integrating further hierarchies into the VID allows searching for generic terms, expanding automatically to the specialised terms.
- 15 In the following, we want to describe some proposals for modifications to the VID/SKOS by
 - 16 1. restructuring the SKOS concepts
 - 17 2. adding new concepts, and
 - 18 3. conceptual modifications.
- 19 These modifications are based on diplomatic practice, in particular from the experience of the project *Diplomatarium Serbicum Digitale*. All our proposals are available in a github repository: <https://github.com/GVogeler/VID/blob/FSGervers/skos/VID.skos.ttl>.

1. Restructuring the SKOS concepts

- 20 As the hierarchy of terms in the printed version of the VID was intended only as a guide for the reader rather than consistent system, some of the SKOS concepts can be organised in a better way. It is obvious that VID 182 (cadre formel initial et final) merges two concepts (protocol and eschatocol) in one entry. The translations suggested by the VID for no 182 already indicate this distinction but the current wording of the VID does not offer a simple definition of both terms as separate entities (for a short presentation of document structure, including protocol and eschatocol, see Gallo 2024, 31–36). As a result, the SKOS version of the VID has definitions for VID 182 and VID 182a, which do not correctly correspond to the terms associated with the concept by skos:prefLabel. The resulting structure can keep VID 182 for the general concept of formal framing the charter text but should make clear that there is an initial and concluding type of it. This applies even when some diplomatists use the term “protocol” for both, distinguishing the position by adding a specifier (“Eingangs- und Schlußprotokoll”). In fact, as SKOS uses abstract identifiers for the concepts, the definition of VID 182 can remain, though some of the labels assigned to VID 182 (Eingangprotokoll, protocole initial) have to move to the new concept, defined as a narrower concept of VID 182 (VID_add_16).
- 21 VID 347 (Les notes dorsales ou marginales) is another example of a merged concept that could be reorganised. It is a narrower concept of VID 345 (Les notes) and includes variants by position (dorsal or marginal notes) as well as the functional distinctions between notes written in preparation and processing of the charter in the chancery (VID 180 – Les mentions hors teneur; extra sigillum notes) and those added after engrossment and issuing, including VID 33 (Une cote /d’archives ou de bibliothèque/; reference, signature). This distinction would suggest adding concepts for “notes dorsales” (VID_add_14) and “notes marginales” (VID_add_15) to make clear that they may also be functionally different.
- 22 In some cases, the logical hierarchy in the VID could be more specific. VID 53 (Une copie) is certainly a broader term for VID 54–64 (copie authentique, informe, figurée etc.), or even VID 81 (Un tumbo ou tombo). The same can be applied to VID 42 (L’original) and VID 43–51 (originaux multiples, chirographe etc.), VID 111 (faux) and VID 113–130 (acte falsifié, altération matérielle, etc.), VID 145 (Les éléments figurés) and VID 146–157 (invocation figurée, chrismon etc.), or VID 199 (Les dispositions de l’acte) and the clauses in VID 200–205, where VID 205 (Une clause) can be considered a broader concept of VID 206–244. VID 206 (Les clauses de forme) could further be considered a broader concept of VID 207–236, and, in fact, all entries from 184 to 264 are narrower terms of 183 (Une formule). Technically, this can be achieved by a simple change of the existing skos:broader statements. To avoid weakening existing relationships, we suggest using the transitive versions skos:broaderTransitive and skos:narrowerTransitive to create the new hierarchy. They allow to infer of the skos:broader relationship as used in the current version of the SKOS file.⁵
- 23 VID 562 (La date de temps) and 563 (La date de lieu), as sub-terms of VID 561 (La formule de date), refer only to a textual phenomenon (“... est la formule qui ...”), leaving out the conceptual chronology of the legal act and production of the charter. Separating the historical date and place of issue from the verbal description of the date and place given in the document helps handle cases where diplomatists can infer a

chronology and/or geographical place of issue that differs from that written on the charter, or the indication of date/place of issue is missing in the charter text (for an example of inferring the date and place of issue when it is missing in the charter text: Vujosevic 2005, 63–64). We suggest using VID 562/563 for marking up information given in the document and VID 560 as the generic term for the conceptual date. Adding concepts for the list of events mentioned in the definition of VID 560 could be a possible enhancement of the VID.

- 24 Other structural modifications result from misassignments of terms in a specific language. VID 529 (Un sceau d’emprunt) defines two German terms which represent separate concepts: “Siegelbitte” is the act of asking for a seal by a person who is not party to the legal transaction, while “Siegelbittzeugen” describes the witnesses to this act (examples: https://www.monasterium.net/mom/DE-StABa/Langheim/1334_I_17/charter?q=Siegelbitt* https://www.monasterium.net/mom/AT-StiAHe/DuernsteinCanReg/1378_I_07/charter?q=Siegelbitt* https://www.monasterium.net/mom/DE-BayHStA/KUaldersbach/00523.1/charter?q=Siegelbitt*). Adding them as concepts in their own right (VID_529a and VID_529b) as related terms and adding “Fremdbesiegelung” as a German label to VID 529 would remedy this issue.

2. Adding new concepts

- 25 The experience with charters of different provenance, including Serbian, suggests adding further narrower concepts, similar to the proposal by Vogeler (2025, § 12) for adding new concepts into the original structure of the Vocabulaire International de la Sigillographie. Extensions in the SKOS version of the VID can easily be achieved, as the following examples may illustrate.
- 26 The missing rescript (Große 1996, 237) can be added as a sub-concept to VID_TOC_13 (“Nature diplomatique des actes”). Große (1996, 237) also criticised the scope of the definition of VID 393 (privilège) which should include royal and imperial charters, as well. This problem can be solved by simply declaring an additional entry for a broader concept that includes both categories of issuers and by declaring VID 394–395 to be narrower concepts of VID 393. Further additions of definitions for royal and imperial privileges as sub-concepts to the generic “privilège” would balance the general scope. The same is true for the observation by Guyotjeannin (1996) that the concept of Kurzarenga (an *arenga* integrated into the *dispositio*) is missing: It can easily be inserted into the logic of the SKOS version of the VID as a sub-concept to VID 196bis (VID_add_28). Große’s (1996, 237) and Guyotjeannin’s (1996) suggestions to expand the coverage for German royal charters in general and for French royal charters in the 14th century, in particular, fit into this strategy. However, this can only be achieved by a thorough review of the corresponding literature, which would exceed the scope of this paper.
- 27 Adding new concepts could also remedy gaps in the VID in regard to the relationship between the physical and textual manifestations of charters, as well as diplomatic formulas and particular charter contents.
- 28 VID 88 (Une mention – “la simple indication de l’existence d’un document; acts mentioned; erwähnte Dokumente”) should be expanded by a distinction between

documents that are still preserved and those which are lost without any kind of surviving textual tradition. The latter are *deperdita* (VID_add_5), i. e. documents that no longer exist in any kind of tradition but were mentioned or clearly referenced in other acts or written sources, from which we can conclude their former existence. Further, a *deperditum* should be kept distinct from a document that was lost after reliable publication in a scholarly edition, a formal description, or even a photograph – missing after publication; dt. verschollen nach (wissenschaftlicher) Veröffentlichung (VID_add_6). Both forms allow for a more or less complete reconstruction of contents and/or diplomatic features of missing acts.⁶

- 29 VID 97 (Les actes antérieurs ou retroacta; Vorurkunden; previous acts) describe only upstream documents in a sequence of charters. Following acts (dt. Nachurkunden, VID_add_7), in any form of mention, would complete the whole “family of acts” concerning one addressee or topic. Following acts go beyond explicit references of the written act but include all charters referencing the legal act documented in the charter in question.⁷
- 30 Self-appellation (of the given document, e. g. “privilegium”, “littera”, “chrysobull” etc; dt. Selbstbezeichnung, VID_add_8) denotes the (mostly unsystematically) developed terminology of acts used by issuers and/or scribes, which can be of crucial importance for scholarship, especially in dealing with the often unclear typology of documents, or with contemporary concepts relating to medieval chanceries.⁸ The term may also be missing or given in a “descriptive” form (“questo scripto”, “in premissis”...). This “self-appellation” is not covered by the VID as a separate concept but only in the terminology for individual forms in section V, “Nature diplomatique des acts” (nos 382–420), and its sub-section “Classification des lettres” (nos 421–423). A full Semantic Web extension of the VID could include a property that relates the text given in the document itself to a controlled vocabulary, like the terms given in the above-mentioned section.
- 31 Recording note / scribe’s note (dt. Schreibervermerk, VID_add_9) and recording order (dt. Beurkundungsbefehl, VID_add_10) – the phrases containing information about the scribe, dictator, or circumstances of writing/issuing the document (e. g. “written by NN on behalf of NN, validated by NN”; cf. Gallo 2024, 64–65: “Order/mandate of the document”). The entry VID 180 does indeed consider such notes, but only as “hors teneur” (extra tenorem/sigillum), explaining that they “ne participant pas *stricto sensu* à la nature même de l’acte”. In our opinion, this pure formalistic view could be enhanced with the content-related one, which then “allows” such notes to be placed both “within” and “outside” the actual text of the document.
- 32 Some parts of the charters’ *dispositio* should be recognised as text passages (sections), irrespective of the fact if they are expressed in a specific formula or not. Such cases are the list of pertinents (dt. Pertinenzliste, VID_add_20; cf. Gallo 2024, 34–35: “list of goods”), in the sense of listing the given or confirmed possessions to a recipient, and description of borders (dt. Grenzbeschreibung, VID_add_19), which mean specifying topographic data in order to define the area of the estates in question. As the VID offers only the “pertinents clause” (La formule de pertinence – 204) and offers no entry concerning borders at all, these could be added as narrower concepts of VID 198 (Le dispositif), in this case describing a part-whole-relationship.
- 33 An extension of the VID comes into play, in particular, when broadening its geographical and cultural horizon. From the experience in Byzantine and (multi-

lingual) South Slavic Diplomatics, we consider the following new concepts as generic descriptive categories to be a useful extension of the VID:

- 34 Language (of the given document; dt. Sprache, VID_add_21) – indicates the language of the witness in question, which may not be the language of the (preserved or not preserved) original. In such cases of secondary traditions in the form of translations, the primary language should be mentioned (e. g. “Latin, originally Serbian”). Belonging in the VID structure to “Caractères internes”, it should be added as a sub-term to VID 162.
- 35 Script (dt. Schrift, VID_add_22) – gives the general identification of the script (e. g. Latin, Greek, Cyrillic). It would find its place within “Caractères externes” (VID 132–161), maybe under VID 159 (Une écriture de chancellerie). Individual style / script type (of lettering; dt. Schriftart), which provides the general palaeographical classification of the script (e. g. majuscule, minuscule etc), should be subject to a controlled vocabulary of palaeographical terms. A possible starting point for this could be the RDF representation of the glossary of the palaeographical e-learning resource palaeographie-online.de: <http://www.palaeographie-online.de/rdf/>.
- 36 Further gaps become obvious when looking at non-Western-European Diplomatics, particularly Byzantine chancery traditions, which also exerted a strong influence on the diplomatic practices of Southeastern European countries in the Late Middle Ages (especially Serbia and Bulgaria, but also Wallachia and Moldavia; see Lascaris 1931, and detailed on Byzantine influences on the Serbian Diplomatics Dölger 1961). Following that, two terms should be added in the field of formulas and external features, respectively:
- 37 Logos-formula (dt. Logos-Formel) – the art of validation/recognition mostly of solemn donation charters, consisting normally of “ΛΟΓΟΣ” (“word”) repeated three times in different places in the document. As a rule, the term was inscribed in red ink, using three cases in exact succession (accusative, genitive, nominative).⁹ Possible solutions would be to put this entry into VID as a sub-term (VID_add_11) either of “Une formule” (VID 183) or “Le seing manuel” (VID 258; not VID 151 concerning “notaires publics”), as the logos-formula was written down by the issuer himself or his logothete.
- 38 Red-inked (or specially coloured) letters and signs (dt. rote oder besonders gefärbte Buchstaben und Zeichen, VID_add_12) in Southeast European Diplomatics were mainly reserved for the emperor’s signature, logos-formula or *invocatio symbolica*, while other colours were applied only in particular cases (such as green for signatures of Serbian church principals: archbishops and—later—patriarchs).¹⁰ This new entry should be distinguished from the already existing “lettre ornée” (Zierbuchstabe; decorated letter, VID 161), which relates to the form of the letters and not to their colour.
- 39 Byzantine Diplomatics has its own terminology, but it substantially overlaps with that of the VID (especially concerning the structure of charters; cf. Oxford Handbook 2008 – Müller; Poulimenou et al. 2009). The similarities are significant enough that they could be represented by the VID, in particular for terms applying to same phenomena (e. g. *proemium/arenga* – http://www.cei.lmu.de/VID/#VID_196_bis). Some specific features already exist in the VID nomenclature (*menologem*, see footnote 9 above). The new concepts fit easily into the organisation of the terms in the VID. Further extensions beyond the logos-formula mentioned above would concern characteristic formulas like Κράτος (/our/authority/governance) as the first word of the last line of the diploma

announcing the signature (VID_add_13), or Διά τοῦ (by/through) as the phrase probably indicating the intervener/petitioner (VID_add_24; on “Κράτος” see Poulimenou et al. 2009, 97; on “Διά τοῦ” see Karayannopoulos 1998, 203–232 and Vujosevic 2019–Clergy, 78–79). They could be added to the section on the elements of diplomatic discourse.

- 40 The extension of the VID with concepts from non-Western-European diplomatic cultures could be applied to Ottoman, Tibetan, Chinese, or Ethiopian Diplomatics (Vogeler 2018). In fact, the scholars of Ottoman and Tibetan Diplomatics have already reused Latin terminology as described by the VID (Schuh 1978, 411–425; Fekete 1926, XII–XIII; Reychmann, Zajaczkowski 1968, 139–141).

3. Conceptual modifications

- 41 Some of the existing VID definitions seem to need conceptual modifications. For instance, the critique by Große (1996) that including charters of territorial princes as “actes publics” (VID 8a) contradicts the German tradition of distinguishing between papal, royal, and imperial charters on the one hand, and all others as “Privaturkunden” on the other (LexMA--Gawlik), might be solvable by adding a dedicated entry for charters of territorial princes as a sub-term to both (VID_add_26).¹¹ The introduction of the clear distinction between *transsumpt* and *vidimus* as established in German Diplomatics (LexMA--Spiegel, col. 952–953, col. 1636–1637) would require a considerable rephrasing of VID 66–69.
- 42 In other cases, existing definitions need to be clarified. The definition of VID 53 (Une copie) distinguishes only two types of copies: the authentic copy (VID 54) and the informal copy (VID 55): “Une copie (lat.: copia, exemplum, transcriptum, transumptum) est une transcription littérale d’un texte antérieur. Une copie peut être *authentique ou *informe” (cf. Gallo’s *copiae authenticae* and *copiae simplices* mentioned in footnote 5 above). This is insufficient if the historical authenticity of the copies is to be considered. Diplomats can come to the conclusion that an informal copy is credible (dt. “glaubwürdig”) even if not formally authenticated (see Vujosevic--Afd 2020, 248–249 for Serbia, including some examples). A credible copy reproduces the legal act in its core, although it cannot be taken as a reproduction of the textual or even physical form. It does not invent legal facts, but represents those more or less as they were stated in the original. This adds a historical facet to the formal definitions of the copy, following the distinction between VID 116 and VID 123 as sub-concepts to VID 111 (Un acte faux): Outright forgery (VID 116, Une forgerie) means formally but also substantially forged and reports invented legal facts, while a “diplomatic” forgery (VID 123, Un acte matériellement faux) may report credible historical information in a form incongruous with the chancery’s practice or produced outside the chancery (including acte établi hors chancellerie – VID 267, copie figureé/Nachzeichnung – VID 56 and pseudo-original – VID 117 as sub-terms; cf. #4 and footnote 4 above). The relationship between historical and formal authenticity can be expressed with VID after clarifying that the definition of VID 110 keeps historical credibility, independent from diplomatic authenticity. With this kind of specification, the “credible copy” would fall into the combined scope of VID 53 and VID 110.
- 43 VID chapter VI (“Nature juridique des actes”) could sharpen its conceptual profile: If the term “acte” in VID 424–501 is understood as a single document, it would exclude

charters which often contain several of the subjects listed here in one and the same document, a phenomenon pointed out by Harry Bresslau as early as 1912 (p. 55). This structural change is best achieved by modifying the existing definition of VID 424, adding a note on the scope of the concept, explaining that it covers legal acts in the sense of VID 4 (Un acte juridique) and that VID 424 is an extension of VID 6–12, which means that a single written document (“acte”) can include many legal acts. Hence, the acts described in the following entries (425–501) do not have to correspond with a specific diplomatic form, which is described in VID 385–420.

- 44 The VID chapter VI would then have to include additional concepts like:
- 45 Confirmation (of rights, possessions); dt. Bestätigung (VID_add_17), which means a legal act of confirmation in itself, and should be distinct from VID 7c (“acte confirmatif, Bestätigungsurkunde”) as the document type. It could reuse a part of the definition of VID 51 (“confirmation, Bestätigung”): “Une confirmation (lat.: *confirmatio*) est une décision par laquelle sont renouvelées des mesures qui ont été précédemment consignées dans des actes antérieurs.”
- 46 Privilege (of immunity); dt. Immunitätsprivileg (VID_add_18), the legal act of granting immunities, should be distinct from VID 395 (le privilège d’immunité) as a document type according to its “nature juridique”.
- 47 Judgment (sentence); dt. Urteil, Richterspruch (VID_add_25) – an official ruling solving a legal dispute, passed by the actor as defined in the charter text. As neither VID chapter I nor V offer any entry considering this kind of action, the added concept should consider both possible meanings of Judgment: as a single legal act and as a document type.
- 48 Hence, we propose keeping all entries of the VID chapter VI as they are, but to consider modifying their definitions as both document type and single legal act expressed in one document (e. g. VID 425 – Une donation; VID 436 – Une fondation; VID 486 – Un acte d’échange).

XML/TEI encoding proposal for charters

- 49 As described above, XML has been used to encode charters since the early 21st century. The XML schemata proposed by Poulimenou et al. and Ansani (CDLM) are generic enough that they could have been used for charter encoding, but they have never been reused. The only Diplomatics-related XML schema which has found wider distribution is the CEI.
- 50 Many of the elements in these schemata are well covered by the guidelines of the TEI. To name just a few: cdlm:TIT-DOC maps to tei:head, cdlm:NUMERO to tei:idno, cdlm:REG maps to tei:abstract, cdlm:TXT to tei:q or tei:foreign, cdlm:TRADITIO to tei:listWit, cdlm:BIBLIO to tei:listBibl, cdlm:P to tei:p, cdlm:NOTA to tei:note, cdlm:PERSONA to tei:persName etc. The same is true for the CEI, for which a conversion script has been proposed at <https://github.com/GVogeler/CEI2TEI>. These elements describe all generic textual features. But how can we build an extension of the TEI that meets the needs of diplomatists? Vogeler (2015) argued that we could add elements to the TEI representing concepts of interest to Diplomatics, and thus extend the TEI to cover legal documents better than is currently the case. Following that, he and Sean Winslow described the conversion from CEI encoding to TEI encoding, identifying

elements which should be added to the TEI (<https://github.com/GVogeler/CEI2TEI/blob/master/workflow.xml>).

51 However, if we accept that the dedicated Diplomatics' element names fit better into the context of the VID's terminology clarifications than into the definition of a text encoding schema, we can come to a different proposal: using existing generic TEI elements and assigning diplomatic semantics to them via the @ana attribute (e.g. instead of <arenga>, one could use <div ana="vid:196bis">). This approach, suggested by Francisco Alvarez Carbajal in 2015 already, has been successfully applied in scholarly editions of historical accounts (Pollin 2025). The @ana-attribute is generically available and allows linking every kind of text annotation to external resources. RDF triples can then be extracted using the XML structure (Vogeler 2021).

52 The prefixing mechanism of the TEI helps handle this specialisation of existing TEI elements in the @ana-attribute: The <prefixDef>-element that defines the vid:-prefix to be used in the @ana attribute and the replacement of the vid: prefix by the string http://www.cei.lmu.de/VID/#VID_, which is the same for all VID-URIs:

```
<prefixDef ident="vid" matchPattern="([a-z]+)"
replacementPattern="http://www.cei.lmu.de/VID/#VID_$1"><p>The SKOS
definitions of the Vocabulaire International de la Diplomatie, ed.
Maria Milagros Cárcel Ortí, 2. ed., València 1997 (Collecció
Oberta) as referenced in <gi>@type</gi> or <gi>@ana</gi> attributes
are referenced by using the prefix <code>vid:</code> and the
identifier (usually the entry number, please refer to http://
www.cei.lmu.de/VID/skos/ for further details).</p>
</prefixDef>
```

53 This method would even include expanding the VID definitions by proposals from the community with their own URIs: using a different prefix referencing the project-specific SKOS terminology. For some projects, it might seem practical to reference these external definitions in the @type-attribute, in particular, when the expansion of the VID seems to be a specialisation of TEI semantics. Yet we suggest using the @ana-attribute, for two reasons:

1. It is defined globally, so it can be applied to any TEI element;
2. It is the main method used to apply stand-off annotation (<https://tei-c.org/release/doc/tei-p5-doc/en/html/AI.html#AIATTS>).

54 This leads to the question of how a prototypical charter edition could be expressed using TEI elements. The most obvious application of XML to charter texts is the diplomatic discourse: Legal acts have a rather formulaic, highly structured language, which we can encode via mark-up. The closest elements in the TEI seem to be those used for letters (opener, closer, salute, signed), as they share an epistolary tradition with medieval charters. However, their definitions are close to a letter model used since the 18th century, so we prefer to use generic text structure elements like div/ab/seg to describe medieval charters. But even those carry semantic and formal challenges.

55 A formal challenge is the XML nesting defined by the TEI schema that allows self-containment only on the div and the seg level, but does not allow text in div or the seg-element directly at <body> level. Considering the definitions and contexts given to the elements in question, the div-element lends itself very well for marking up the main diplomatic structure as *protocol*, *context*, and *eschatocol* and the ab-element for sub-

structures like *invocatio*, *arenga*, *narratio*, *intitulatio*, *sanctio*, *datatio* and *subscriptio*, as `<ab>` allows further inclusion of sub-structures (`<seg>`) like single clauses, and thus remains flexible. Let us explain this a bit more in detail.

- 56 The main textual model of the TEI is based on 19th-century printed typography. This includes a very well-established concept of relationships between logical and visual structure, condensed in the concept of the “paragraph”: <https://github.com/TEIC/TEI/issues/1929>. In TEI-P5, the TEI community realised that there are textual cultures in which these connections are less obvious: They structure text visually without claiming that this is “the smallest regular unit into which prose can be divided”. In the TEI community, these concepts are still under discussion. In this discussion, examples from manuscript culture and from documentary writing support the need for a textual structure that is not very well covered by the current definitions in the TEI Guidelines: <https://github.com/TEIC/TEI/issues/1856>, <https://github.com/TEIC/TEI/issues/1929>, <http://tei-l.970651.n3.nabble.com/lt-ab-gt-within-lt-ab-gt-td4026246.html>. This raises the question whether the core concepts of diplomatic discourse can easily be projected on the TEI concepts.
- 57 Sean Winslow’s proposal for mapping the CEI on the TEI avoids this discussion by generalising any kind of textual structure into an element “diploPart” (https://github.com/GVogeler/CEI2TEI/blob/902b3210ca6455e916ef56a0f15344735d030158/tei_cei.odd#L411-L550). This offers the advantage of flexibility in nesting. In fact, we assume that the further discussion will bring forward the specific characteristics of the diplomatic discourse – its relationship to epistolary theory, to legal language, and, of course, its own cultural history – but will not change the fact that the textual structure offered by TEI encoding only loosely models the historical reality of Diplomats.
- 58 Until the TEI Council accepts Winslow’s proposal, the transfer of TEI concepts to the diplomatic structure can best be achieved with a logical interpretation of `div/ab/seg`. We believe that a representation of a logical unit “similar to a paragraph but without the semantic baggage of the paragraph”, as `<ab>` is defined, reflects the importance given by charter authors to units of discourse as parts which can be clearly distinguished, but do not (always) have a visual representation (such as *littera elongata*, for instance) and sometimes are not even reflected in grammar. For instance, the papal charter uses “`<intitulatio>Honorius episcopus servus servorum domini</intitulatio><salutatio>salutem et apostolicam benedictionem</salutatio>`” as a grammatical ellipsis. The same is true for most of the dating clauses, simply introduced with *datum et actum*. The logical encoding makes sense, in particular, when there are also visual representations of documents, such as photos or scans conveying the layout of the text. However, the reference to the VID gives room for alternative interpretations of the linguistic structure of the charter. Hence, it does not matter if somebody prefers `ab/seg/seg` or any other three-level hierarchy, since the `@ana` reference points to the same diplomatic structure represented in Semantic Web VID.
- 59 With the help of the `@ana`-attribute, we can integrate Semantic Web annotation into the XML annotation. It is not the TEI definition of XML elements, but the URI given in the `@ana`-attribute which defines the diplomatic structure. Accordingly, in a Semantic Web approach to diplomatic encoding, the discussion about the most suitable TEI encoding does not have to be concluded. We can consider the linguistic structure to be represented by the TEI as separate from diplomatic discourse and focus on modelling the discourse itself. Palaeographical observations or references to named entities can

be annotated with TEI encoding unrelated to the diplomatic discourse, while <div>, <ab>, <seg> are placeholders for the diplomatic structure. Finally, nesting elements with the same name harbours the risk of clouding the structure, so for practical purposes, we suggest using <div> for macrostructure, <ab> for textual patterns which the scribes separated into clearly distinguishable text blocks, and <seg> for structures contained in these anonymous blocks. To all of these, we suggest adding the analytical reference in the @ana-attribute, referring to formal definitions as RDF-URIs as provided by the VID-SKOS. The TEI in listing 1 gives an example of this approach.¹²

Listing 1

```

<text>
  <body>
    <div ana="VID:add_16"><!-- cadre formel - protocole -->
      <ab ana="VID:146"><!-- invocation figurée/symbolique --></ab>
      <ab ana="VID:196bis"><!-- préambule -->Понѣже Оубо чловѣколюбъцъ
Богъ неизреченною мОудростію и промысломъ Оустрадааѣ вьса [...]
светителя же и чудотворца Савоу, бльжняго ходатааа Ѡ насъ къ
Богоу.</ab>
      <ab ana="VID:197"><!-- exposé (narratio) -->Тѣмже и<seg ana="VID:187"><!-- suscription (intitulatio) -->азъ, вь Христа Бога
благовѣрныи и христѠлюбивіи самодрѣжъцъ Срьблѣмъ и Грькомъ,
Стефанъ царь, </seg>божествною любовію раждигаемъ, прїидохъ вь
Светоую Гороу аеонскоу [...] и благословеніе прїемъ Ѡт светыхъ и
чѣстныхъ и аггеломъ подобныхъ житіемъ Ѡтцьъ.<seg ana="VID:438"><!-- dotation d'église -->И елико бысть мошно царьствоу ми,
Оукрасихъ светые и чѣстные храмы Ѡт малыхъ даже и до великихъ, ово
златіими съсоуди и срьбрьними, ово же свештенными одѣждами [...] и
прѣподобнаго игоумена квръ Гѣрвасіа и съ братіами Ѡдаровахъ, </
seg>акоже мольбники ѣже къ Богоу Ѡ нашемОу спасенію и дрѣжавѣ
царьства.</ab>
      <ab ana="VID:319"><!-- requête (petitio) -->Прїидѣ же къ мнѣ
игоумень квръ Гѣрвасіе съ чѣстными съборомъ лавры хиландарские
[...]. И принесоме<seg ana="VID:97"><!-- actes antérieurs
(Vorurkunden) -->хрисовоуле за Зигъ и за мѣсто зовомоѣ Скорьпіа. </
seg></ab>
    </div>
    <div ana="VID:198"><!-- dispositif -->
      <ab ana="VID:484"><!-- vente -->[...] и изволи се царьствоу ми
[...] еже коупити ми то [...] и приложити прѣсветѣи владычици нашей
Богородици хиландарьской. [...] изнаидоме мегѣ и синоре.</ab>
      <ab ana="VID:add_19"><!-- description of borders -->Прѣви синоръ
починѣ Ѡт вьстока [...] на два камена становита подъ брьдо, Ѡткле
Ѡвьи синоръ починѣ.</ab>
      <ab ana="VID:263"><!-- liste des témoins -->И иже се обрѣтоше
тогда на съборѣ, записа и тѣхъ имена царьство ми вь сіемъ<seg
ana="VID:add_8"><!-- self-appellation --> златопечатленемъ
хрисовоуле</seg>въ Оувѣденіе: чѣстны протъ Светые Гори, Гѣрманъ
геромонахъ [...] ДіѠнвсіеви обытѣли ѠѠдосіе геромонахъ.</ab>
      <ab ana="VID:246"><!-- corroboration -->И сіе приложи царьство ми
и Оутврьди съ<seg ana="VID:add_8"><!-- self-appellation --
>златопечатнымъ словѠмъ</seg>съ чѣстнымъ съборомъ Светые Горы, да
ѣсть вь область прѣсветѣи владычици нашей [...] Ѡт насъ и до
вѣка.</ab>
    </div>
    <div ana="VID:182a"><!-- cadre formel - eschatocole -->
      <ab ana="VID:211"><!-- appel aux successeurs -->Молю же и васъ,
ѣгоже Богъ изволилъ царьствовати по насъ [...] нь паче
потврьженну и испльнѣноу.</ab>
      <ab ana="VID:237"><!-- clauses pénales (sanctio) -->Аште ли кто

```

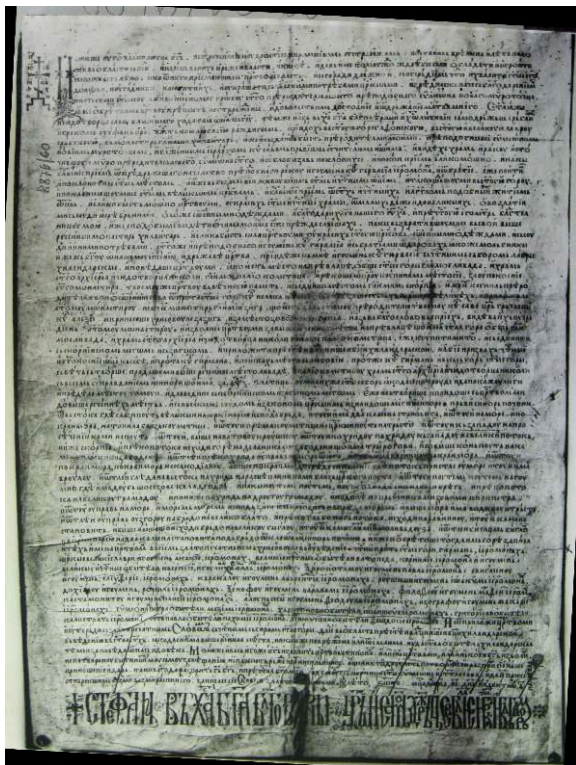
```

дръзнеть потворити или разорити sie наше приношеніе и даръ [...]</
ab>
<ab ana="VID:561"><!-- formule de date -->Записа се sie [...] <seg
ana="VID:562"><!-- date chronique -->въ лѣто .#swns., мѣсеца
декеврѣа .v1. дньъ, индиктиwнь .a.,</seg> <seg ana="VID:563"><!--
date topographique -->на Прѣвлацѣ.</seg></ab>
<ab ana="VID:259"><!-- signature -->СТЕФАНЪ ВЪ ХРИСТА БОГА
БЛАГОВѢРНЪ ЦАРЬ И САМОДРЪЖЬЦЪ СРЪБЛІЄМЪ И ГРЪКОМЪ И БЪЛГАРОМЪ</ab>
</div>
<div ana="VID:347"><!-- notes dorsales, marginales -->
<ab n="1" ana="VID:add_14"><!-- notes dorsales -->...атроса...</ab>
<ab n="2" ana="VID:add_14"><!-- notes dorsales -->Куметица...
Зигос...</ab>
<ab n="3" ana="VID:add_14"><!-- notes dorsales -->+ Цара Стефана
рисувань за Куметицу</ab>
<ab n="4" ana="VID:add_14"><!-- notes dorsales -->Ισον τοῦ
χρικοβοῦλω τοῦ Στεφάνου περι της Κομήτητζας σερβικω</ab>
</div>
</body>
</text>

```

XML/TEI encoding of the document text with reference to the VID.

Figure 1



The Hilandar forgery attributed to emperor Stefan Dusan (see footnote 12 and listing 1; photo: Archives of the Serbian Academy of Sciences and Arts, 8876-060).

60 Other diplomatic phenomena appear as metadata in the teiHeader, demonstrated in listing 2 below. The application of the teiHeader is straightforward for features like the

language of the charter (VID_add_21) which can also be expressed as `tei:textLang`. The same is true for physical features like the writing support (`tei:support`), or the date and place of creation (`tei:origDate` and `tei:origPlace`). However, the example from the project *Diplomatarium Serbicum Digitale* demonstrates that standard TEI is not always sufficient. In the following, we will comment on several issues, trying to offer some combined or new solutions.

- 61 The editorial practice of Serbian royal documents established a formalised heading of each document, for instance. This is a combination of the date, the author, and an internal ID (e. g. “134804xx taq Dusan (262)”). It fits very well into the definition of the `titleStmt/title` in the `teiHeader`. As all the parts of this title are encoded elsewhere, the practice could make use of the `@sameAs` encoding using blank elements pointing to the `xml:id` of the main definition of the content (e.g. `<placeName sameAs="#origPlace"/>` as shown in listing 2 below).
- 62 When there are various textual witnesses, Diplomatics has its own system to describe the relationships between them. We have stated above the need to extend the concepts of the VID with distinctions for the credibility of copies. The TEI offers the `<filiation>`-element to describe these relationships, suggesting a generic terminology drawn from textual scholarship: *antigraph*, *apograph*, and *protograph*. These do not reflect the legal content of the document. An encoding enhancing the TEI mark-up with references to the (extended) VID can solve this problem: `<filiation ana="VID:24"(tradition des actes)><term ana="VID:53 VID:110">Credible copy</term></filiation>` refers to a description of the filiation in terms of Diplomatics.
- 63 Sean Winslow (2018, 2020–2022) has discussed the relevance of authentication in the conceptualisation of diplomatists and suggests a generic element `tei:authen` accompanied by a controlled vocabulary for the methods of authentication (<https://github.com/GVogeler/CEI2TEI/blob/master/Authentication/authen.skos.ttl>). This vocabulary even contains references to the VID. There are strong arguments in favour of introducing this element into the TEI, but it has not yet happened. A generic TEI construct like `profileDesc/settingDesc/ab[@ana='vid:9a']` references the VID-definition of any mark-up authentication, or `vid:369` as the act of authentication itself. The TEI provides an element for seals (`<sealDesc>`), which can be annotated with `@ana='vid:9a'` to describe the legal function of the physical object. However, we propose to separate the information about the physical object from its legal function. A dedicated structure for validation marks as part of the `<settingDesc>` referencing VID 9a can describe expected but missing validation marks with blank elements. They reference the physical or textual manifestation with `@sameAs`. Via a `tei:term` encoding, the content of this element could relay to the appropriate VID terms to describe the means of authentication (e.g. VID 255: notarial subscription, VID 502: seal). The `tei:signed` element from the letter model has a clearly different scope, as the TEI defines it as a closing salutation, not as a signature creating binding legal acts. Thus, signatures in the text are better encoded referencing VID 259 (signature).
- 64 The use of red letters in the charters can be described generally in the TEI element `<decoDesc>`. It might be debated if red letters should rather not be conceptualised as “decoration”, but as a means of “authentication”. However, the reference to the VID assigns the correct semantics in the terms of Diplomatics. A single `decoNote` can contain free text for a general description. Putting the `@ana` attribute with a URI of an extended VID (VID_add_12), this description would link directly to text where `<hi>` is

used with the same URI. In fact, the Semantic Web approach could be extended here beyond the use of @type and @ana to include @rendition, which the TEI defines as a reference to a description of the visual form of the source text element (TEI Consortium 2025a).

- 65 A similar approach can be taken for graphical signs like *invocatio symbolica*, *signum recognitionis* (ruche) etc. A <decoNote> referring to VID 145 in the @ana-attribute can contain general descriptions for the same phenomena, which can be encoded as a figure in the text. The formal definition of narrower concepts in the VID, as suggested above, would even allow for a specialised description of the graphical signs in the text, still linking them to the general description in <decoNote>.
- 66 The description of the document date can use enhanced TEI encoding, as well. While msDesc//origDate and msDesc//origPlace are a good fit for the creation of an original document when production of the physical object and the legal act coincide (as they usually do), they are misleading when used for forgeries and (interpolated) copies. In the TEI semantics, the origDate and origPlace describe the origin of the manuscript, which in case of a forgery is different from the alleged date of the legal act. The reference to the VID 562 and VID 563 adds encoding of the date given in the document. A forgery or a copy would thus have at least two dating elements: one with the @ana=vid:562 and @ana=vid:563 referencing the date and place stated in the document (encoded within text//body) and another one following the TEI semantics for the creation of the physical document (origDate and origPlace within msDesc//history), i. e. the date of the forgery/copy. As stated above, VID 560 can be used for the concepts of inferred date and place of issue if dating elements in the document itself are missing and the researcher is able to reconstruct the date and place of the original (see #23 above). This information could be provided within titleStmt/title.
- 67 The Semantic Web is based on the open-world assumption, meaning that a non-existing data point is only considered as unknown, but not as proven to be non-existent. This can create problems for features which are expected but absent, e. g. the logos-formula, or seal. Also in terms of document description (within msIdentifier, for instance), there are cases of non-existing signatures of archival units. The TEI encoding should therefore offer a category for this kind of description with content explicitly stating this absence. In Byzantine (and Serbian) Diplomatics, the existence of the logos-formula is an example of this, as it normally identifies the chrysobull/chrysobullos logos charter type and is a kind of validation or authentication. Hence, its absence would be an important piece of information with implications regarding the (debated) authenticity and/or credibility of the document.
- 68 Generally, the encoding has to provide methods to describe the absence of an expected diplomatic feature (seal, signature etc.). Sometimes a verbal description is sufficient. When a formal distinction is necessary, the standard approach in XML/TEI encoding is to use blank elements. <settingDesc><p ana="vid:add_11"/></settingDesc> would describe a document in which a logos-formula is expected, but absent. Further comments on this can be inserted as <note> elements. This is not possible when there is information about the missing object, e. g. lost seals, where the charter text often indicates the owner of the seal. We propose adding a generic term for lost objects of diplomatic relevance as VID_add_27 and using it in the @ana-attribute of the appropriate TEI element (e.g. <seal ana="vid:9a vid:add_27"><!-- description of the seal --></seal>).

- 69 Finally, the VID is particularly useful when classifying documents. The TEI offers the element `textClass` to describe the genre of the text with keywords. These can reference the VID in another attribute suitable to create links to external resources: `term/@ref` is defined in the TEI precisely to solve such situations. The self-appellation can be referenced by a `keywords` element referencing the `VID_add_8`.
- 70 Using the concepts and methods discussed above, the diplomatic phenomena appearing as metadata could be presented in the `teiHeader` as in the following example:¹³

Listing 2

```

<teiHeader>
  <fileDesc>
    <titleStmt>
      <title><idno>134804xx taq Dusan (262)</idno> <term ana="VID:
385"><!-- charte -->Charter</term> of <persName ana="VID:16"><!--
auteur d'un acte écrit -->Emperor Dusan</persName> to <orgName
ana="VID:17"><!-- destinataire -->Hilandar</orgName> confirming all
its possessions (<placeName ana="VID:563" sameAs="#origPlace"/
><date ana="VID:560"><!-- date -->January-April 1348</date></title>
    </titleStmt>
    <sourceDesc>
    <listWit>
    <witness>
    <msDesc>
    <msIdentifier>
    <settlement>Belgrade</settlement>
    <repository>Museum of the Serbian Orthodox Church</repository>
    <idno ana="VID:add_27"></idno>
    </msIdentifier>
    <msContents>
    <textLang>Serbian</textLang>
    <msItem>
    <filiation ana="VID:24"><!-- tradition des actes --><term ana="VID:
53 VID:110">Credible copy</term></filiation>
      </msItem>
    </msContents>
    <physDesc>
    <objectDesc>
    <supportDesc>
    <support>
    <material>parchment</material>
    </support>
      <extent>
    <dimensions unit="mm">
    <height>1920</height>
    <width>370</width>
    </dimensions>
    </extent>
    <condition>Spots and paleness in places, which only slightly
impede reading</condition>
    </supportDesc>
    </objectDesc>
    <scriptDesc>
    <scriptNote><!-- script --><term ana="VID:add_22">Cyrillic</term>
<term ana="VID:add_23"><!-- style -->Uncial script</term></
scriptNote>
    </scriptDesc>
    <decoDesc>
      <decoNote ana="VID:add_12"><!-- red letters -->Cross of the
invocatio symbolica, initial, signature</decoNote>
      <decoNote ana="VID:145"><!-- éléments figurés -->NIKA-cross of the
invocatio symbolica, cross before the signature</decoNote>

```

```

</decoDesc>
<sealDesc ana="VID:540 VID:add_27" xml:id="sd1"><!-- sceau pendant
-->
<condition>
<p>The seal itself is lost.</p>
<p>Red string through holes on the left half of the signature.
Mention: „Chrysobull“. According to Schaffarik’s indication [...]
the charter had a „pendant golden seal“.</p>
</condition>
</sealDesc>
  </physDesc>
<history>
  <origin><origPlace xml:id="origPlace">Hilandar</
origPlace><origDate>Around 1365?</origDate></origin><provenance>The
charter was removed from the monastery around 1760 [...] kept since
1946 [in the Museum] in the building of the Patriarchy.</provenance>
</history>
<additional>
  <surrogates><list type="photographs"><item>Collection of Vladimir
Mosin, unknown location (black-white, unclear)</item></list></
surrogates>
</additional>
</msDesc>
</witness>
</listWit>
<listBibl ana="VID:19"><!-- édition diplomatique -->
  <bibl>P. J. Schaffarik, Serbische Lesekörner [...]</bibl><bibl>A.
Востоков, Описание русских и словенскихъ рукописей [...]</
bibl>[...]
</listBibl>
  <listBibl type="literature">
  <bibl>P. J. Schaffarik, Übersicht der vorzüglichsten schriftlichen
Denkmäler [...]</bibl>[...]<bibl>М. Живојиновић, Властелинство
манастира Хиландара [...]</bibl>[...]
  </listBibl>
</sourceDesc>
</fileDesc>
<profileDesc>
<textClass>
<keywords ana="VID:385">
<term>Charter</term>
</keywords>
<keywords ana="VID:add_8"><!--self-appellation -->
<term>Хрисовуль</term>
</keywords>
</textClass>
<abstract>
  <p>Emperor Stefan Dusan with his consort Empress Jelena [...]
donates to the monastery of Hilandar [...]</p>
  </abstract>
  <settingDesc><ab ana="vid:9a"><!-- marques de validation --><seg

```

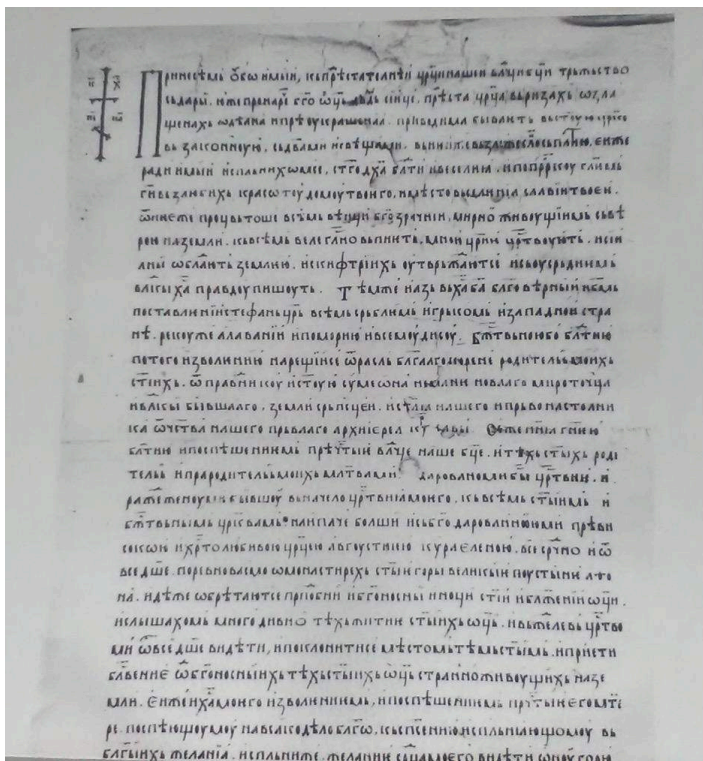
```

ana="vid:add_11"/><!-- logos formula missing --><seg ana="vid:259"
sameAs="#signature"/><seg ana="vid:502" sameAs="#sdl"/><!-- seal
missing --></settingDesc>
    <handNotes ana="VID:347">
    <handNote><locus ana="VID:add_15"><!-- notes marginales --><b>At left
margin in the fifth sixth of the document 2,5 rotated lines</locus>
<term type="genre"><b>Short summary</objectType><origDate><b>Second half
of the 18th century</origDate></handNote>
    </handNotes>
    </profileDesc>
</teiHeader>

```

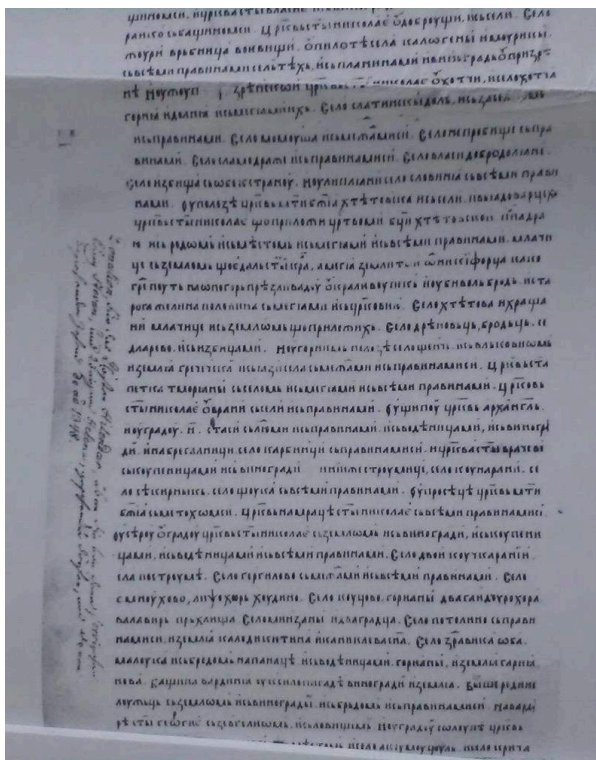
Example for an XML/TEI metadata section (teiHeader) enriched with VID terminology.

Figure 2



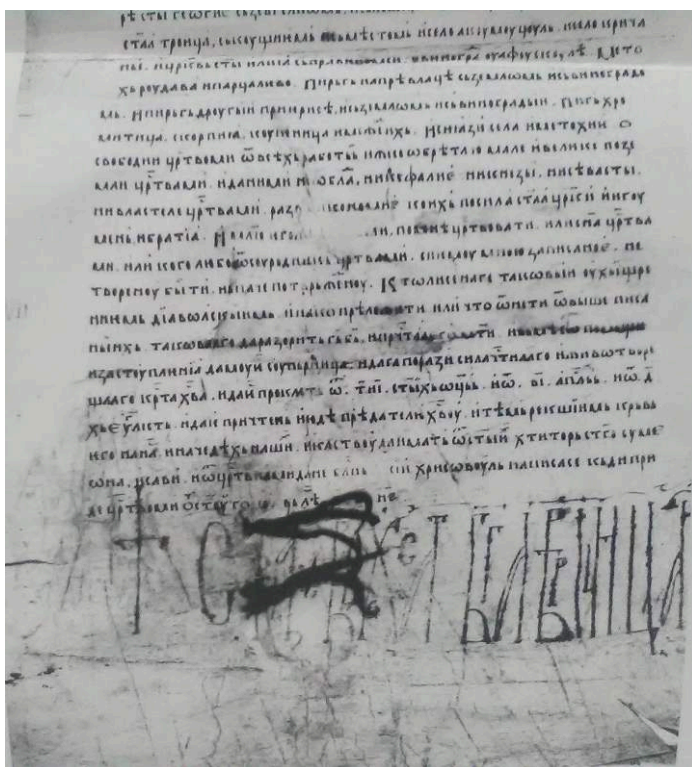
Charter of Emperor Stefan Dusan to Hilandar (see footnote 13 and listing 2; Serbian Orthodox Church Museum, Belgrade; image scanned from Mistic, Koprivica, 2015) – part 1.

Figure 3



Charter of Emperor Stefan Dusan to Hilandar – part 2.

Figure 3



Charter of Emperor Stefan Dusan to Hilandar – part 3.

Conclusion

- 71 Digital Diplomatics, as pioneered by Michael Gervers, is about converting Diplomatics' knowledge into a digital form. The digital representation of the VID is a crucial step in this process as it formalises a wide range of Diplomatics' knowledge. We identified some problems of the VID that could be solved by expanding it by new concepts and reorganising it into more significant hierarchies. The Semantic Web version of the VID, as it is available in SKOS at <http://www.cei.lmu.de/VID/>, allows for these changes: Reorganising the VID with appropriate skos:narrower references and integrating several new concepts are just an addition in the RDF representation. Changing existing definitions is more complicated, as it would require keeping track of the existing versions to establish citability. The updated VID version would probably use a new namespace for the updated concepts (<http://www.cei.lmu.de/VID/1.1/>, for instance). But Digital Diplomatics and the Semantic Web should reduce the technical workload, allowing diplomatists to focus on their intellectual work. Establishing an expert group to tackle the task of consistently modifying and expanding the VID would be a great and suitable activity for the Commission Internationale de Diplomatique (CID).
- 72 XML has proven to be an efficient technology to create scholarly editions, in general as well for Diplomatics scholarly editions. The need for domain-specific vocabularies has produced several solutions expressed in XML, while at the same time, the TEI has established itself as the main reference for XML encoding of textual resources in the humanities. The CEI's approach to enhance the TEI by dedicated elements is still valid but takes a substantial organisational effort. A much more flexible and practical approach seems to be using existing TEI elements and adding interpretations of them via Semantic Web references to the VID. This makes use of the best of both worlds: text encoding for scholarly editing and Semantic Web for shared ontologies. This still does not solve other challenges, like provision of open APIs to access the charter descriptions, or even full integration of the databases in aggregations as defined by SPARQL. However, it reduces the ambiguity of charter descriptions in pure XML/TEI from the diplomatic point of view: Referencing the VID in ana-attributes tells diplomatists through Semantic Web constructs what the encoding really means.

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NOTES

1. The portal www.monasterium.net, launched in 2002, is a virtual archive of European charters of the Middle Ages and Early Modern Period, currently containing more than 680.000 documents. Within archival fonds and research collections those are displayed in different levels of presentation (from “full package” with images, regest/abstract, transcription, diplomatic description and commentary with bibliography to a simple archival description accompanied by one or more photos). The portal <https://www.diplomata-belgica.be> is the modernisation of an old initiative published on CD-ROM in 1997: Demonty 1997.
2. Retrodigitized MGH editions of the *Diplomata* series are accessible at <https://www.dmgh.de/diplomata.htm>. For the inventory of charters and other sources for the history of the Roman-German kings and emperors from the Carolingians up to Maximilian I in the form of regests (abstracts), see <https://www.regesta-imperii.de/startseite>.
3. The idea of making a digital database of medieval charters and letters issued by Serbian auctors was developed at the Balkan Institute of the Serbian Academy of Sciences and Arts and has been realised as *Diplomatarium Serbicum Digitale* (DSD) in frames of the EU funded international project “Community as Opportunity: The creative archives’ and users’ network” (2015–2018). On DSD project history and its evolution stages see Vujosevic et al. 2014, Vujosevic--Old Wine 2019 and Vujosevic 2025.
4. On distinction between “historical” and “diplomatic” forgeries see Gallo 2024, 77–78.

5. For the concepts of document tradition cf. the terminology and short definitions given in Gallo 2024, 72–75 (there: *copiae simplices*, *copiae authenticæ*, *copiae imitatae*, *vidimus*, *transsumptum*, *registrum*, *cartularia*). For further graphic signs, some of which are presented in VID 146–157 see *ibidem* 52–53. For brief explanation of diplomatic formulas see *ibidem* 32–36.
6. E. g. the charter of despot of Serbia Stefan Lazarevic to the city of Belgrade (ca. 1405) is not preserved in any kind of diplomatic tradition, but was mentioned by Stefan’s biographer Konstantin Philosoph, who retells (or cites?) one part of the *expositio* (Mladenovic 2007, 347). Also, the lost charter of King Vladislav (1233/34–42/43) to the monastery of Mileseva was mentioned in the late transcript of a forgery made probably in the 15th century as the single direct evidence of the once doubtless issued founding donation of that ruler to his endowment (Vujosevic 2024, 31–32). On the other hand, the nine charters taken from the monastery of Hilandar in 1931, after they had been published and photographed, and afterwards gone lost (Bubalo 2014, 77), shouldn’t be regarded as *deperdita*.
7. As for instance in the case the Serbian king Milutin confirmed the charter of the “young king” Stefan for the Monastery Vranjina on Lake Scutari (after February 1314), without mentioning his rebelled and in the meantime ousted son and his legal act (Vujosevic 2020–Cetinje).
8. On self-appellation of Serbian documents: Bubalo 2014, 55–64; cf. Maksimovic 1999, 34–35. For the Byzantine chancery see: Dölger, Karayannopoulos 1968, 24–25; Oikonomidès 1985, 190–193; *Oxford Handbook* 2008, 129–135 (Müller).
9. On logos-formula see Dölger, Karayannopoulos 1968, 35, 117–118 (“Logos-Wort“) and in detail Oikonomidès 1985, 180–183. Its mostly constant structure was not adopted consequently in Serbia, as apart from translation „СЛОВО“ also other terms appear, such as emperor title, and moreover regardless the succession of the cases (on logos-formula in Serbian diplomatics see Porcic 2016, 265–266). Interestingly, another specific formula of subscription/validation in the Byzantine diplomatics has found its place in the VID nomenclature: the menologem (VID 158), consisting of the month and indiction of issuing, also engrossed in red ink. On menologem see Dölger, Karayannopoulos 1968, 53 and Porcic 2015, 285–298 for use in Serbia.
10. On using red letters and signs in Serbian diplomatics: Porcic 2016, 255–273 (cf. Vujosevic et al. 2014, 141, note 14).
11. Also in Serbia documents of local princes or territorial rulers (after the collapse of the empire in 1371) are considered as “official” (“*actes publics*”); cf. for instance the respective approach in the edition Porcic, Isailovic 2019, 15–16.
12. An excerpt with reduced markup (without line breaks, names, critical apparatus etc.). The presented charter is the lost witness (“missing after publication”, see above, #28) of a forgery attributed to emperor Stefan Dusan, with the issuing date 12 December 1347 (edition according to DSD; complete printed edition: Miklosich 1858, 124–128; commentary in comparison with the preserved copy: Fostikov 2017).
13. The presented document is the so-called “general” charter of emperor Stefan Dusan to Hilandar with the confirmation of all possessions of the Serbian monastery, issued in the first months of 1348 (source for the metadata: DSD unit 134804xx taq Dusan translated into English). According to the literature, the preserved witness is regarded as a credible copy (last printed edition with commentary: Mistic, Koprivica, 2015).

ABSTRACTS

This contribution considers the question of encoding concepts of Diplomatics in digital scholarly editions. As a specialised historical discipline, Diplomatics deals with medieval documents, which seem to be a particularly challenging source type for digital presentation using current standards for text encoding. Following the practice of the annotation approach, we try to address this challenge by combining appropriate established systems: using standard TEI (Text Encoding Initiative), enhancing it with concepts from the domain-specific Vocabulaire International de la Diplomatique (VID). Transferring this approach to the digital database Diplomatarium Serbicum Digitale (DSD), it becomes obvious that the VID could be improved via its SKOS (Simple Knowledge Organization System) version. We discuss how simple reorganisation, addition of terms, and only rare changes to existing definitions allow us to use the VID for specialisations of generic TEI elements, and we demonstrate this in an example. Following from this approach, a Semantic Web-based model of charter descriptions can be inserted into TEI encoding.

INDEX

Keywords: Medieval charters, Diplomatics, Text Encoding Initiative (TEI), Vocabulaire International de la Diplomatique (VID), XML encoding, Diplomatarium Serbicum Digitale (DSD)

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