Models of Data Extraction and Architecture in Relational Databases of Early Modern Private Political Archives

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Reconciling Complex Historical Records with Omeka S Relational Database The Case of the Graziani Archive

Gabriella Desideri

Università Ca' Foscari Venezia, Italia

Abstract The paper focuses on extracting data from correspondence related to diplomatic missions by Giovanni Francesco Commendone and Antonio Maria Graziani in sixteenth-century Poland. This data is integrated into Omeka S, an open-source platform allowing organisation and entity-relationship mapping. The approach virtually reunites dispersed historical documents on the Graziani Archives portal. It discusses balancing documentation complexity and Omeka S-imposed standardisation's impact on historical research. Concrete examples highlight scholars' ability to interrogate this vast structured data via Omeka S.

Keywords Geolocation. Document summary. Standardisation. Omeka S. Data extraction.

Summary 1 Introduction. – 2 Navigating Historical Names and Places in the *Nuncio's Secret Archives* Project. – 3 Striking a Balance between Standardisation and Historical Complexity. – 4 Analysing Commendone's Letters to Rome Through Detailed Document Summaries. – 5 Exploring Relational Dynamics through a Database of Historical Documents.

1 Introduction

The increasing accessibility of documentary materials online raises epistemological inquiries concerning their suitability as historical sources for scholarly utilisation (Vitali 2004). Consequently, historians must diligently contemplate their distinct characteristics in



comparison to their physical paper counterparts, encompassing the criteria employed for digitising these documents. This research aims to reflect upon the choices made to strike a delicate balance among the complexity of documentation in the data extraction process, specifically focusing on the letters related to Giovanni Francesco Commendone's diplomatic mission in Poland during the latter half of the sixteenth century. Additionally, this study examines the standardisation imposed on the entities by Omeka S, a web publication system employed for generating, editing, and managing online data.² These historical documents constitute a component of the Graziani Archives, a privately held collection currently dispersed among several hosting institutions, including the Graziani Archives of Vada (Tuscany, Italy), the Kenneth Spencer Research Library (University of Kansas, Lawrence, Kansas, USA), and the New York Public Library (USA).3

Through the provision of concrete examples, this paper will demonstrate the potential for scholars to query the extensive volume of structured data derived from historical records, alongside exploring the possibilities offered to users by the relational database.

Navigating Historical Names and Places in the Nuncio's 2 **Secret Archives Project**

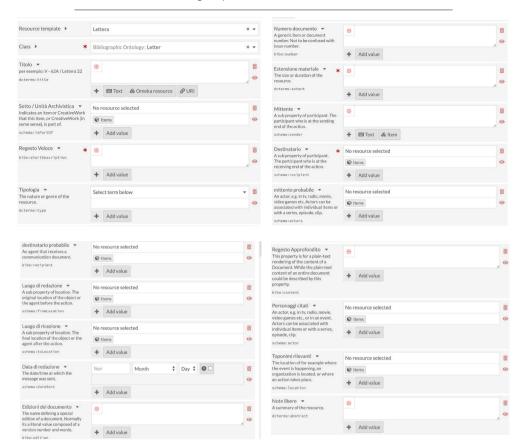
Before delving into specific aspects of this subject, it is necessary to provide a methodological introduction. The project *Nuncio's Secret* Archives, funded under the PRIN 2017 program, has the objective of virtually reassembling the Graziani Archives. Scholars are granted access to the new version of the Archives' inventory and summaries of selected documents (regesti), mostly letters, through the homonymous web portal. The research team engaged in processing these letters utilised a resource template, which was created through a data modelling process under the guidance of the project's scientific leaders. This template facilitates the selection and organisation of information for ingestion into Omeka S.

The template has nineteen fields, encompassing essential information for document identification (archival reference, topical and chronological date, sender, and addressee), bibliographic references for published sources, as well as the names of individuals and places mentioned that are considered most relevant [fig. 1]. Additionally, it incorporates *Note libere* 'free notes', focusing on the material aspects

¹ On Commendone's first mission to Poland, cf. Pastor 1928, 369-74.

https://omeka.org/s/.

³ https://nsa.unipr.it/.



Figures 1a-d The back-end template for the Letters section used by researchers for the data entry

of the document. Users also have access to the image of each document from the same template.

As observed in the template, the project's researchers had to extract the main names of individuals and places mentioned (the fields Personaggi citati 'cited persons' and Toponimi rilevanti 'relevant places'). Direct engagement with the documents was revealed vital for the elaboration of metadata. Initially, sharing the extracted data related to individuals and place names between the different researchers working on the documents was not contemplated. However, as our work progressed, it became evident that we needed to share the collected names of people and places, leading to the creation of two shared lists - one for individuals and another for places - where all researchers inserted the extracted data. These lists provided a platform for problematising cases and discussing choices. Sharing these lists of names also allowed for standardisation optimisation and facilitated the reviewing process.

Following this experience, guidelines were established to structure the items of people and places, as well as for their selection, allowing for some discretion, particularly concerning the name/place given as title, which serves as a key access point to each item. For instance, it was decided to title the items with the version of the name found in the sources, both for people and places. This practical approach was largely influenced by frequently encountering such versions in transcriptions reported in document summaries. This naming convention was consistently applied in all the regesti, facilitating the seamless transition between items of individuals and places, document summaries, and the digitalisation of each letter. For example, the significant Polish location, Piotrków Trybunalski, 4 where an important Sejm took place in 1565, was titled as 'Petricovia', the version found in the documents. This form was also used in contemporaneous letters of Andres Dudith, presenting the Italian and Latin versions of the place name. Alternative variants of the name, such as 'Peterkaw', 'Petherkaw', 'Petterkaw', 'Petricovium', and 'Piotrków', were mentioned by Dudith only in the places' index (Dudithius 1992, ad indicem).

Various historians' works demonstrate the different versions in which place names can be found, underscoring the significance of interpretative choices made by researchers and the value of sharing outcomes among them. In his study on the relationship between the Jesuit order and the Polish nobility during the eighteenth century, Andrea Mariani utilised the contemporary version of the place name, 'Piotrków Trybunalski', and included its Latin translation solely in the index (Mariani 2014, ad indicem). On the other hand, Robert Frost (2015, ad indicem) employed the current version of the name in his work, The Oxford History of Poland-Lithuania, but presented a more concise rendition ('Piotrków'). In contrast, Ludwig von Pastor (1928, 360, 369, 372) opted for the German version, 'Petrikau', in his book, Storia dei Papi. These examples serve merely as illustrations and do not aim to encompass the entirety of the place name's usage in historiography. Nevertheless, they show the importance of results sharing in order to avoid further confusion.

While the chosen form aids Italian-speaking users in consulting the items, the project maintains an international orientation, leaving the user the option of choosing names found in the sources or in common use. For example, the name 'Kiev' is widely used in

⁴ Until 1569, the Sejm convened in Piotrków. Subsequently, in 1578, the Crown Tribunal for the lands of Greater Poland was established there. This is probably the reason why the present location name is Piotrków Trybunalski (Słonia 2021, 1591).

historiography, so titling the item with the version found in the documents ('Chiovia') might raise more questions than it answers. In some other cases, questions were raised regarding the use of the contemporary version of a person's name, such as 'Teodoro' for Teodore I, son of the czar Ivan IV. Our first orientation was to choose the Russian version of the name. Fëdor I Ivanovič. However, after conducting further research, we opted for the Italian version of the name as it was found in reputable sources like the Enciclopedia Treccani (Epstein 1937) and Nicholas V. Riasanovsky's important handbook, Storia della Russia (2010, ad indicem), largely used in Italian historiography on the subject.

3 Striking a Balance between Standardisation and Historical Complexity

Let us now explore the decision-making process behind each item. In the case of both place and person items, when there are different translations of the same name, the researcher had the discretion to retain one or more variants if they were considered relevant. These additional variants could be included in the Altre varianti del nome 'other name variants' field. An illustrative example of this practice can be seen in the case of Pawel z Bzezin Grzegorz, referred to as ministro et predicatore de trinitarii 'Minister and Preacher of the Anti-Trinitarian heretical group' in the documents.⁵ In Commendone's letter of 6 July 1565, he is mentioned as 'Gregorio Paulo'. As a result, we made the decision to title the item using the Latin version of the name, 'Paulus, Gregorius', while adding 'Brzezinensis' and 'z Brzezin' as nicknames. In the Altri nomi 'other names' field, we included the Polish version of the name: 'Pawel Grzegorz'. Similarly, for the item of Théodore de Bèze, we chose to use the Italian version of the name, 'Teodoro Beza' and to insert in the Altri nomi field: 'Bèze (de). Théodore'.

For place items, the decision-making process typically involves recording the version of the name found in the sources, along with other relevant language versions. Additionally, the current version of the name is included in order to geolocate it. This approach allows users to visualise the place name on a map, offering a clear and interactive representation.

⁵ New York Public Library, Manuscript and Archive Division, MssCol 603, Giovanni Francesco Commendone, Diplomatic Correspondence, 1563-5 (NYPL, MssCol 603), second Register, Letter 44, Commendone to Borromeo, 6 July 1564, https://grazianiarchives.eu/s/graziani-archives/item/3840. See note 15 for an explanation of the difference between the use of the word 'Trinitarii' and its meaning in this context.

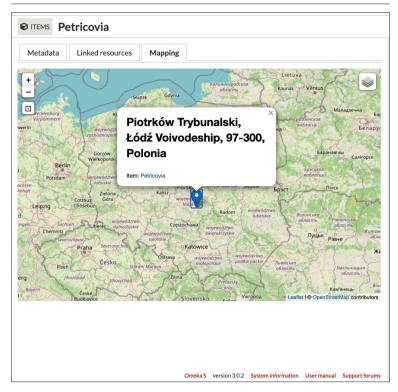


Figure 2 The current version of the place item 'Petricovia' geolocated on Google Maps

As demonstrated in the case of Petricovia, the version of the place name is recorded as it appears in historical documents. The inclusion of the current version of the name, Piotrków Trybunalski, enables users to relate it to modern geographical references, fostering a meaningful connection between the historical context and contemporary perspectives [fig. 3]. This dynamic presentation enriches the user experience and facilitates a more comprehensive analysis of the historical sources.

Geolocating historical place names can lead to potential anachronisms (Drucker 2016, 241-2), as the present-day boundaries and configurations often differ from those during the time period under study. To address this concern, initially, we decided against recording the names of historical regions, recognising that they might not align with present-day boundaries. However, as our work progressed, we recognised the significance of historical regions in understanding the context of important events or phenomena discussed in the correspondence. For instance, we included the place name 'Germania' when Commendone mentioned imperial questions related to the

laity's reception of the cup (Pastor 1928, 346-61), and decided to record it without geolocation. Yet, at the end of the process, we decided against including these place names because in most cases they became meaningless in respect to the geographical space they were supposed to represent due to constant changes of the reigning authority and sometimes even its borders.

The geolocation process, while valuable, does not imply a direct and absolute correspondence between historical place names and their present locations, given the evident historical complexities. Instead, it serves as a guiding reference for users, particularly for lesser-known villages and suburbs. For cities, we encountered similar challenges due to the differences between their current configuration and historical counterparts during the time period of the correspondence under study. To mitigate these challenges, we adopted a pragmatic approach. In cases where it was not feasible to geolocate the historical place name, we titled the item with the name of the suburb, followed by the name of the encompassing city in brackets [fig. 3]. As a result, we could still retain the reference to the suburb while geolocating the associated city. This approach allows users to establish a visual connection on the map, even in instances where direct geolocation of the historical place name is not possible.



Figure 3 Geolocating a suburb within a city on Google Maps

Ultimately, our methodology aims to strike a balance between providing accurate geographic information and acknowledging the historical complexities surrounding place names and their present-day associations. Hence, geolocating historical place names should be approached with a critical perspective and an awareness of potential inaccuracies.

In summary, while geolocating historical place names can be a valuable tool, it requires careful consideration and transparency about the inherent limitations and potential anachronisms. By combining this approach with informative metadata, we strive to offer a nuanced and accurate representation of the locations referenced in the historical correspondence.

Regarding the person item, in addition to recording the usual data of name and surname, we have incorporated one or more occupations or titles along with their related chronological time frame. These details were obtained through thorough research on national and international repertories, aiming to identify the most significant occupation and/or title held by the person during their lifetime. However, when an individual had multiple relevant occupations, we

focused on those held during the year mentioned in the letter where the person is referenced. This approach facilitates the immediate identification of the person, enhancing the comprehension of the document summary. Consequently, the user gains a primary access point for exploring the research on the document and can decide whether to read it in its digital version.

In selecting occupations, we first decided not to include indefinite or ambiguous terms such as 'intellectual' or 'noble'. For individuals with multifaceted roles like intellectuals, preachers, or 'heretics' (such as Martin Eisengrein, Bernardino Ochino, or Giovanni Paolo Alciati della Motta), we preferred not to assign a specific occupation due to the complexities of their identities. These individuals are usually well-known in both Italian and foreign historiography (Tüchle 1959; Gotor 2013; Sella 1960). Nevertheless, some exceptions to this approach exist. Initially, we avoided using the title 'doctor' (medico) as it was considered too vague. However, later on, we decided to include it in certain cases where doctors played a significant role in the documents' summaries. Furthermore, when the inventory section was added sometimes rendering the identification of individuals complicated, the same was applied in case the only information we had on an individual was his being 'scholar' or 'noble'. We preferred then to use these ambiguous terms as a distinctive characterisation of the individual.

These instances demonstrate that the application of design principles from a top-down perspective is not always feasible. Instead, we must carefully assess and adapt them to meet the specific requirements and complexities of the documentation, aiming to represent its intricacies to the fullest extent possible.

Another challenge we encountered pertained to letters that lacked a clear sender and/or addressee, or where accurate identification was not possible, such as in some letters from manuscript E105 today in Kansas (Baja Guarienti, *infra*). This issue particularly affected letters that posed difficulties in attributing them either to Commendone or Graziani. Initially, we attempted to address this by creating a new item labelled 'Commendone o Graziani', inserting it into the sender field. However, after several attempts, we realised that this solution was ineffective for structured research. The new item was distinct from those of Commendone and Graziani, thus preventing the linkage of letters associated with the 'Commendone o Graziani' item to the respective items representing Commendone and Graziani as distinct individuals. In short, the new item led to the loss of any connection between the letter and its potential senders.

To overcome this issue, we introduced a new field called Mittente probable 'probable sender'. In the sender field, we inserted the item Incerto 'uncertain', and in the new field, we entered the item representing the probable sender. This solution allowed for more effective

and accurate data structuring as it preserved the link between the letter and its potential senders in the linked sources section, ensuring a clear connection between the letter and the items of its probable senders, as exemplified in the following image for Commendone's item [fig. 4].



Figure 4 Commendone's registration both as confirmed and probable sender (back-end)

Subsequently, we extended the same principles to all probable senders and addressees, introducing the field Destinatario probabile 'probable recipient' as well. This comprehensive approach allows users to access all letters with an uncertain sender and/or addressee through the linked resource of the 'uncertain' item.

In cases where the researcher was unable to make any identification due to the absence of internal elements, we recorded the reference provided in the document. Similarly, when a person could not be identified, we titled the person item as referenced by the document and within quotation marks. Additionally, we created a new field Identificazione possibile 'possibly same as', inserting the item that corresponded to our hypothesis of identification (in case we had

one). This strategy enabled us to maintain transparency and provided relevant contextual information, thereby acknowledging the limitations and uncertainties present in historical research.

These decisions illustrate our commitment to striking a balance between the characteristics of the documentation, historiography, and standardisation. By registering the 'variants' of names, we preserve the complexity of the sources, offering multiple access points to the data. The solutions implemented for probable senders and addressees achieve a harmonious blend between the need for disambiguation imposed by the database and the nature of historical research and historical sources, which may not always provide definitive and incontrovertible data.

It is essential to emphasise that all the choices made in this project for the Letters section, including the selection of the most relevant names of persons and places, occupations, and informations in the document summaries, are firmly grounded in their relevance to the primary focus of our project - the Polish diplomatic experience of Antonio Maria Graziani and Giovanni Francesco Commendone. Maintaining this focus ensures that the database remains a valuable resource for scholars, providing comprehensive insights into the historical context and the interactions between these key figures.

In conclusion, our methodology reflects a thoughtful balance between data standardisation and historical complexity, while constantly keeping in mind the overarching objectives of the project. Through meticulous research and adaptive decision-making, we aim to offer an accessible and informative platform that serves the needs of scholars and researchers in their exploration of the Graziani Archives and its historical significance.

Analysing Commendone's Letters to Rome Through 4 **Detailed Document Summaries**

As previously stated, the researchers were engaged in the endeavor of generating document summaries (regesti) for a selection of documents. In this section, I will focus on the regesti of Commendone's letters to Rome, which were authored between 1563 and 1565 and transcribed into a letter copybook currently housed at the New York Public Library. These documents hold significant importance for the project, as they provide firsthand accounts of Commendone's first diplomatic mission in Poland following the conclusion of the Council of Trent. Furthermore, they serve as crucial sources for comprehending the subsequent strategies employed by both Commendone and Graziani in Poland, and for gaining a deeper insight into the evolution of Papal diplomacy in Central-Eastern Europe. Due to their significance, meticulous summaries of these documents have been crafted, encompassing a diverse array of themes and issues addressed within them. These comprehensive summaries are documented in the Regesto approfondito 'detailed summary' section. Moreover, for each letter, a concise summary has been produced, documented in the Regesto veloce 'short summary' section.

In these regesti, a conscious effort has been made to maintain a close correlation with the original documents, adhering closely to their structure. Specifically, the summaries mirror the division between encrypted and non-encrypted sections present in the documents. Concerning Commendone's letters to Rome, the text has been decoded and transcribed by a copyist from the sixteenth century into the letter book. The extracted information has been incorporated into the 'Free notes' section (*Note*), dedicated to the material aspects of the document. It has been noted, in line with observations made by Henry Biaudet, that sixteenth-century letters to Rome often contain an unencrypted section featuring the date and sender's signature, followed by a fully encrypted supplement devoid of any date or signature. Retaining this division aids in enhancing the comprehension of stylistic and thematic variances between the two segments of the letter. This approach facilitates easier reference and provides additional insights into the diplomatic activities of Commendone and Graziani in Poland.

During the creation of these summaries, two primary criteria were rigorously adhered to: first, to ensure an unambiguous interpretation

^{6 &}quot;A Rome, par exemple, la chiffre constituait toujours un supplément à un dépêche au clair, supplément écrit sur feuille à part, ne contenant aucune parole non chiffrée, aucune formule initiale ni finale de politesse, et surtout aucune date ni signature" (Biaudet 1910, 3-4).

of the information, and second, to meticulously capture the linguistic subtleties employed by the writer by transcribing specific expressions from the original document. Initially, a strategy of minimal transcription was chosen to prevent undue densification of the text. However, as progress was made, it became evident that retaining characteristic expressions and segments of the document was imperative. This includes excerpts of Commendone's descriptions of the confessional situation in the visited locales, mentions of heretical sects and practices, and the propagation of publications throughout the Kingdom of Poland.8 Passages were transcribed in which Commendone highlighted issues related to the coexistence of diverse religious denominations, such as the allocation of public space between rival confessions in Danzig subsequent to the promulgation of an edict condemning those who persecuted Catholics to death. Additionally, significant political occurrences and definitions were transcribed, such as the passage in which Commendone recounts his address before the Polish Senate, emphasising the importance of the Council of Trent and of its decrees. 10 The transcriptions provide readers with insights into primary sources pertaining to the religious and political landscape in Poland, which stood as a confessional boundary, in the immediate aftermath of the Council of Trent.

In this manner, users gain direct access to the distinct vocabulary utilised in these documents, furnishing essential insights into the writer's ideas, imagination, and references, whether political or scriptural. Certain words utilised by Commendone, laden with significance, would lose their potency if diluted into a bland synthesis. Similarly, specific expressions from Commendone's lexicon, such as describing the spread of a heretical confession as an infection, a

⁷ NYPL, MssCol 603, first Register, Letter 6, Commendone to Borromeo, 24 November 1563, https://grazianiarchives.eu/s/graziani-archives/item/3615; NYPL, MssCol 603, second Register, Letter 38, 7 October 1564, https://grazianiarchives.eu/s/graziani-archives/item/3833; NYPL, MssCol 603, sixth Register, Letter 169, 1 October 1565, https://grazianiarchives.eu/s/graziani-archives/item/3974; NYPL, MssCol 603, seventh Register, Letter 174, 4 November 1565, https://grazianiarchives.eu/s/ graziani-archives/item/3952.

⁸ NYPL, MssCol 603, second Register, Letter 41, Commendone to Borromeo, 8 June 1564, https://grazianiarchives.eu/s/graziani-archives/item/3837; NYPL, MssCol 603, second Register, Letter 44, 20 June 1564 https://grazianiarchives.eu/s/graziani-archives/item/3840; NYPL, MssCol 603, second Register, Letter 53, 9 September 1564, https://grazianiarchives.eu/s/graziani-archives/item/3854.

⁹ NYPL, MssCol 603, second Register, Letter 43, Commendone to Borromeo, 20 June 1564, https://grazianiarchives.eu/s/graziani-archives/item/3839.

¹⁰ NYPL, MssCol 603, second Register, Letter 47, Commendone to Borromeo, 8 August 1564, https://grazianiarchives.eu/s/graziani-archives/item/3843.

'disease' ("postema") to be eradicated, have been retained. 11 Passages describing the interactions between various figures within the Polish context, such as Andrzei Frycz Modrzewski, characterised as a 'man of letters who writes extensively, having been a heretic for a long time and closely associated with the archbishop' ("huomo di lettere che scrive assai, già gran tempo heretico et molto intrinseco dell'arcivescovo"), have also been transcribed. 12 Such information aids in reconstructing networks among individuals mentioned in the documents. Moreover, references to primary sources have been maintained for individuals, places, or events that could not be readily identified. For instance, in the letter dated 26 February 1565, Commendone referred to an 'elderly and highly esteemed canon' ("canonico vecchio et di molta stima") who favoured the divorce between Sigmund II August and Catherine of Ausburg, without providing further details for identification.

Additionally, passages have been preserved in which Commendone contemplates the most effective *modus operandi* to implement in Poland, as in the letter of 6 July 1564, where he ponders the optimal approach to 'conquer or at least weaken' ("espuanare o almeno raffreddare") the heretics. 13 Expressions of this nature embody practical knowledge and expertise acquired by diplomats in the field, offering insight into the practices and strategies employed in the diplomatic endeavours of Commendone and Graziani. This facet holds increasing value in recent historical research pertaining to diplomatic history, which places greater emphasis on the individuals involved in diplomacy, prioritising the examination of individual diplomats. monarchs, and personal and informational networks (Plebani, Valeri,

¹¹ Commendone stated: "quanto più quel paese era infetto, tanto più conveniva provederle di pastore et tosto et bene et che, per desperata infirmità che habbiano figlioli, non devono i padri lasciar la cura loro né abbandonarli, che di simili infirmità d'heresia non more se non chi vuole et però non conviene di haver mai la cura per disperata" (The more infected that country was, the more it was necessary to provide them with a shepherd promptly and well. Even though the children may have desperate infirmities, the fathers must not forsake their care or abandon them, only those who wish to die of such heretical infirmities. Hence, it is never fitting to relinquish care as if it were hopeless). NYPL, MssCol 603, first Register, Letter 18, Commendone to Borromeo, 27 February 1564, https://grazianiarchives.eu/s/graziani-archives/item/3808; cf. also NYPL, MssCol 603, Commendone to Borromeo, second Register, Letter 48, 14 August 1564, https://grazianiarchives.eu/s/graziani-archives/item/3845; NYPL, MssCol 603, fifth Register, Letter 119, 2 April 1565, https://grazianiarchives.eu/s/graziani-archives/item/3922; NYPL, MssCol 603, seventh Register, Letter 174, 4 November 1565, https://grazianiarchives.eu/s/graziani-archives/item/3952.

¹² NYPL, MssCol 603, fourth Register, Letter 99, Commendone to Borromeo, 2 March 1565, https://grazianiarchives.eu/s/graziani-archives/item/3901; NYPL, MssCol 603, fourth Register, Letter 106, Commendone to Borromeo, 20 March 2023, https:// grazianiarchives.eu/s/graziani-archives/item/3908.

¹³ NYPL, MssCol 603, second Register, Letter 44, Commendone to Borromeo, 6 July 1564, https://grazianiarchives.eu/s/graziani-archives/item/3840.

Volpini 2017; Sabbatini, Volpini 2011; Sowerby 2016). Of particular significance is Commendone's contemplation on the role of pontifical nuncios in challenging contexts like Poland, as he suggests to the Pope the allocation of greater authority to pontifical diplomats. 14

Moreover, terms used in the document that denote religious experiences or denominations whose lexicon was only developed in subsequent centuries, such as trinitarii 'Trinitarians', referring to those associated with the Anti-Trinitarian movement, have also been retained. Specifically, Commendone's letter provides information about the movement's activities and prevalence in Poland and Lithuania. 15

The transcription meticulously preserves the original forms, including frequent errors, present in the document. Nonetheless, certain adjustments have been introduced to enhance readability for users. Specifically, articulated prepositions have been modernised to adhere to contemporary usage norms. Furthermore, various linguistic anomalies have been rectified, such as the transformation of 'ij' at the end of words into 'ii', alongside the rectification of evident material or linguistic inaccuracies. Along similar lines, the practice of utilising festivities as a means of dating, as observed in Commendone's writings, has been retained. In instances involving lesser-known or movable celebrations, additional contextual information has been provided to render the summaries more accessible to users.

In a broader context, much thought was given to the user's experience in the configuration of the database, both in the process of generating summaries and in the extraction of metadata. 16 Specifically, a profile has been delineated for a prototypical database user, encompassing historians or individuals possessing a foundational understanding of the subjects and gueries addressed within the letters. This characterisation has significantly informed our methodology, directing us to abstain from burdening the summaries with exhaustive discussions of topics and inquiries that have already received extensive coverage within historiography.

¹⁴ NYPL, Ms. Div., MssCol 603, third Register, Letter 73, Commendone to Borromeo, 8 January 1565, https://grazianiarchives.eu/s/graziani-archives/item/3875.

¹⁵ NYPL, Ms. Div., MssCol 603, first Register, Letter 12, Commendone to Borromeo, 16 January 1564, https://grazianiarchives.eu/s/graziani-archives/item/3802; cf. also NYPL, Ms. Div., MssCol 603, first Register, Letter 25, Commendone to Leonardo Contarini, 25 March 1564, https://grazianiarchives.eu/s/graziani-archives/item/3818; NYPL, Ms. Div., MssCol 603, third Register, Letter 70, Commendone to Borromeo, 26 and 27 December 1564, https://grazianiarchives.eu/s/graziani-archives/item/3872; NYPL, Ms. Div., MssCol 603, third Register, Letter 71, https://grazianiarchives.eu/s/graziani-archives/item/3873; NYPL, Ms. Div., Mss-Col 603, sixth Register, Letter 144, 13 June 1565, https://grazianiarchives.eu/s/ graziani-archives/item/3947.

Starting from the output of user's queries. On this subject, cf. Drucker 2021, 76.

5 **Exploring Relational Dynamics through a Database of Historical Documents**

One of the database's most intriguing attributes is its relational structure. Within each regesto record, one can locate pertinent names of individuals and locations mentioned. Clicking on these items grants access to comprehensive records. Enhanced structured data amplifies visualisation options. In particular, heightened standardisation of individuals' occupations or titles fosters more effective linking of these entries. For instance, we opted to present the title 'cardinal' without further specifications [fig. 5]. This approach facilitates broader associations of this entry with a diverse array of individual items, thereby augmenting interconnections among items.

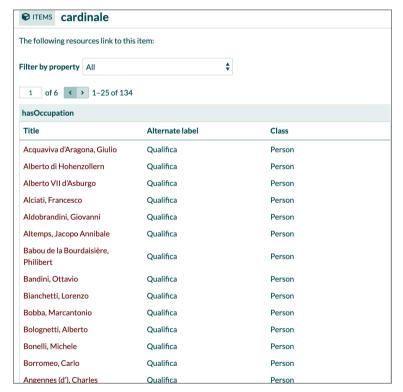


Figure 5 Results of the query 'cardinal' in the occupation item

Another example may show how a lack of precise information can sometimes favour an access to a distinct group of persons: by selecting the occupation Membro del seguito di Commendone 'member of Commendone's entourage', users can efficiently access all individuals

part of this group cited in the letters and inventory [fig. 6]. Had we categorised each individual according to their specific role within Commendone's entourage, it would have been impossible to provide the user with an overarching view of the group surrounding Commendone. This consolidated presentation serves as a compelling foundation for conducting social network analyses.



Figure 6 Results of the query 'Member of Commendone's entourage' (back-end)

Additionally, person entries of royals were linked to those of their spouses when mentioned. Consequently, users gain access to all correspondences sent and/or received by the individual, as well as entries pertaining to all their spouses, as observed in the case of Zigmund II August [fig. 7].

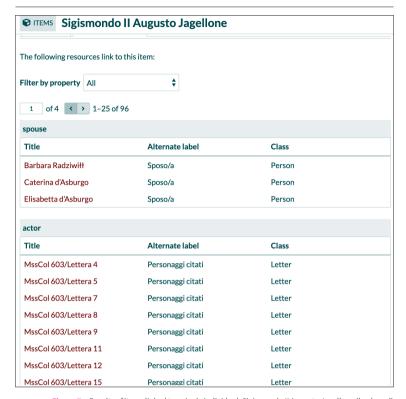


Figure 7 Results of items linked to a single individual: Sigismondo II Augusto Jagellone (back-end)

The database also includes documentation of familial relationships among individuals mentioned in the documents. This encompasses kin of Commendone and Graziani, along with members of prominent families like, for example, the Savorgnan. Users can also encounter this data within the linked resource, as exemplified in the case of Graziani, Antonio Maria [fig. 8].

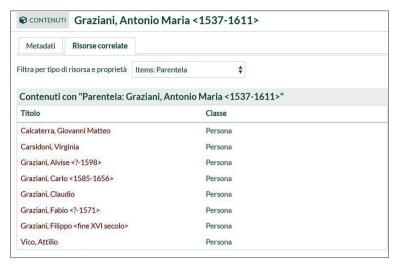


Figure 8 Results of the guery for family relations of Antonio Maria Graziani (back-end)

The relational capabilities of the database are further evident in the interplay between letters, locations, individual entries, and the new version of the Graziani Archives' inventory (Raines, supra). Without delving into the specific details of the inventory, it is important to emphasise that within it a dedicated section details the most frequent senders and/or recipients of letters, as well as individuals whose names feature in the titles of works integrated into manuscripts or archival containers. This approach establishes a link between an individual's name, letters, and the other archival units of the Graziani Archives. This ongoing effort is poised to furnish users with the ability to observe, when seeking an individual, not only the summaries of documents wherein the person is mentioned or functions as the sender or recipient, but also whether they appear in other archival units within the Graziani Archives that are not summarised. Users can accomplish this by navigating to the linked resource associated with the entry.

The study of meticulously chosen documentation, inventory records, and research endeavours was vital to the establishment of the online portal. Our hope is that this portal will emerge as an invaluable research tool, enhancing prospects for data visualisation and facilitating novel modes of interpretation (Graham, Milligan, Weingart 2016). Rather than aiming to supplant physical document consultation, a key objective of this project is to furnish an initial gateway to the treasury of this archive's richness.

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