ARTYKUŁY

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Databases in historical research – an analysis of application possibilities and potential. Example of the application of *Diplomata Belgica* in a prosopographical study of Flemish Crusaders

Abstract

This article offers a twofold overview of databases used in historical research. The first part discusses two models of databases – the elaborated data model and primary sources repositories – and offers examples of each. The second part focuses on a particular online repository of primary sources – *Diplomata Belgica* – not only presenting its features but also providing examples of its application in the context of prosopographical research on the Flemish Crusaders. One of the article's main aims is to present the features and opportunities of database application in particular historical research – as well as the need for, advantages of, and problems related to such "digital" research, which will likely become indispensable within a couple of years. Another task at hand is to present the prosopographical potential of *Diplomata Belgica*, which allows for a broader and more detailed examination of primary sources. This presentation is done on the basis of several exemplary databases (the first part) and searches executed in *Diplomata Belgica* (the second part).

Poniższy artykuł oferuje przegląd baz danych wykorzystywanych w badaniach historycznych. W pierwszej części przedstawione zostały dwa modele baz danych wraz z przykładami: (1) prezentujące opracowane dane, oraz (2) prezentujące „surowy" materiał (repozytoria źródłowe). W drugiej części omówiono szczegółowo repozytorium jakim jest *Diplomata Belgica* – przedstawiając kluczowe elementy tej bazy danych oraz przykłady jej zastosowania w badaniach prozopograficznych nad flamandzkimi krzyżowcami. Jednym z głównych celów artykułu jest prezentacja kluczowych cech baz danych, a także możliwości płynących z ich zastosowania w badaniach historycznych. W artykule przedstawiono argumenty za wykorzystaniem baz danych, oraz omówiono korzyści i problemy związane z takimi „cyfrowymi" badaniami, które w ciągu kilku lat mogą stać się niezastąpione. Kolejnym celem jest zaprezentowanie prozopograficznego potencjału bazy danych *Diplomata Belgica*, która pozwala na szerszą i bardziej szczegółową analizę materiału źródłowego. Do analizy dokonanej w artykule wykorzystano kilka

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przykładowych baz danych (pierwsza część) oraz wyszukiwania przeprowadzone w *Diplomata Belgica* (druga część).

Keyword: databases, *Diplomata Belgica*, Flemish Crusaders, prosopography, online research

Słowa kluczowe: bazy danych, Diplomata Belgica, flamandzcy krzyżowcy, prozopografia, kwerenda online

1. Introduction

This article is one of the effects of my doctoral research on the Flemish Crusaders – mainly personal experience with the use of databases, and my research stay in Ghent (10 months in 2017/2018, during which I had an honour to collaborate with scholars from Department of History at Ghent University)[1]. The purpose of this article is twofold. (1) In the first part, several databases and their functionalities are presented. (2) In the second place, more detailed possibilities of using one database (*Diplomata Belgica* – abbreviated as *DiBe*) in a specific research framework (prosopographical study of the Flemish Crusaders) are described, with a detailed commentary provided on the database and query technique. The *Diplomata Belgica* has been discussed in a number of articles in a more general context and also from the point of view of its authors and its creation methodology[2]. However, there are not many papers devoted to the presentation of the opportunities that *DiBe* offers in specific research contexts[3]. This is why the prosopographical potential of *DiBe*, shown here through the example of research on the Flemish Crusaders, is important to convey.

Before we proceed, however, we should first answer two questions. Why should we use databases at all? Why are they needed and what for? One of the main concerns of history is to identify historical actors during crucial events and processes. For ages, the main way of presenting them was to write about the most important of them (emperors, kings, popes, bishops). However, since the turn of the twentieth and twenty-first centuries, much more nuanced approaches have been in use. Scholars are interested not only in the lives and actions of key figures, but also in the masses; the fast development of historical demography can therefore be observed. Historians – looking to determine who, how many, how, and why – have elaborated specific fields such as social history and developed their methodology: prosopography, historical demography, and historical statistics, among others. Nevertheless, still the main issue and

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[1] I presented some aspects of this article at the V International, IX Interdisciplinary Conference on Nature – Human – Culture (Kraków, June 14–17, 2018).

[2] J. Deploige, B. Callens, Ph. Demonty, G. De Tré, 2010; G. De Tré, Ch. Billiet, A. Bronselaer, C. D. Barranco, 2016; G. De Tré, J. Deploige, M. Thaller, 2016.

[3] Examples include: X. Baecke, 2011 (master thesis supervised by one of the editors of *Diplomata Belgica* Jeroen Deploige; the basis for charter references was *Diplomata Belgica*); and E. De Paermentier, 2014, who proposed quantitative analysis of charters basing to their *dictamen*.

starting point for all historians remain the primary sources – without them, writing neither about key actors nor about the masses is possible. To meet the expectations of current approaches to social history, however, we need new ways of collecting and analysing primary sources.

In this article, databases are presented as tools made for a modern historian. The majority of the examples are related to social history (especially prosopography). The databases presented mainly focus on older epochs because of the amount of data available (primary sources, artefacts, etc.). What is feasible for several thousands of records (e.g. ancient inscriptions, medieval documents) would be impossible for hundreds of thousands of records (e.g. twentieth century files of governments and their agencies). In this article, two main types of digital databases are distinguished: (1) the first model containing elaborate data – a result of historical research presented in the form of a database instead of a printed edition[4]; (2) the second model containing raw (or almost raw) data, such as a collection of primary sources (inventory, repository).

1.2. General history and the need for databases

Nowadays, a researcher using digital tools can conduct research remotely and anytime. In the pre-digital era, it was not so easy, with hours spent in the archives and libraries, original old manuscripts sometimes being hard to decipher. It was easier with narrative sources, which were edited and issued quite early, for example those relating to the general view of the state or church history, but also not so numerous. Nevertheless, diplomatic sources, offering a much more detailed insight into particular issues, were still much more problematic: even if the most important were published, it was not the case *en masse*. From the nineteenth century on, however, the first pre-digital "tools" became available, namely collections of printed and edited sources: first, editions of sources collected and preserved by secular and ecclesiastical institutions; followed by broader publications, such as chronological lists of sources concerning specific themes or areas. Examples of such collections include the eleven-volume series by Alphonse Wauters[5], which is a chronological list of the then already-printed charters concerning the history of "Belgium" until 1350 (all medieval lands later included in the Kingdom of Belgium). Nevertheless, the series included only those sources that had already been printed (monasteries' cartularies, counts' chancelleries etc.). In addition, from today's point of view, the use of the collection was complicated, as it was necessary to use indexes of names and/or places to find required entries in the volume – even though this was then a development that still spared researchers much time. Another disadvantage was the inclusion of text summaries only – instead of full charter texts – to prevent the series from consisting of too many volumes, although with reference to existing printed editions where the full texts could be found.

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[4] A. V. Murray, 2005, p. 112–113.
[5] *Table chronologique…*, 1866–1971.

Thus, the researcher could locate the summary of a charter in such a collection and then locate the original document or its printed edition in an archive or library. In fact, all sciences need such gradual development – the creation of digital databases would not have been feasible without pre-digital collections.

Based on the information outlined above, it is possible to sketch the way in which the original document gradually becomes a digital database record: original document → copies in various chancelleries (copy of the issuer or recipient, for example in a monastery's cartulary) → printed edition of the preserved documents/copies → broader collections (e.g. chronological tables of charters) → digital database entry. Let us consider a real example. Pope Eugene III's confirmation of Ename Abbey possessions, dated April 3, 1148[6], was a document whose original was preserved in the cartulary of the abbey's archive and is currently stored at the State Archive in Ghent[7]. It was then edited, printed and published in several collections[8]; later included in the chronological tables of charters; and finally included in the *Diplomata Belgica*[9]. This digital database entry is the final form of data and contains multiple features: both the raw material (scan or photocopy of the original document and transcription of the full text) and elaborated information (summary of the charter, list of actors and places), as well as hyperlinks to the external resources and geolocation.

2. Examples of databases – features, potential and problems

2.1. Elaborated data model

2.1.1. Roman and Byzantine prosopographies

In the first place, prosopographical analyses of the Roman and Byzantine worlds need to be discussed. These civilisations have been the subject of interest of many historians, mainly British and German. In effect, standard paper editions have emerged since the second half of the twentieth century, including several lexicons of the Roman and Byzantine Empires, divided by time periods[10]. In the twenty-first century, several digital projects have also emerged, mostly based on the printed editions: *Prosopographia Imperii*

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[6] *Le pape Eugène III confirme les privilèges de l'abbaye d'Eename*, photocopy of the original document stored in the State Archive in Ghent is available through *Diplomata Belgica*: http://www.diplomata-belgica.be/view_img.php?src=images/81801.JPG

[7] *Inventaris Ename.*

[8] *Historia Mechliniensis*, p. 254.
Opera diplomatica, caput XVIII, p. 17.
Cartulaire Eename, n. 38, p. 37–40.
Table chronologique..., vol. 2 (1885), p. 290.

[9] *DiBe* ID: 883.

[10] *Prosopographia Imperii Romani Saec. I. II. III*, 1897–1898.
Prosopography of the Later Roman Empire, 1971–1992.
Prosopographie der mittelbyzantinischen Zeit, 1998–2002.
Prosopographisches Lexikon der Palaiologenzeit, 1976–1995.

Romani[11]; *Prosopography of the Byzantine Empire*[12]; *Prosopography of the Byzantine World*[13]; *Prosopographie der mittelbyzantinischen Zeit Online/ Prosopography of the Middle Byzantine Period Online (PMBZ Online)*[14].

Thanks to these databases, it is possible to find out "who was who" in the Roman and Byzantine worlds. In addition to the search and category selection functions, they feature a broad spectrum of data, including information about historical actors with only singular interactions with the Roman or Byzantine Empires; well-developed prosopographical registers and descriptions (with references to both primary and secondary sources) as well as information on seals (albeit only descriptions, without images). There are some weak points to be further developed, for example the basic appearance of most databases as they offer mainly text – registers and descriptions. Moreover, there is no additional content such as geolocation, internal or external hyperlinks, visual data, etc. It is clear, therefore, that continuity in such long-term projects of social history is crucial; they offer work for a couple of generations of historians, with one starting the research, another continuing it, and yet another digitising it.

2.1.2. *A Database of Crusaders to the Holy Land, 1095–1149* (DCHL)[15]

DCHL was compiled by renowned Crusades researchers: Jonathan S. C. Riley-Smith, Jonathan Phillips, Alan V. Murray, Guy Perry and Nicholas Morton. It contains information on the men and women who undertook the journey to the Holy Land before 1149, or until the end of the Second Crusade. *Its purpose is to enhance understanding of the motives and dynamics of the crusading movement by collating data on issues such as the identity and social status of crusaders and their relationships, family traditions and regional patterns of crusading, finance, mortality rates and gender issues.*[16] Thanks to *DCHL*, not only information on individuals (their lives, titles etc...), but also more complex data can be accessed: composition of contingents; contributions made by specific families, regions and countries; links between crusaders. The database allows browsing the list of Crusaders (e.g. according to the modern country of origin) as well as advanced searching. All records contain basic information: the Crusades in which the person participated, his or her relatives, financial arrangements, contingent leader and followers, actions taken before departure, as well as consequences of his or her participation in the Crusade. Each record is referenced back to primary sources, both narrative

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[11] *Prosopographia Imperii Romanii*, [online]: http://pir.bbaw.de, access: 25 III 2019.

[12] *Prosopography of the Byzantine Empire*, [online]: http://www.pbe.kcl.ac.uk, access: 25 III 2019.

[13] *Prosopogrpahy of the Byzantine World*, [online]: https://pbw2016.kdl.kcl.ac.uk, access: 25 III 2019.

[14] *Prosopographie der mittelbyzantinischen Zeit Online/Prosopography of the Middle Byzantine Period Online*, [online]: https://www.degruyter.com/view/db/pmbz, access: 25 III 2019.

[15] *A Database of Crusaders to the Holy Land, 1095–1149*, [online], https://www.dhi.ac.uk/crusaders/, access: 25 III 2019.

[16] *About*, [in]: *A Database of Crusaders to the Holy Land, 1095–1149*, [online]: https://www.dhi.ac.uk/crusaders/about/, access: 25 III 2019.

and documentary. However, the data are related only to the crusading activity; there is no general information regarding the Crusaders.

One of the best features of *DCHL* are internal hyperlinks as well as smart and useful categorisation of data. Among the drawbacks are the short period of coverage (only the First and Second Crusades), small number of entries, and no additional content available (geolocation, external hyperlinks, visual data, etc.). Still, *DCHL* is a good starting point for a new research project, since following references and genealogy charts can lead to further study. In this way, a prosopographical database could not only be considered an effect of study, but also as a tool providing a general framework and a starting point for new independent research; in the same manner in which genealogical trees provide a framework for research on particular families and their members.

2.2. Raw data model – repositories of primary sources

While discussing the "rawness" aspect of the data presented in this section of the article, it needs to be pointed out that these data are not completely raw; they required some initial elaboration prior to presentation. Moreover, raw databases might showcase various levels of complexity: responsive options, internal and external hyperlinks, query options and possibilities, external content, etc. as well as a synergistic capability of combining all of the above. Despite the large amount of human effort needed for the creation of the databases listed below, I classify them as repositories representative of the "raw data" model. The basis for this classification of these databases is the main purpose of these databases: the presentation of primary sources (narrative, diplomatic, archaeological) rather than offering elaborated data based on primary sources (effects of study, synthesis, etc.).

2.2.1. *Epigraphic Database Heildeberg* (EDH)[17]

EDH is one of the largest and the most complex databases presented in this article. It comprises four other databases: the core *Epigraphic Text Database* (over 78,000 records), *Bibliographic Database* (over 16,000 records), *Photographic Database* (over 38,000 records), and the most recent *Geographic Database* (over 29,000 records). The aim of *EDH* is the registering of ancient Latin and bilingual (Latin and Greek) inscriptions. Due to its interdisciplinary approach, conception and method of work, it is considered the leading international database project, as it collects and supplies reliable historical analysis of epigraphic monuments. The most important features are its regional focus, the possibility of combining the data as freely as possible, as well as hyperlinks between the *Epigraphic Text Database* and the other constituent databases mentioned above. Its authors state that their aim is to compile a complete and reliable database for online research work. The long-term aim, on the other hand, is to make all Latin and Greek inscriptions from Antiquity

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[17] *Epigraphic Database Heidelberg*, [online]: http://edh-www.adw.uni-heidelberg.de, access: 25 III 2019. Please consult a review too: A. Hartmann, 2018.

available online in a standardised way. According to the webpage of *EDH*: *Almost all of the records present texts, which have already either been edited in the monumental Inscription corpora – in many cases still valid, but often do not fulfil the standards of modern textual editorial practice – or published, revised and discussed in thousands of scholarly articles. The texts and metadata of the inscriptions are thus presented on the basis of up to date scholarly research.*[18] Significantly, the texts of the inscriptions are not simply copied from printed editions and secondary literature. Before publishing, texts are verified on the basis of drawings, photographs, or original artefacts, and the user is informed about the method of verification in the "status field" entry, which is especially valuable for other researchers. *EDH* was also created on the basis of older tools: inscription card indexes, photographs, bibliographies and further auxiliary materials facilitate the creation of the text database while bibliographic card indexes allowed the creation of a bibliographic database. In addition, photographic archives allowed for the creation a photographic database, which points to the longevity and importance of continuity in such research projects. Each entry consists of brief information given on transcription, letter case, dating, place (original and modern name), literature, geolocation, as well as several photographs (not only of a text itself, but also of any additional content, such as the area and place of origin or depictions along the text or even at the opposite site of the artefact).

The most important features of *EDH* are the breadth of the area covered by the enormous amount of data, impressive internal hyperlinks (four databases integrated into one), search options (many categories and text analysis), primary sources and literature references, and visual data (photographs). Things that could still be done include adding external hyperlinks and making the data in different areas more uniform in terms of their level of elaboration. Nevertheless, *EDH* is a very useful tool and provides multiple research opportunities.

2.2.2. The Narrative Sources from the Medieval Low Countries (NaSo)[19]

NaSo is the result of older research projects at the medieval history departments of the Ghent University and University of Leuven, which serves as more evidence of the need for longevity and continuity in such undertakings. The current version of *NaSo* was published online in November 2009 by the Belgian Royal Historical Commission and funded by the Flemish Hercules Foundation as a relational database, with the possibility of a further adaptation of the information. Currently, the database contains approximately 2,200 records and, what is important, users' feedback can be used to submit new entries into the database after acceptance by the Advisory Board. The main purpose of *NaSo* is to offer a survey of all the narrative sources originating

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[18] *Concept*, [in:] *Epigraphic Database Heidelberg*, [online]: https://edh-www.adw.uni-heidelberg.de/projekt/konzept, access: 25 III 2019.

[19] *The Narrative Sources from the Medieval Low Countries*, [online]: http://www.narrative-sources.be, access: 25 III 2019.

from the medieval Low Countries: annals, chronicles, diaries, letters, genealogies, poems, saints' lives, etc. The database covers modern Belgium and the Netherlands as well as the historical areas of the Low Countries (located in modern-day France and Germany). The texts date to the period from the sixth to the first half of the sixteenth century.

Each record, with an individual identification number, contains the following data: type, language, author, title, date and place of origin, as well as any related manuscripts, printed editions and secondary literature. All information was originally entered in Dutch only, but now an English version is available, too, making life easier for researchers from abroad. Despite quite a basic outfit, *NaSo* offers interesting features such as information on influence (between different texts) and external hyperlinks to related editions available online. The lack of geolocations of the texts is one of few drawbacks.

2.2.3. *3D KULTURDATENBANK Römische Archäologie*[20]

This database differs significantly from the other mentioned examples as it is a database of objects, namely archaeological findings from Lower Austria. The archaeological collection of Lower Austria currently consists of more than 2,000,000 archaeological artefacts, and the annual excavations yield new discoveries. The findings are stored in the depot of the Kulturfabrik Hainburg, of which only a small part can be presented in standard exhibitions. To give the interested public or experts easy access to the archaeological artefacts, it was decided that users would be provided with attribute data, information on geometric conditions and with a model of the findings. Both the metadata and the objects are still being updated online. About 1,000 items are laser-scanned and uploaded into the database every year. Each object is presented with a high-resolution photograph and a movable 3D model. There is also a basic description: place and date of finding; material, dimensions and weight; proposed dating of the artefact; and secondary literature on it.

In summary, this database offers great visual data (photographs and 3D models) and features an enormous number of records that can be searched for and selected from categories. There are also many unnamed artefacts being published so as to keep the database continuously updated with new objects. Worth noting is the fact that, despite rich additional features, the basic scientific apparatus consisting of the primary sources and literature references is still adequate. At the same time, the database would benefit from minor additional features such as internal hyperlinks – it would be helpful to observe relationships among such a large number of objects and external hyperlinks to the references available online. Geolocation would be a useful function, too, and maybe also a combination of dating and geolocation (timelines for specific sites and lists of findings revealed there).

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[20] *3D KULTURDATENBANK Römische Archäologie*, [online]: https://www.kulturdatenbank.at, access: 25 III 2019.

2.2.4. *Diplomata Belgica. The Diplomatic Sources from the Medieval Southern Low Countries* (*DiBe*)[21]

DiBe is a project of the Belgian Royal Historical Commission (*Koninklijke Comissie voor Geschiedenis*), funded by the Belgian Science Policy Office, the Hercules Foundation and the Henri Pirenne Institute for Medieval Studies at Ghent University. It was carried out by the Ghent University staff, both medievalists and computer scientists, and offers a critical survey of all the diplomatic sources (both edited and still unpublished) issued or received by natural persons and legal bodies from the medieval Southern Low Countries. It covers modern Belgium and areas that belonged historically to the Southern Low Countries in modern-day France, the Netherlands, the Grand Duchy of Luxembourg and Germany. Currently *DiBe* contains metadata of almost 35,000 charters and deeds (in Latin, Old-French, Middle Dutch and Middle High German), almost 19,000 full text transcriptions, and almost 5,000 photocopies of original charters; all 35,000 records contain at least French summaries. The database aims to exhaust the period before 1250, but in the future it will also include late medieval diplomatic materials. The work on the *DiBe* project began in the mid–1980s, with the aim at a complete and computerised revision of the *Table chronologique des chartes et diplômes imprimés concernant l'histoire de la Belgique* by Alphonse Wauters[22], which provides textual analyses of all edited charters from the period before 1350. In 1997 CD-ROM *Thesaurus Diplomaticus*[23]*,* edited by Paul Tombeur, Philippe Demonty, Walter Prevenier and Marie-Paul Laviolette, was published and distributed by Brepols Publishers, offering an analytical survey of all diplomatic sources written in Latin, between circa 640 and 1200. After 1997, Philippe Demonty (as a contract researcher for the Belgian Historical Commission) continued to collect new data in order to improve and to supplement the dataset covering the period 640–1200, as well as to extend the collection to the subsequent decades (1200–1250). The desire for a new data structure and a new relational database system encouraged the Commission to cooperate with a team of medievalists and computer scientists at Ghent University on a joint project known as *Sources from the Medieval Low Countries* and directed by Jeroen Deploige. *DiBe* became an open access database and received new information fields and features such as hyperlinks and geolocation. According to its authors, such an inventory is never finished but is a continuous work-in-progress. At any moment, based on the authors' research or feedback from users-researchers, new data can be added and the existing data can be changed – to keep the *DiBe* up-to-date.[24] *DiBe* was imagined as a useful tool for historians dealing with documentary sources

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[21] *DiBe*, [online]: http://www.diplomata-belgica.be, access: 25 III 2019.
[22] *Table chronologique...*, 1866–1971.
[23] *Thesaurus Diplomaticus*, [CD-ROM], 1997.
[24] *About*, [in:] *DiBe*, [online] http://www.diplomata-belgica.be/about_en.html access: 25 III 2019.

covering the Middle Ages. This has been was achieved, as there are some works that have been prepared mainly or only with *Diplomata Belgica* as a reference[25].

Nowadays, Wauter's collection could be called an old *Diplomata Belgica* – and, indeed, as discussed above, his work constitutes a basis for the database. Nevertheless, *DiBe* refers to other works too, also modern ones – among them, the newest publications related to the matter of a charter or the full text of a source. However, one needs to keep in mind that during works on the *DiBe* project, no new or original queries in the relevant archives and libraries took place – only digitisation of information on the known charters, both edited and unpublished. However, in *DiBe* there are scans (photographs) of original documents, even if there is no existing transcription of the full text available in the printed works. Such charters have been scanned and included in the project, as long as there was any mention of them in any printed publication. It is very important to be aware that despite the tool being modern, in some cases the state of knowledge of specific charters stems from its origins in the nineteenth century (and was replicated through the period of over a hundred years). However such situations are rare as there are multiple modern works to which *DiBe* refers and everything is done to keep the database up-to-date and to use a critical scientific apparatus (for example, multiple datings from multiple experts are sometimes given for charters).

The key features of *DiBe* are its essential "Formulary"[26] search and "Analysis" (text lookup). Useful additional content and functionalities include geolocation, internal and external hyperlinks, and visual data. Among things that are still to be done are the dataset of the remaining diplomas from before 1250, and the supplementation of gaps in full texts for about 16,000 records. In addition, search options could be enriched with some possibilities, for example with *is* or *is not* conditions for a "Formulary" search. This would be helpful in limiting the number of records, especially in situations where the basic information is imprecise and the application of multiple entries is needed (e.g. name variations), which naturally yields too many results to look through.

2.3. Other examples

Other interesting examples of databases not presented here in detail include the *Aristoteles Latinus Database* (*ALD*) – a complete corpus of medieval translations of the works of Aristotle[27]; the *Database of Byzantine Book Epigrams (DBBE)* – a project offering textual and contextual data of book epigrams from medieval Greek manuscripts (from the seventh to the fifteenth

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[25] E.g. previously mentioned master thesis by X. Baecke, 2011, or paper by E. De Paermentier, 2014.

[26] By "Formulary" search, I mean query according to various categories, where entries could be selected from the list (and results are limited to these entries) – in contrast to "Analysis" search, where any phrases could be entered manually to lookup the summary of full text of charters.

[27] *Aristoteles Latinus Database – Online*, [online – subscription access only]: http://www.brepols.net/Pages/ShowProduct.aspx?prod_id=IS-9782503577319-1, access: 25 III 2019.

centuries)[28]; another prosopographical database called the *Europa Sacra* – the most comprehensive tool for the Church prelates in the Middle Ages[29]; and the *Regnum Francorum Online* (*RFO*)[30] – a collection of hyperlinks (5764 entries) to digitised editions of primary sources and literature concerning early medieval Europe (available online).

2.4. Summary of examples and their features – possibilities and problems

The most important advantages of the mentioned examples is the amount of information given and its complexity, especially in cases where elaborated data are presented; e.g. in the case of prosopographical databases containing information on historical actors. In standard printed editions, this breadth of information, even if could be achieved, would be complicated in use and hard to operate on. In contrast, thanks to the search options, responsiveness and hyperlinks (both internal and external), databases allow operating and analysing huge amounts of data. This is also the case with the repositories providing "raw" data for research (primary sources collections, archaeological artefacts). Browsing such large numbers of sources, for example the 2,000,000 artefacts of the archaeological collection of the Province of Lower Austria, in conventional printed or physical forms would be quite complicated. Even if personal contact and analysis of an item is required in research, the initial query and selection of source material could be done using such database (online collection).

The most serious issue from the point of view of the creation process of a database is related to the enormous workload of the teams responsible for processing records and, therefore, to the quality of the records: the full-text transcriptions of all primary sources or the analysis of all available sources. Not all of the databases contain complete or sufficient material. However, once developed and completed, they could serve mankind for many years. Another problem is that of human errors, namely replications of old lapses, typos and similar issues, which can also occur during the digitisation process (e.g. entering data into forms). This problem can be observed by researchers who spend more time on detailed queries. Nevertheless, in defense of the application of databases, one needs to point out that standard printed editions are not free of errors, either. Moreover, the databases discussed in this article are still "projects in progress"; users can provide feedback and thus participate in development. Yet another problem is related to the type of research that is done using one of the discussed databases. Not all research (or analysis of specific data) is feasible using databases of the elaborated data model,

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[28] *Database of Byzantine Book Epigrams*, [online]: http://www.dbbe.ugent.be, access: 25 III 2019.

[29] *Europa Sacra – online*, [online – subscription access only]: http://www.brepols.net/Pages/ShowProduct.aspx?prod_id=IS-9782503582092-1, access: 25 III 2019.

[30] *Regnum Francorum Online*, [online]: http://francia.ahlfeldt.se/index.php, access: 25 III 2019.

especially not using the prosopographical ones, which are perfect for social history but not helpful for art history, mental history etc. Thus, this particular problem is rather related to data selection than to the databases themselves. It is just a matter of correctly matching the research topic with the adequate type of basic information or primary source (and hence with the adequate databases or repositories). Again, a prosopographical database would not be a good choice to collect data for art history, but there are multiple dedicated repositories containing works of art and commentaries on them.

In summary, there are several important opportunities for research using the discussed databases. They allow entirely (or almost entirely) home-based research, offering large amounts of data, deeper query possibilities, and analysing tools. The application of the same corpus of primary sources allows a broader range of searches than standard printed editions since the source material can often be spread across various archives and libraries. This is especially noticeable if the newest research conducted through databases is compared with older studies, which contained some omission. Analysing tools offer more advanced possibilities of primary source examination such as the text lookup option, and digital analysis in general is faster and more accurate: what required hours in the past could now be done in minutes, as long as the data are standardised and accurate search script is prepared. Moreover, databases allow for immediate comparison and consultation of the material available online (primary sources, archaeological artefacts, literature).

Below, considering all the points covered so far in this article, a perfect database is imagined in order to suggest features that are indispensable in making a successful query. In the first place, a perfect database should be fully responsive, or feature clear-cut formulary and text analysis. References should list all known publications: primary sources, their editions, and literature on the matter, as well as external hyperlinks for immediate online consultation. Additional content should include scans of original texts, laser-scans of artefacts and 3D models. The graphical aspect should also be maintained at a high level: clear but attractive.

One question that arises about the future of databases in historical research is whether, at the moment they will have been perfected to excellence, they will still be needed due to other changes and developments? Perhaps new tools will emerge that will be more helpful and needed, as new research themes and approaches are considered? But this question is a rather distant one. Since the basis of historical research is primary source analysis, online repositories (of the primary sources, archaeological artefacts and literature) will continue to be indispensable, and they will continue to be created and continuously expanded to allow for broader and deeper queries. In fact, in the future, data selection, combination, interpretation and contextualisation in addition to the original research idea will prove ever more important than the hours spent in the archives and libraries.

3. *Diplomata Belgica* in prosopographical research on the Flemish Crusaders – basic information, features, methodology and technique; opportunities and problems

3.1. *DiBe* functionality: internal organisation and the most important features

Murray has suggested that prosopographical research based on diplomatic evidence can provide much deeper and broader insight into the topic of the Crusades than application of narrative evidence alone[31]. However, the investigation, analysis and compilation of broad and detailed diplomatic evidence requires thousands of work hours. In turn, such a study would be impossible without new tools like databases, or primary sources repositories. *DiBe* allows for analysis of both edited and published and still unedited and unpublished charters thanks to the photocopies of original documents. All charter references are to database records, according to the following pattern: *DiBe 12345*, where digits comprise a specific and permanent record number assigned to each available charter with its metadata. Referencing to database records is not only by a manner of query (using database records, not original or printed material), but also by the broad possibilities offered by such a system. As suggested by Murray, databases allow overcoming the issue of the separation between evidence and interpretation[32]. Hence, a database can provide the reader with the intermediate possibility of consulting the sources and independently checking the interpretation offered by an author. Moreover, it can act as a multi-reference, as each charter metadata contain information on the printed editions of primary sources in which the text of the analysed charter can be found and on the secondary and other sources related to it. Where possible, hyperlinks to online open-access versions of these outside resources are supplied, making *DiBe* not only a primary source repository, but also a great research tool, also for prosopographical research, as charters are assigned to persons (authors, issuers, or recipients). The majority of queries can be executed using the names of persons related to each charter, but these are not required as more general data are sufficient for a search, such as principality or diocese of origin.

Below follows a brief presentation of query possibilities. In the first place, each charter contains metadata that are divided into data categories, concerning not only the charter but also historical actors related to it. Query options are also based on these categories and are twofold: (1) search according to the "Formulary" (namely data categories listed above) and (2) "Analysis" (search in summaries or in full texts of charters). The first option allows for determining a specific charter or group of charters that meet the pre-set conditions, where category fields can be filled in manually or through a selection from a list of entries. It is enough to fill in just one of the category fields to execute a search,

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[31] A. V. Murray, 2005, p. 116.
[32] A. V. Murray, 2005, p. 112–113.

which is useful when only partial information is known to a researcher. Some of the available search categories (thereby categories of metadata in each record-charter) are briefly presented.

DiBe ID: specific and permanent number of a record-charter; searching with it will return one specific record. **Language** (Dutch, French, German, Latin): returns only those charters whose original language meets the language condition; it yields the results even a full text transcription is not provided thanks to the information on the language in the metadata of a charter. **Role** (author of the *actio juridica*, beneficiary, issuer): specifies the role of a historical actor in a charter; needs to be supplemented with additional entries describing the person, described below. **Name** (name of the person mentioned in charters, acting in one of the three roles listed above): unfortunately it is impossible to find any other historical actors mentioned in the narration of a charter or those acting as witnesses; this category field can be a bit problematic, since one person can be referred to by several names, depending on the manner of referring to him or her in the charter text; sometimes multiple choices need to be selected and, of course, some names can also be imprecise, resulting in many irrelevant records found. **Diocese**, **institution/jurisdiction**, **religious order**, and **principality** (allows locating the charter, or a person related to it, according to its geographical, or institutional affiliation): these categories limit the search area and number of records; they are useful especially when historical actors related to the charter cannot be precisely named and the number of returned records can be enormous. **Function** (e.g. castellan/lord, bishop, etc.): further limits the number of historical actors related to the charter and makes the search more precise; helpful especially when used together with diocese, institution/jurisdiction, religious order and principality categories. All of the above data categories can be used without specifying **Name** – in such case, all charters meeting the selected conditions (e.g. diocese, principality, etc.) are returned, disregarding person related to it. Another important condition of a search is the date of the charter. *DiBe* offers three types of dating: **scholarly dating (preferential)**, **scholarly dating (any)** and **date in the charter**. The model of entering a date is: DD/MM/YYY – DD/MM/YYY, where none of the fields or any number of fields can be filled in. In addition, the **place-date** condition (geographical location of the charter issue action) can be used, too.

Searching with the "Analysis" tool is much more complex, offers more opportunities, but is also the most time-consuming. Text analysis can be done within a charter summary (in French, which has been written for all records) or within the full text of a charter (which has been added to about 19,000 records). In prosopographical research, the "Analysis" tool as applied to French summaries is the least useful, since summaries contain relatively small amounts of prosopographical information. Both search options ("Formulary" and "Analysis" of full texts) are complementary. On the one hand, not all historical actors mentioned in the narration or acting as witnesses can be found by the "Formulary"– only "Analysis" could reach them in the full texts. On the other hand, not all records feature full texts and thus cannot be browsed with

"Analysis" – but all of the records can be found by the "Formulary" search (as long as some basic information can be entered into categories). Therefore, to supplement "Formulary" queries, the complex "Search Syntax"[33] script can be applied to yield more valuable results. "Analysis" is a great search tool, offering many possibilities (syntax combinations and wildcards) and allowing customising one's own search methods and techniques of search[34].

In addition to the standard search discussed above, there is also a "tradition search", which allows looking for a charter based not on its internal data but on the information on charter repositories, collections, manuscripts etc. However, this option will not be discussed here, since the standard search is the only option used in the presented research context and a more efficient one.

3.2. Context – prosopographical research on the Flemish Crusaders

Before discussing the technique of applying *DiBe* to a prosopographical study on the Flemish Crusaders, I must describe the latter. My research focuses on social relations, social mobility and participation in a realm's administration and power apparatus in the twelfth century. I use the example of the Flemish Crusaders and analyse this research group using a prosopographical method. To trace the patterns of social relations, social mobility and "state" (better described as realm) formation, I collect information on the social aspects of life of the Flemish Crusaders. I organise such data according to various categories such as geographical distribution, links to the centres of power, connections between the Crusaders etc. The basis of research are medieval charters, which contain large amounts of social (prosopographical) data. It is therefore necessary to study a sufficient quantity of them, and to do so properly and in detail.

It is important for any prosopographical research that basic information on the given research group, for example their political and social organisation or genealogical information, be available in secondary literature. In fact, it is possible to establish the list of Flemish participants in the Levantine Crusades, as well as Flemish members of military orders. In addition, however, one's own search for additional participants can be done if omissions had been made in the literature. Having such basic information, it is possible to start a new research on the details of the social aspects of the Crusaders' lives. The most important basic data necessary for such further research include personal names, time span, local names, titles and family relations.

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[33] For more details on the "Search Syntax", please consult: *Wildcards, operators and other search facilities in Diplomata Belgica*, [in:] *DiBe*, [online] http://www.diplomata-belgica.be/syntax_en.html, access: 25 III 2019.

[34] Please consult already cited exemplary research on *dictamen* analysis: E. De Paermentier, 2014; more on the other possibilities: G. De Tré, Ch. Billiet, A. Bronselaer, C. D. Barranco, 2016.

3.3. *DiBe* application in context

3.3.1. Exemplary queries

In my research, I have made two sorts of searches in *DiBe*. The first one used the "Formulary" option to find charters authored, issued or received by Flemish Crusaders (further referred to as protagonists). The second was a series of "Analysis" searches for any charters related to my protagonists; for their activities mentioned in the narration of charters or for their witnessing of charters. I searched in full texts only, since French summaries contain relatively small amounts of interesting information. Below, I discuss some of the searches that I made to find information on Everard-Ralph III, castellan of Tournai, present in primary sources in the years 1157–1189[35].

In the first stage of my search, I used the "Formulary" option and applied the following data categories: **Function**, **Institution/Jurisdiction** and **Name**. Since I wished to find all charters related to Everard-Ralph III, I left the **Role** field empty. Neither did I fill in other category fields, since I did not deem them as necessary. To limit the amount of results, in case of possible multiple dating propositions, I applied the following scholarly dating (any): 1137–1209. I extended the time span suggested by Warlop by twenty years in each direction in case of possible errors, wrong affiliations or unrevealed sources. I decided that it was better not to combine too many data categories, as this could unnecessarily limit the number of results if not all conditions could be met, for example if the protagonist is known mainly for his castellan's activity, but some charters are not affiliated to the castellan function but rather to his personal activity, especially in the period before his term.

I conducted the first search with the institution/jurisdiction and function categories:

FUNCTION: *castellan/lord; lord (of a seigniory); miles/knight; other*

INSTITUTION/JURISDICTION: *Cambrai-Tournai; Cambron (Shelter Tournai); Celles-lez-Tournai; Noyon-Tournai; Noyon-Vermandois-Tournai; Tournai; Tournai (Abbeys and chapters); Tournai (Bons-Enfants); Tournai (Bruille); Tournai (Chaufours); Tournai (Churches); Tournai (Court Des Prés); Tournai (Crosiers); Tournai (Flanders); Tournai (Franciscans); Tournai (Maison des Anciens Prêtres); Tournai (Marvis); Tournai (Notre-Dame); Tournai-Noyon; Tournai (Prés-Porcins); Tournai (S.Brice); Tournai (S.James); Tournai (S.Martin); Tournai (S.Médard); Tournai (S.Nicholas); Tournai (S.Nicolas-des-Prés); Tournai (S.Pancra); Tournai (S.Peter); Tournai (S.Piatus); Tournai (S.Quentin); Tournai (S.Vincent); Tournai (Saint Vincent's chapel); Tournai (Val d'Orcq); Vermand-Tournai-Noyon*[36]

This search returned 55 results, which needed to be reviewed and analysed. The majority of these records proved relevant; only several charters from the border dates (1157 and 1189) concerned previous or successor castellans.

Still, I selected another possible set of categories for my search:

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[35] E. Warlop, 1976, n. 210/16, p. 1154, 1159–1160.
[36] All Tournai-related entries, not to limit the results.

NAME: *Evrard III;Evrard-Raoul III;Rudolf III*[37]
FUNCTION: *castellan/lord;lord (of a seigniory);miles/knight;other*

This search returned 27 results to review and analyse. Again, the majority was relevant; however, many were duplicated results of the previous search.

Thus, my "Formulary" searches allowed me to identify 26 diplomas in which Everard-Ralph III played a major role (as issuer, disposer or recipient)[38].

In the second stage of my search, I used the "Analysis" option, which allows the entry of personal and place name variations as a basis (taken from primary source collection indexes or from one's own research experience), and titles (knight, lord, bishop, etc.). To execute an efficient search, I entered different combinations of the required fields (personal name + local name; personal name + title; local name + title). I also had to list all the potential variations of my protagonist's names: Everard – *Eberard, Eberardus, Ebrard, Ebrardus, Everard, Everardus, Evrard, Evrardus, Everaerdus, Eueraerdus, Ewerard, Ewerardus, Ewrard, Ewrardus, Euerard, Euerardus, Eurard, Eurardus*; Ralph – *Radulfus, Radulphus, Radolfus, Radolphos, Rodulfus, Rodulphus, Rodolfus, Rodolphus, Rudulfus, Rudulphus, Rudolfus, Rudolphus, Radol, Radolf, Radoul, Radul*. I did the same for the place name: Tournai – *Tornacensem, Tornacensis, Tornacensium, Tornaco, Tournai*. Everard-Ralph's function was: castellan of Tournai (*castellanus*), but I also identified him as lord (*dominus*) and knight (*miles*) of Tournai. While combining each version of a personal name with each version of a place name (and so on) would require an overwhelming amount of work, the "Search Syntax" option offers some simplification possibilities. In the first place, all lowercase *v*'s are converted to *u*'s, and all lowercase *j*'s are converted to *i*'s. In addition, the usage of an asterisk wildcard (*) is helpful, since the asterisk can replace one or more characters (or none) and can be used in front, within or at the end of a word; placing it at the end is especially useful, as it solves the issue of multiple Latin declension forms or, possible writing errors. The same is true for the dot wildcard (.) – this sign, however, replaces exactly one character. Thus, in the "Search Syntax" script my entries could be simplified to: Everard – E.erar*, E.rar*, E.eraer*, Ralph – *R.du*, R.do*, Rad**; Tournai – *Torna*, Tourn**; functions – *castel*, domin*, mile** and *milit** (in case of plural lists where the form *milites* occurs). At the same time, versions of word forms that are too abbreviated can yield too many irrelevant results; for example, a search with *pat** can return the results containing not only *pater*, *patri* and other declension forms of this word form, but also unrelated results like *patronus*, *patria*, *patrui*, etc. It is therefore important to balance between detailed and broad searches, where the first type can leave relevant charters behind and the second can yield too many irrelevant results.

After determining the appropriate word forms, I finally carried out my searches using the "Search Syntax" option. Let me present one of them: */2(WO*

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[37] Various versions of entry (versions of his name which could occur), not to limit the results.

[38] *DiBe* ID: *5273, 36377, 7380, 22, 23, 7381, 7382, 11076, 924, 794, 7389, 7387, 7388, 2063, 7383, 7384, 2695, 6996, 2881, 2880, 11047, 7385, 7386, 36245, 2165, 11810.*

RD1;WORD2),/2(WORD3;WORD4). Semicolons (;) mean "and" (in the syntax it means that both word forms within the parentheses need to occur in the text); colons (,) mean "or" (thanks to it, several combinations can be searched for at the same time). */2* means that words provided in the parentheses can occur in the full text in any sequence, but within a range of two words (e.g. *WORD1 Dei gratia WORD2*). Thus, this search script retrieved all charters where in the full texts *WORD1* **and** *WORD2* occur **within a range of two words**, **or** *WORD3* **and** *WORD4* occur **within a range of 2 words**. To limit the number of results (much more abundant than those yielded by a "Formulary" search), I narrowed the time span to the years 1152–1194 (–5 and +5 years to Warlop's dates).

Including the previously determined word forms in the model of */2(WORD1;WORD2),/2(WORD3;WORD4)* will result in the following search scripts:

COMBINATION OF BOTH HIS NAMES[39]

/2(E.erar;R.du*),/2(E.rar*;R.du*),/2(E.eraer*;R.du*),/2(E.erar*;R.do*), /2(E.rar*;R.do*),/2(E.eraer*;R.do*),/2(E.erar*;Rad*),/2(E.rar*;Rad*),/2(E. eraer*; Rad*)*

Returned 41 results.

PERSONAL NAME + PLACE

/2(E.erar;Torna*),/2(E.rar*;Torna*),/2(E.eraer*;Torna*),/2(E.erar*; Tourna*),/2(E.rar*;Tourna*),/2(E.eraer*;Tourna*),/2(R.du*;Torna*),/2(R.do*; Torna*), /2(Rad*;Torna*),/2(R.du*;Tourna*),/2(R.do*; Tourna*), /2(Rad*; Tourna*)*

Returned 88 results.

PERSONAL NAME + TITLE

/2(E.erar;castel*),/2(E.rar*;castel*),/2(E.eraer*;castel*),/2(E.erar*; domin*), /2(E.rar*;domin*),/2(E.eraer*;domin*),/2(E.erar*;mile*),/2(E.rar*; mile*),/2(E. eraer*;mile*),/2(E.erar*;milit*),/2(E.rar*;milit*),/2(E.eraer*; milit*), /2(R.du*; castel*), /2(R.do*;castel*),/2(Rad*;castel*),/2(R.du*; domin*), /2(R.do*;domin*), /2(Rad*; domin*),/2(R.du*;mile*),/2(R.do*; mile*),/2(Rad*;mile*),/ 2(R.du*; milit*), /2(R.do*;milit*),/2(Rad*;milit*)*

Returned 128 results.

TITLE + LOCAL NAME

/2(castel;Torna*),/2(domin*;Torna*),/2(mile*;Torna*),/2(milit*;Tor-na*),/2(castel*;Tourna*),/2(domin*;Tourna*),/2(mile*;Tourna*),/2(milit*;Tour-na*)*

Returned 55 results.

In total, all of the search scripts returned 312 records – to be reviewed for any mentions of the protagonist under analysis. The review was made easier by the fact that queried phrases were highlighted in the full text. Some of the results were the duplicated records from the "Formulary" search, where the

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[39] Not applied usually, as other protagonists are known by only one name. Due to this, also two of the following search scripts are doubled: PERSONAL NAME + PLACE and PERSONAL NAME + TITLE.

protagonist was also mentioned but acted as an issuer, disposer or recipient – these could be immediately rejected. Other results to be rejected mentioned someone with a similar name, function or place of origin, which is why they were revealed in this search. Finally, only 22 diplomas where Everard-Ralph III played a minor role (being mentioned or acting as a witness) were found[40] – this statistic shows the amount of time and work required for such search despite its home-based character.

3.3.2. Statistical analysis of the search results – interpretations and conclusions

Since the main purpose of this paper is the presentation of the potential of databases and the methodological issues related to using them, I offer only basic statistics and commentary with conclusions.

Table 1. Number of charters related to Everard-Ralph III, according to his role.

		SUBTOTAL
ISSUER/DISPOSER	23	26
RECIPIENT	3	
MENTIONED IN THE TEXT	9	22
WITNESS	12	
MENTIONED IN THE TEXT + WITNESS	1	
TOTAL	48	

Table 2. Types of recipients of the charters issued or disposed by Everard-Ralph III.

		ACCORDING TO THE ORDER	
ECCLESIASTIC INSTITUTIONS	22	OSB	9
		OPrem	8
		OCist	2
		ARROUAISE	3
TOWNS / ALDERMEN	1		
TOTAL	23		

This data shows the legal activity of Everard-Ralph III. The main recipients of his charters were, despite his office, the ecclesiastic institutions resulting in a broad spectrum of affairs and recipients with which or whom he was dealing. One needs to take into consideration that such a picture results partly from the good preservation of the ecclesiastic institutions' archives. Unsurprisingly, the majority of recipients were Benedictine monastic houses, as the order with the most locations and the largest influence. Interestingly, however, Premonstratensians are almost equally represented. Surprisingly, Cistercians are underrepresented in Everard-Ralph's legal activity, despite the fact that con-

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[40] *DiBe* ID: *3010, 4937, 3305, 11811, 7630, 73, 2971, 8554, 10154, 2676, 10210, 13225, 15276, 7390, 4000, 2280, 2105, 4018, 7148, 3022, 7548, 2064.*

Table 3. Key historical actors in the charters related to Everard-Ralph III of Tournai.

	COUNTS	BISHOPS	OTHERS	TOTAL
ISSUERS/DISPOSERS (CHARTERS RECEIVED FROM THEM)	1	2	0	3
CO-AUTHORS OF HIS CHARTERS	3	2	7	12
MENTIONED IN THE CHARTERS BY	4	1	5	10
WITNESSED THE CHARTERS BY	11	0	2	13[*]
TOTAL	19	5	14	38

* This number exceeds 22 established charters (as presented in the Table. 1), as in one charter Everard-Ralph III was both mentioned and acted as a witness.

nections between them could be expected due to his participation in the Crusade in 1177 and the Cistercian crusading propaganda. It might therefore be assumed that Crusading ideas came to him from somewhere else.

Tracing Everard-Ralph's connections with various power centres can be interesting as well. Below I analyse the co-authors of his charters and his presence in charters issued or disposed by other persons (mentions, witnessing) to find any relations with the key historical actors in the region.

Only three charters issued or disposed by Everard-Ralph III were co-authored by counts, and only one charter was issued for him by a count. This can lead to the assumption that despite his position as a castellan, Everard-Ralph III was not involved in the political life of the county, nor did he participate often in the legal activity of the counts. Nevertheless, there is also the other side of the coin. Half of the charters in which Everard-Ralph III is mentioned were issued by counts; in addition, 11 out of the total of 13 documents witnessed by him were issued by counts. It thus seems that the previous assumption is invalid – Everard-Ralph III was quite close to the centre of comital power, since almost each of the charters witnessed by him was of comital origin (as were probably the rest of them). To solve this problem, I take a broader view and confront all the comital charters from the period of Everard-Ralph's presence in the sources while comparing him with another dignitary.

In the period 1157–1189 – the period Everard-Ralph III was present in the sources – there were two consecutive counts of Flanders: Theoderic of Alsace and his son Philip of Alsace. I therefore enter their names in the **Name** field in the "Formulary" search. In addition, I limit the query to the charters issued or disposed by them – in the **Role** field, I select the options "Author of the *actio juridica*" and "Issuer". **Scholarly dating (any)** should be set to: 1157–1189. To make the analysis objective, I analyse only those charters with a full text. Unfortunately, there is no option such as "full text available" (only **DiBe IMAGES AVAILABLE** checkbox). Nevertheless, this problem can be overrun by typing an asterisk wildcard (*) in the "Search in full text of charter" field. From here, I apply the following set of categories:

ROLE: Author of the actio juridica;Issuer
NAME: Theoderic of Alsace;Philip of Alsace
SCHOLARLY DATING (ANY): 1157–1189
SEARCH IN FULL TEXT OF CHARTER: *

This search yields 645 records. Out of this total of comital charters that contain the full text in *DiBe* (and are available for research on protagonists being mentioned or acting as witnesses), Everard-Ralph III was mentioned in only 4 and witnessed only 11 (only 0,62% and 1,71% of all contemporary documents issued or disposed by the counts, respectively). Let us compare this result with another dignitary, Roger I, castellan of Kortrijk and Ghent (present in the sources in the years 1128–1190), mentioned in 9 charters and witness to 126 documents in total (of which respectively 8 and 99 were of comital origin). For that period, 791 charters issued by counts (with full text available) are present in *DiBe*. Thus, Roger I was mentioned in 1,01% and witnessed 12,52% of all contemporary comital charters – these numbers are much more impressive. To gain a full contextual view, however, individual results have to be confronted with those obtained for numerous other dignitaries (especially castellans). In this way, it will be possible to see how much and to what extent any of them was involved in the centre of comital power, or constituted the closest entourage of the count.

My research outlined above can be seen as a very basic one, with a modest primary source corpus (about 50 charters) and without far-reaching interpretations and conclusions. However, as it was pointed out, this article has aimed to present the potential of digital databases – especially the methodology of prosopographical research in using one of them (*DiBe*) – rather than to stand as a full and complex case study. Such a presentation is easier to make and easier to understand with simple examples, like that of Everard-Ralph III, castellan of Tournai. Nevertheless, one should keep in mind that the main feature of prosopography is its quantitative character and aggregate results – whereby the impact of extraordinary and extreme cases is minimized by the weight of more representative examples.

In addition, a methodological comment on the character of the origins of the sources is now in place. The origins of the physical copies of the analysed charters are diverse: they came to us preserved for centuries by various institutions and in various places, which makes general overview much more objective. It helps to avoid some overinterpretations that might otherwise be caused by homogenous origins of physical copies. For instance, some benefactors of the Ename Abbey (OSB) are known only by the documentary evidence preserved at the Ename Abbey (and its archival successors) – it is therefore difficult to say whether the benefactors were related only or mainly to Ename Abbey, or perhaps also to other church institutions whose archives have been lost. In each of such analyses, researchers should not only focus on raw statistics, relationships and other occurring patterns, but should also give special attention to the character of the origins of charter copies – to exclude

the possibility of adopting a (probably false) homogenous point of view, or at least provide commentary on it.

3.4. Summary of *DiBe* potential in prosopographical research on the Flemish Crusaders

The potential of *DiBe* in the context of prosopographical research has been presented alongside its twofold and complementary search options ("Formulary" and "Analysis"). Based on the functionalities and exemplary application, I have suggested some broad opportunities offered by *DiBe* to make research not only home-based but also easier and faster. Nevertheless, the discussed examples also demonstrate that such tools are not *deus ex machina* – research with them can still be time-consuming, especially if the desired results are precise and accurate. This is why the main advantage of using *DiBe* is not time-saving but rather a more detailed and dense search in the same time span as using conventional methods. Nevertheless, the *DiBe* is highly helpful: with its development in time – inclusion of more data as well as addition of new functionalities – it will become more crucial to modern research. Maybe in some time, *DiBe* will even become indispensable to all research projects based on relevant documentary evidence except for studies focused on the external (material) analysis of charters. Not only individual researchers could benefit from such a tool, but also medieval studies in general. Raising opportunities of source analysis will result in an increase both in the quantity and quality of studies.

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