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# The database of notarial bindings- a tool for the study of historical binding structures and their condition

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**Abstract.** A PhD research project has recently been undertaken to study notarial bindings kept in Greek archives and libraries, aiming to classify the different types of binding structures, record their present condition, and give explanations of deterioration mechanisms and styling influences. In the ongoing research, a survey form for the documentation of the bindings is used to collect data concerning manuscript identification, codicological elements, the text block, the inks used for writing and indexing, the technique of the binding, and the particular binding features. A section of the survey form is dedicated to the detailed description of the present condition of the bindings, including a general condition assessment of the volume based on a four-grade system. Each survey form is accompanied by a detailed photographic documentation report.

This paper discusses the database specially designed to accommodate the information gathered from the systematic recording of the notarial bindings features. The tables of the database are related to the sections of the survey form. Checklists of predefined values are used for more efficient processing of the data collected both in the sections of the survey form and the database tables. The processing of the gradually compiled data is expected to: a. give statistic elements useful for the classification of the different structures found in the category of notarial bindings, b. reveal similarities of construction that show possible influences from local artisans or from larger centers of production, and c. provide an overall view of the condition of the bindings.

**Keywords:** database, notarial bindings, survey.

## 1 Introduction

Among the different binding structures used for archive purposes, notarial ledgers were used to keep records (deeds, contracts, etc.) and usually have simple yet stable binding structures. These bindings present structural characteristics of great significance for both the historical point of view and the

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preservation of the codices. The materials and techniques used for their construction are also of historical and technological importance for the study of earlier methods of production and constitute evidence of archival practices of a certain era. The bibliography on archival binding structures is remarkably limited [1, 2, 3], excluding the detailed publications of Janos Szirmai [4] and Nicholas Pickwoad [5].

A PhD research project is recently undertaken to study notarial bindings kept in Greek archives and libraries, aiming to classify the different types of binding structures, record their present condition and give explanations of deterioration mechanisms and styling influences.

Currently, numerous bindings of this type are preserved in the collections of the General State Archives of Greece (GSA), in Athens and regional archives (Fig.1). The GSA is a public service belonging to the Ministry of Education and consists of the Central Service based in Athens, seven Directorates, 64 Regional Services, and seven Provincial Archives scattered across the mainland and the islands of Greece [6].



Fig. 1. Some types of notarial bindings (GSA-Central Services, Athens and GSA-Kythera).

## 2 The survey process

A field survey was scheduled to study the notarial bindings found in the repositories of the Central Services of the GSA, where representative archive material from various areas of Greece is kept as well as in the regional archives across the country. The bibliographical research in the catalogs of the archival material [7,8,9,10] revealed that several notarial ledgers, covering the period between the end of the sixteenth century and the nineteenth century, are preserved in the central services, and most of them in the Ionian Islands (Kythera, Kefalonia, Corfu, Lefkada, etc.). In these islands, some of the oldest notarial registers in Greece are possessed, starting from 1472 (Corfu Archive) and extending to 1900 (Kefalonia Archive). Record keeping presents a continuous chronological sequence in this area of Greece. In these regions, once under Venetian rule, well-organized archives were kept, including the notarial archives, where wills and codicils, marriage and sale contracts, verdicts, and compromises were preserved. It is estimated that more than 2000 notarial ledgers are located in the repositories of the GSA. However, most of

the bindings have suffered serious damage. There are plenty of volumes preserved as loose folios or gatherings. Only those bearing their original bindings are selected to be included in the survey process.

This paper discusses the database specially designed to accommodate the information gathered from the systematic recording of the features of the notarial bindings. For the purposes of the documentation of the bindings, a specially designed survey form is used to collect data grouped in the following five sections:

Section 1. **Manuscript Identification** (catalog number, place, name of notary, dates of writing, labels of indexing),

Section 2. **Codicological Elements** (dimensions of the volume and the text block, total number of leaves and pages, number and composition of the gatherings, pagination),

Section 3. (Fig. 3) **Binding Technique** (limp, semi-limp, full binding, half, or quarter) and the particular binding features, such as the materials and cover decoration, the attachment system of the cover to the textblock, the sewing structure (i.e. number and materials of supports, colour, and quality of sewing thread, spine lining and shape, method, and materials of tacketing, endbands, ties). The method used for the sewing of the gatherings (all-along or two-on) is noted in the remarks field, along with a drawing describing the distances between the sewing stations.

Section 4. **Textblock** (with information on the features of the paper support, such as thickness, colour, texture, and watermarks), quality of paper, number, and format of endleaves, as well as the inks used for writing and indexing (e.g. colour, texture, etc.),

Section 5. (Fig.4) the detailed description of the present **Condition** of the book block and the binding structures (text block, cover, sewing, cover attachment, endbands, spine linings, and shape, ties or clasps, and leaves). A general assessment of the condition of the volume is given based on a four-grade system (sound, moderate 1, moderate 2, poor).

Each survey form is accompanied by a **photographic documentation report** including photographs and/or drawings of the features of the binding.

It should be noted that, in the survey form, **check lists** of predefined values are used for the more efficient processing of the data collected.

### 3 The database

The information gathered from the systematic recording of the notarial bindings from the survey is gradually compiled in a database specifically designed for the project's needs in Microsoft Access. Microsoft Access has been selected since it is an RDBMS (Related Database Management System) widely used and equipped with a lot of management tools [11, 12]. It is also characterized by interoperability and compatibility with other open-source DBMS systems such as MySQL Server [13]. Relational systems are the most appropriate for implementing information environments rich in relations, as in the system presented in this article.

Each section of the survey form corresponds to a table of the database. The relations between the tables of the database are shown in the following diagram (Fig.2)

The first table of the database contains data relevant to the manuscript identification and in particular, the catalogue number, the title and place of production, the name of the notary, the description of the notarial ledger in the published catalogue, the dates of writing (the beginning and the end of the text are recorded separately), the century of production, the place of writing and the language of the text. Finally, the date of the survey, along with labeling and indexing details, are described.

In the second table of the database, the codicological elements of each volume are recorded. The fields describing the height, width, and thickness of the volume and the dimensions of the text block

individually, the number of leaves, the number of gatherings, and the number of bifolios per gathering, but also the style of numbering ( with ink or pencil, per page or per leaf/sheet) and the existence of indexing gatherings are included in this table of the database.

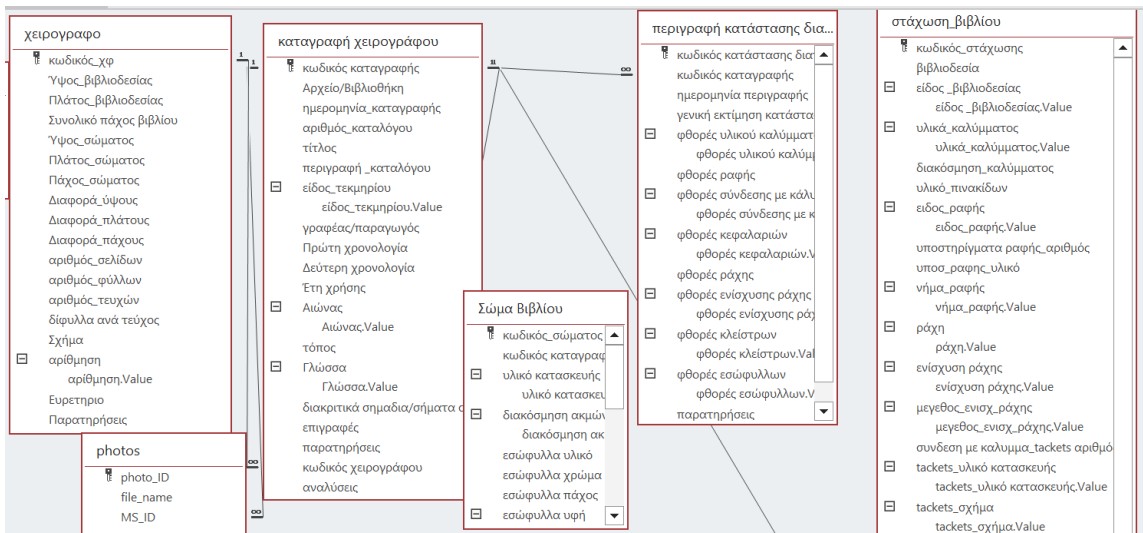
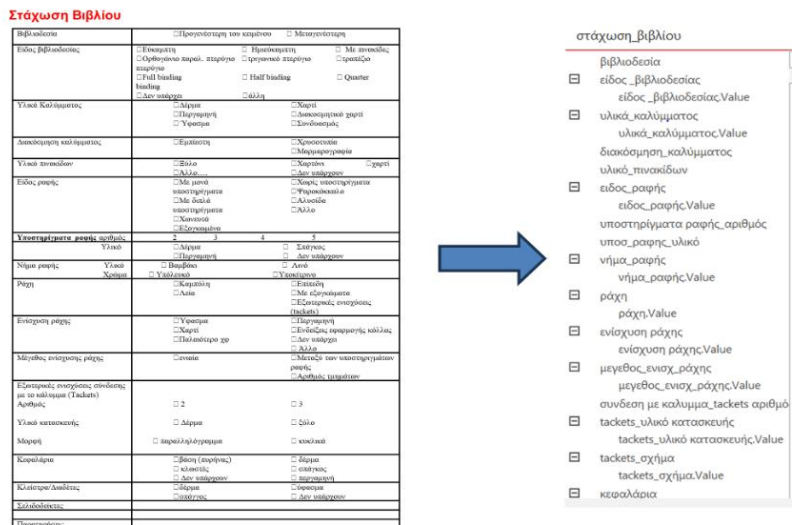


Fig. 2. The relational diagram of the database.

The binding characteristics table (Fig. 3) contains fields of predefined values of binding techniques (limp, semi-limp, full, half, or quarter binding, with or without boards, etc.) and foredge flaps (rectangular, trigonal, or trapezoid). Several alternatives may be selected for the materials used for the covering (leather, parchment, paper, decorative paper, or a combination of them), the decoration of the cover (gold or blind tooling or marbling), the materials used for the boards (wood, board, paper, not existing, other), the sewing supports structure (i.e. number and materials of supports, single, double, split, raised), the sewing method (i.e. all along or two-on sewing, packed etc.), the colour and the quality of the sewing thread. The existence of any spine lining (with materials and shape options) is also recorded, along with the attachment system of the cover (tacketing) to the book block specifying the method, the materials, and the shape (round or rectangular) of the tacketed blocks. Finally, this table contains data relevant to the use of ties (with options number and materials) and endbands, with details about the core materials (cord, leather, or other) and the threads used for their construction.



**Fig. 3.** The binding characteristics section of the survey form and the table of the DB where the binding is recorded.

It should be noted that during the data entry, values can be selected from predefined lists to record the number of sewing stations (possible values 2, 3, 4 or 5), the type of sewing supports (a. single, b. double supports, c. without support or d. other), the materials used for the supports (a. leather, b. parchment, c. cord, d. combination of two materials or e. do not exist). The sewing thread is described by visual observation as linen or cotton, and its colour as off-white or natural. For the shape of the spine of the bookblock, the options are: a. flat, b. rounded, c. with raised bands, d. without raised bands, e., with tacketed blocks. The number of the ties is selected between 1,2,3, or 4, and the materials used for their construction can be specified as: a. leather, b. cord, c. fabric or d. other. Finally, for the endbands, the possible options for the core are a. leather, b. parchment, c. cord, or d. do not exist, and for the woven or knitted part, the alternatives are: a. threads or b. fabric.

Any observations about the method used for the sewing of the gatherings (all-along or two-on) are recorded in the remarks field. The text block description table includes information relevant to the paper support of the gatherings (such as its thickness, colour, texture, and watermarks), the number and format of endleaves, and the inks used for writing and indexing (e.g., color, texture, etc.). Predefined values are given in the field of the paper (laid or wove, rough or even texture, off-white or natural or other colour), the endleaves (laid or wove, off-white or natural or other colour, rough or even texture) and the inks (iron-gall or carbon black or brown colour).

**Περιγραφή κατάστασης διατήρησης:**

Γενικές παρατηρήσεις:

Φθορές:

**Υλικό καλύμματος:**

Επικολλήσεις:	εκδορές:	
κηλίδες:	σχημάτισση	
Ερωθέν σήμη δέρματος:	Απώλειες/σπές:	πρωτόλη
Αποξήρανση δέρματος:	Μεταγενέστερες επεμβάσεις:	

**Ραφή**

Καλή κατάσταση	Σύνδεση με κάλυμμα	Καροάκρια
Καλή κατάσταση	Καλή κατάσταση	Καλή κατάσταση
Μερικώς διαλυμένη	Μερικώς διαλυμένη	Μερικώς απώλεια
διαλυμένη	σώμα αποσπασμένο από κάλυμμα	απώλεια
		στερώσεις: επισωμένες

**Ράχη**

Καλή κατάσταση	Επίσχυση ράχης:	Κλείστρα
διατηρεί το αρχικό σχήμα	Καλή κατάσταση	Καλή κατάσταση
παραμορφωμένο σχήμα	φθαρμένη	Μερικώς απώλεια
διαλυμένη	σπασμένη	απώλεια
	αποσπασμένη από τη ράχη	ήχη σταρέωσης: στο κάλυμμα

**Εσώφυλλα**

Καλή κατάσταση	
Απόσπαση ελεύθερου εσώφυλλου	
Απώλεια ελεύθερου εσώφυλλου	
Σχίσμο κατά μήκος ένωσης	
Αποκολλημένο από το κάλυμμα	
Δεν υπάρχουν	

περιγραφή κατάστασης δια...

- κωδικός κατάστασης δια...
- κωδικός καταγραφής
- ημερομηνία περιγραφής
- γενική εκτίμηση κατάστα...
- φθορές υλικού καλύμματ...
- φθορές υλικού καλύμ...
- φθορές ραφής
- φθορές σύνδεσης με κάλυ...
- φθορές σύνδεσης με κ...
- φθορές κεφαλαριών
- φθορές κεφαλαριών.V...
- φθορές ράχης
- φθορές ενίσχυσης ράχης
- φθορές ενίσχυσης ρά...
- φθορές κλειστρων
- φθορές κλειστρων.Val...
- φθορές εσώφυλλων
- φθορές εσώφυλλων.V...
- παρατηρήσεις

**Fig. 4.** The binding condition section of the survey form and the table of the DB where the condition of the notarial binding is recorded.

The condition of the binding is recorded in the last table of the database (Fig. 4), where a general assessment of the condition of the volume is given based on a four-grade system (a. sound, b. moderate1, c. moderate2, d. poor). The present **condition** of the covering material is recorded by checklists of the most common damages, such as a. surface dirt, b. scratches, c. red rot, d. shrinkage, e., blemishes, f. later repairs. For the sewing, the options are a. in good condition, b. broken, or c. partly broken, and for the cover attachment: a. in good condition, b. partly broken, or c. the cover is detached from the textblock. The endbands condition can be recorded as a. in good condition, b. partly missing, c. missing, or d. tie-downs broken. The condition of the spine shape may be in a. good condition, b. deformed or c. broken and the linings a. in good condition, b. worn, c. torn, or d. detached from the spine of the bookblock. The ties may be in a. good condition, b. partly missing, c. missing, or d. only their anchorage may be preserved. The

endleaves condition options are a. in good condition, b. missing fly-leaf, c. detached fly-leaf, d. torn along the fold, e. detached from the cover, f. not existing. The term good is used when the element is not in sound condition but slightly damaged.

The digital photographs folder depicting the features of each notarial binding are kept in a separate table.

The data collected from each survey form are entered into the database either as a record (row) in the particular fields(columns) of the tables or by completing a separate form for each surveyed item (Fig. 5).

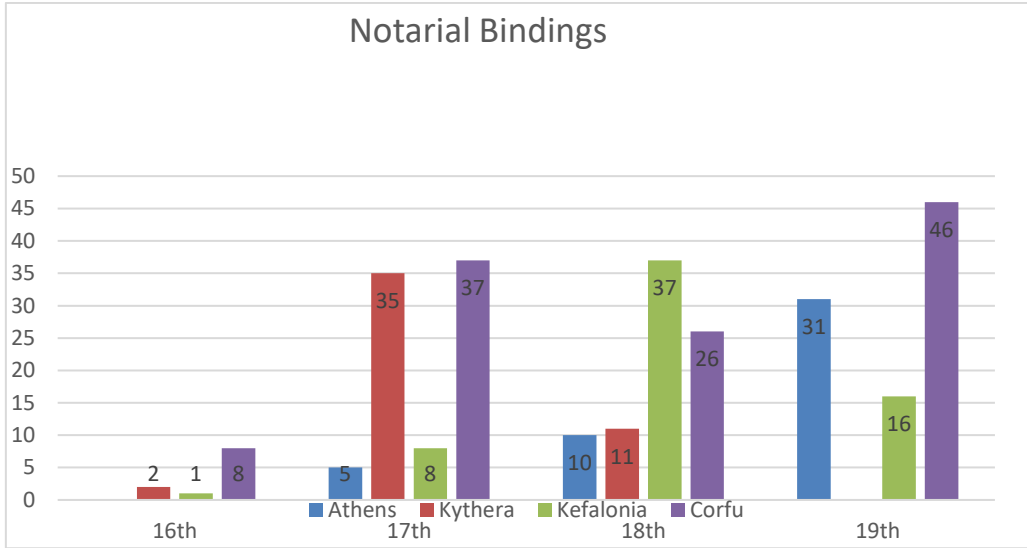
περιγραφή κατάστασης διατήρησης1

παρατηρήσεις		
Συρρικνωση δερμ καλυμ. Εντονη παραμόρφ σχήματος ράχης. Εντονη παραμορφ δερμ καλυμ		
φθορές υλικού καλύμματος		
απώλειες/οπές, εκδορές, επικαθήσεις, κηλίδες, συρρίκνωση		
φθορές ραφής		
καλή κατάσταση		
φθορές σύνδεσης με κάλυμμα	φθορές κεφαλαριών	
καλή κατάσταση		
φθορές ράχης		
παραμορφωμένο σχήμα		
φθορές ενίσχυσης ράχης	φθορές κλείστρων	φθορές εσώφυλλων
ίχνη στερέωσης στο κάλυμμα		

Fig. 5. The binding condition form of the database.

#### 4 First results of the data processing

275 notarial bindings belonging to the archives of Kythera, Kefalonia, Corfu and Athens, have been recorded, dating between 1586-1841. From the ledgers surveyed, 46 notarial bindings are found in Kethyra

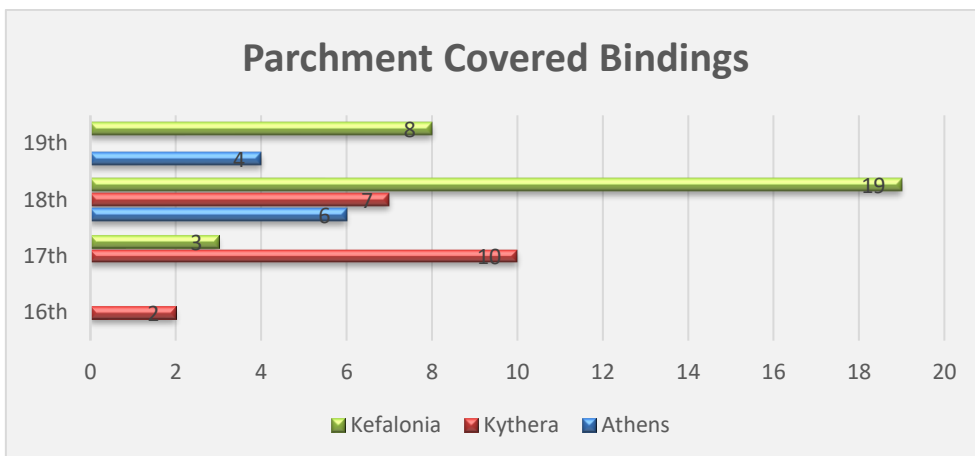


**Fig.6.** Chronological distribution of the surveyed bindings.

So far, 62 in Kefalonia, 120 in Corfu while 47 ledgers are recorded in the Central service of the GSA. The chronological distribution of the surveyed bindings is shown in Fig.6. The items surveyed in Athens were produced in both the islands of the Aegean and the Ionian Sea such as Paros, Naxos, Mykonos, Syros, Skiathos, Scopelos, Andros, Aegina, Chios, Kefalonia.

Different types of binding structures are recorded with full leather or parchment covers, limp vellum bindings with leather or paper tacketed blocks in their spines, half or quarter bindings with leather spine and paste or marbled papers covering their pasteboards. In some cases, simple bindings with covers made of a thick pasteboard as a wrapper were used to protect the gatherings consisting of the bifolios of the documents.

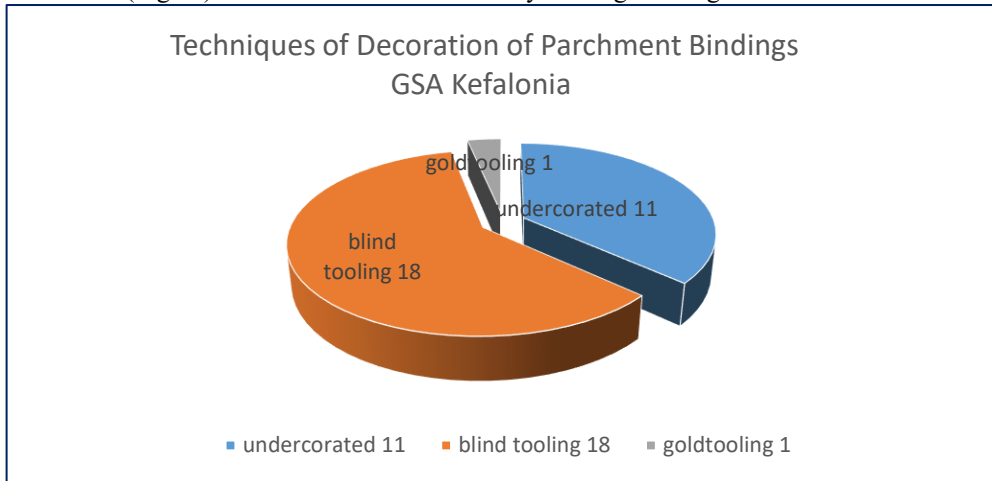
The database enables the grouping the different types of bindings. For example, a database query about the parchment covered bindings gives answers about the distribution of surveyed volumes per century found in the GSA in Athens, Kythera and Kefalonia (Fig.7.).



**Fig.7.** Chronological distribution of parchment-covered bindings surveyed (GSA Athens, Kythera, Kefalonia).

In another query about the decoration of the parchment-covered bindings surveyed in the GSA of Kefalonia, in a total of 30 volumes, 11 are undecorated, 18 are blind tooled and only one had gold tooled

decoration (Fig. 8.). It is the case of a 19<sup>th</sup> century binding with a gold tooled title “Cash book” on a leather

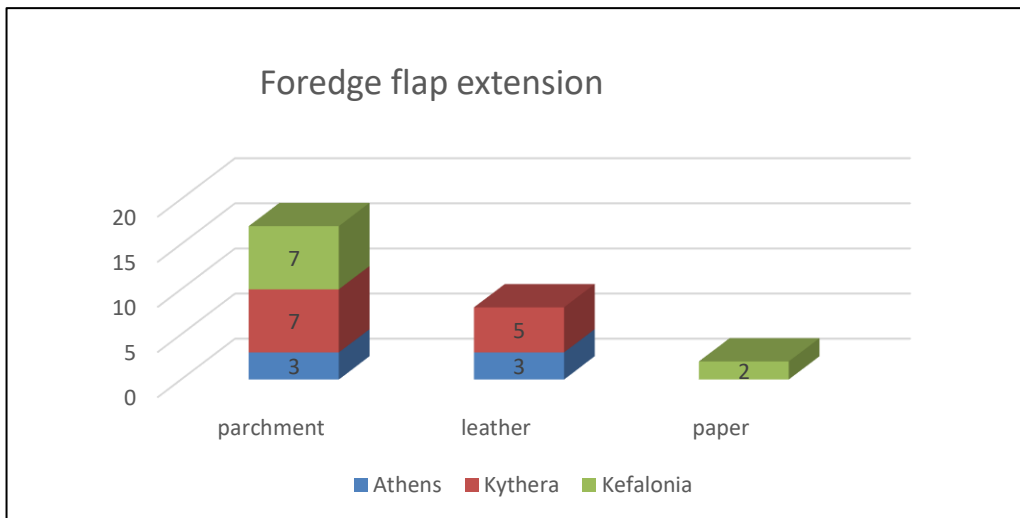


**Fig.8.** Techniques of decoration of the parchment bindings surveyed in the GSA of Kefalonia.

label attached to the spine of the parchment cover. It was used as a notarial ledger by the notary Valsamakis Nikolis in Livatho, Kefalonia, between 1825 and 1826, although it was primarily intended for financial record-keeping use.

It is observed that many of the notarial ledgers have covers with a foredge flap extension, usually rectangular in shape. Cases of trigonal or trapezoid foredge flaps are occasionally recorded. The database query about the distribution of the bindings having foredge flaps extending from their cover resulted in the findings presented in Fig. 9.

The foredge flap is a feature of leather bindings, but it was also preserved to protect the significant contents of the text block in later parchment cover bindings. The parchment cover is usually wrapped around a primary paper cover made of a single thin piece of board. In the surveyed sample, the paper covers with foredge flap extensions may have served as a primary binding, which never had the opportunity to be covered with parchment.



**Fig. 9.** Distribution of the leather, parchment or paper bindings with a foredge flap extension (GSA Athens, Kythera, Kefalonia)

Similar queries are expected to give statistical results, valuable for the classification of the different binding structures, reveal similarities of construction and provide an overall view of the condition of the bindings.

## 5 Future research and perspectives

The application of examination and analytical methods (optical microscopy, scanning electron microscopy combined with energy dispersive X-ray microanalysis, FTIR, colorimetry, fiber analysis, spot tests etc.) of samples taken from certain parts of the bindings (leather, parchment, paper, thread, adhesives etc.) are expected to contribute to the identification of the materials used for the structure of the recorded notarial ledgers. This will contribute to a better understanding of the manufacture and production of the bookbinding materials, such as the animal origin and tannage of leather, the processing of parchment, the origin, manufacture, and colouring materials for threads (cotton, linen, hemp fibers) and fabrics used for sewing and ties, the identification of binding mediums used for the adhesives.

This project is expected to shed more light on key questions about Greek notarial bindings. The study of the notarial practices of the era may clarify whether notarial ledgers were imported from abroad or were produced locally, where the notaries acted. It is still under investigation whether there were binding facilities in the places where the notarial ledgers were used or if there was ledger production in the Greek region by local binders. Answers will be given after historical research (i.e. catalogues of professionals and professions of the era, lists of imported products etc.) in combination with the evaluation of the codicological elements collected.

A comparison of the surveyed notarial bindings with other European samples from Venice (or other Italian cities) is regarded as necessary to reveal if they were bound in larger centers of production and traded among other stationery bindings to the places they were recorded.

On the other hand, the condition survey may serve as a useful tool for future conservation priorities, according to the levels of vulnerability of the volumes. The bindings requiring conservation treatments should be handled with respect to their historical typology and particular features, in order to preserve the intriguing information for future researchers in the history of bookbinding.

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