The selling process of French books printed in the XVIII and sold at auctions throughout time

by

Tamara Glushetckaia

Director of the research: Rudy Chaulet/ Frédéric Spagnoli

Co-director of the research: Anne Réach-Ngô

NVLLA EST VIA

ARION

INVIA VIRTVTI

FATA VIAM INVENIENT

INVITIS PIRATIS EVADAM

master Rare Book & Digital Humanities

Master Rare Book and Digital Humanities
Institut des Sciences et Techniques de l'Antiquité
Sciences du Langage de l'Homme et de la Société
University of Franche-Comté
University of Haute-Alsace

2022

Preface

This thesis is the culmination of my studies in higher education. It was written in order to fulfil the requirements for the diploma of the Rare Book and Digital Humanities of the University of Burgundy Franche-Comte. I am submitting this thesis to obtain my Master 2 in Rare Book and Digital Humanities.

The thesis, "The selling process of French books printed in the XVIII and sold at auctions throughout time", is presented to you in accordance with the knowledge accumulated during my university education and personal experiences such as internships. The internship in the project "Thresors de la Reneissance" allowed me to deepen and improve my knowledge and skills within the framework of creating and working with databases. An internship at a consultancy company Inno[3] provided me with a better understanding of research methodologies as well as the application of my knowledge in the editorialisation and valorisation process to the presentation of my thesis results. The process of researching and writing this thesis began in September 2020 and was finished in August 2022.

The thesis was written as part of my personal interest in auction houses and the lack of research on book sales at auctions. As part of my thesis topic, I chose the 'way' of books through auctions, and their sales in the pre-pandemic and Covid-19 periods. Which led to several hypotheses within the presentation and sales of the books, as well as the authors of the books.

Acknowledgements

I would like to thank all the people who accompanied me during the writing of my thesis and helped me to successfully conduct my research and achieve my goal. I am grateful for the knowledge and skills I acquired during my Masters in Rare Books and Digital Humanities at the University of Burgundy Franche-Comte.

I wanted to thank my thesis supervisor Mr Rudy Chaulet (Director of the international master program [Rare Book and Digital Humanities](#)) for guiding me through the research process. I would also say thank you to co-supervisor Ms. Anne Réach-Ngô (lecturer at the University of Haute-Alsace) for accompanying and supporting me during the writing of my thesis.

I am especially grateful to my internship supervisor Célya Gruson-Daniel ([Inno³](#)/COSTECH) for taking the time to help me, giving me advice, support and motivation. I would also like to express my family's gratitude to my mother and my brother for their support over the past two years and their faith in me. Also, thanks to my friends who have been there for me, and a special thanks to my friend Johanna Saadoune, who has been encouraging me for two years.

Abstract

Books travel through time and the world, especially those printed centuries ago. In this study, I turned to books that were printed in France in the 18th century and sold at auction in 2019-2020. Both periods have interesting developments, as the 18th century flourished culturally and became a period of revolution in France, while 2019-2020 was a period to combat the Covid 2019 pandemic. Hence, the study provided a historical, economic, and printing perspective. This allowed the books auctioned to be viewed from different angles. The problematic aspect of the study was that the study did not find research on book sales at auctions and the transition of auction houses to online sales. The research set out to create a database that would include auction results on the subject of music for further analysis and hypothesis generation. Therefore, the methodology included bibliography research to conduct terminological analysis, comparative analysis to create the final product - a catalogue. A modelling method was also used to create the catalogue. The results of the study allowed us to look at the development of the music and printing spheres in the 18th century, which changed over the course of the century depending on historical events. Some authors of operas became irrelevant to the public and the meaning of operas changed, also by the end of the century the development of orchestras began. Moreover, the study gave a picture of the authors' movements and also explained the reasons for the concentration of publication of books on musical themes in Paris and Lyon. In addition to this, the study's results showed that the pandemic had an impact on the auction market, however, this allowed for diversification of sales. So the auction houses started actively changing the planned auctions. Statistics were also obtained on books presented and sold at auctions.

Résumé

Les livres voyagent à travers le temps et le monde, surtout ceux imprimés il y a plusieurs siècles. Dans cette étude, je me suis tourné vers des livres qui ont été imprimés en France au 18e siècle et vendus aux enchères en 2019-2020. Les deux périodes présentent des développements intéressants, car le 18e siècle a été florissant sur le plan culturel et est devenu une période de révolution en France, tandis que 2019-2020 a été une période de lutte contre la pandémie de Covid 2019. L'étude a donc fourni une perspective historique, économique et d'impression. Cela a permis de considérer les livres mis aux enchères sous différents angles. L'aspect problématique de l'étude est qu'elle n'a pas trouvé de recherches sur les ventes de livres

aux enchères et sur la transition des maisons de vente aux enchères vers les ventes en ligne. L'étude visait à créer une base de données comprenant les résultats des ventes aux enchères sur le thème de la musique en vue d'une analyse plus approfondie et de la formulation d'hypothèses. Par conséquent, la méthodologie comprenait une recherche bibliographique pour effectuer une analyse terminologique, une analyse comparative pour créer le produit final - un catalogue. Une méthode de modélisation a également été utilisée pour créer le catalogue. Les résultats de l'étude nous ont permis d'examiner le développement des sphères de la musique et de l'imprimerie au XVIIIe siècle, qui a évolué au cours du siècle en fonction des événements historiques. Certains auteurs d'opéras sont devenus sans intérêt pour le public et la signification des opéras a changé, de même, à la fin du siècle, le développement des orchestres a commencé. En outre, l'étude a donné une image des mouvements des auteurs et a également expliqué les raisons de la concentration de la publication de livres sur des thèmes musicaux à Paris et à Lyon. En plus de cela, les résultats de l'étude ont montré que la pandémie a eu un impact sur le marché des enchères, cependant, cela a permis de diversifier les ventes. Les maisons de ventes ont donc commencé à modifier activement les ventes aux enchères prévues. Des statistiques ont également été obtenues sur les livres présentés et vendus aux enchères.

The final products of the study

Database
 https://heuristref.net/heurist/?db=tg_auctions&welcome=1
Catalogue
 https://auctions-cat.rarebook-ubfc.fr/?page_id=44
Website
 https://auctions-cat.rarebook-ubfc.fr/

Table of contents

Introduction

The world of auctions is mysterious for people who are unfamiliar with it. At first sight, the goal of auctions is to sell different objects. However, many departments such as marketing, store keeping, IT, special departments are involved in the preparation of auctions and the planification of it is highly time consuming. A person who wants to discover this world has to learn a lot of special terms and to study the entire process. Actually, in the majority of cases the buyers have assistants who know the dynamics of auctions and guide their client through the complex process of buying in the auctions. Nowadays, auctions are not just a way to sell items, although it is a market for investing money and following the tendency of the demand.

For several years I was interested in art and culture. In my opinion, cultural heritage contributes to individual development. In this context the auction market has been a part of the art circulation and it remains an essential source for understanding and analysing it. Nowadays, the auction market is represented as a platform for selling all types of items such as artworks, books, clothes, real estate, furniture, jewellery, and others. It provides an opportunity to be a participant of this cycle and track the changing sales of items.

Under the project I decided to select the topic *"The selling process of French books printed in the XVIII and sold at auctions throughout time"*. There are multiple reasons why I am interested in the implementation of the project which is related to the auction house. Firstly, whenever we think of auction houses, we immediately think of the economic aspect. If we start searching the literature, periodicals related to auction houses, we will find auction theory or models of auctions. For instance, when I did bibliographical research as key words I used "auction" and "auction house". As a result, bibliography is related to auction theory, price policy in auctions, auction outcomes, commissions to auction houses, and others.[1] As we can see auctions are associated with the economical part of the field.

---

[1] "Traditional economic theory studies idealized markets in which prices alone can guide efficient allocation, with no need for central organization". Milgrom, Paul. 2017. *Discovering Prices : Auction Design in Markets with Complex Constraints*. Columbia University Press. http://univ.scholarvox.com/book/88865022.
"This book provides a comprehensive introduction to modern auction theory and its important new applications. It is written by a leading economic theorist whose suggestions guided the creation of the new spectrum auction designs". Milgrom Paul. 2004. *Putting Auction Theory to Work*. The Churchill Lectures in Economic Theory. Cambridge New York: Cambridge University Press.
"We study entry and bidding patterns in sealed bid and open auctions. Using data from the U.S. Forest Service timber auctions, we document a set of systematic effects: sealed bid auctions attract more small bidders, shift the allocation toward these bidders, and can also generate higher revenue". Athey, Susan, Jonathan Levin, and Enrique Seira. 2011. 'COMPARING OPEN AND SEALED BID AUCTIONS: EVIDENCE FROM TIMBER AUCTIONS'. *The Quarterly Journal of Economics* 126 (1): 207–57. https://doi.org/10.1093/qje/qjq001.

Secondly, an interesting aspect is to trace and analyse the circulation of books. Usually, people buy books in bookstores or used bookstores, nevertheless other places where books are sold are also worth checking out. Moreover, in the above places we can find new popular books, however, people will not find rarities there. The value of books that were printed centuries ago is often underestimated. Such books were made of costly materials and included illustrations made by various printing techniques by hand. Such books are worth thousands, sometimes millions. Many valuable books transit through auction houses and their destiny is highly linked to this misunderstood marketplace. People close to the world of auctions know that there is a possibility to find a masterpiece. It might complement the collections of books of someone or it can be the way to invest money. Everyone has their own goal. Although sometimes you can find them in used bookstores - not everyone can estimate the value of a book. That is one of the most underlying reasons why I want to discover the books' auction world. During the process of the data collection, attention was drawn to the bibliographic descriptions of books, which are often relied upon by buyers at auctions. Their quality does not always correspond to reality, so people who know about books can determine the real value and buy an expensive rare book for a low price. Also appealing is the fact that some of the books may have belonged to nobles of a certain century. This is marked with an ex-libris, again you have to know the history. In this way, we can learn more about the nobles of the time and speculate on their reading interests. We can only imagine the journey the book has taken since its printing date.

The final reason for my interest in auctions is conducting low numbers of studies on the sale of rare books. First, let us define what a rare book is. According to the National Library of Scotland, a rare book is "a book you want badly and can not find, or a book that is important, desirable and hard to get"[2]. However, there are a lot of criterias that make books rare. The list of criterias contains the printing year, numbers of existing copies, completion, and well-knownness. We can not determine if a book is rare without paying attention to all of these criterias in complexity.

Consequently, there are three main reasons for choosing the research topic related to the auction market. The project is useful for specialists in different fields. Firstly, the project demonstrates trends in the selling process of books. It is important to know the dynamics of sales. Secondly, the project includes the research of the printing world in the 18th century in France. It is interesting for specialists in the field of rare books.

---

[2] Rare books for beginners. National Library of Scotland, https://www.nls.uk/collections/rare-books/beginners/.

Several issues can be raised according to the topic of the project:

- What type of books were analysed?

- Why were printed books in France counted?

- Why was the period 2019-2020 chosen?

The end of 2019 became well-known as a beginning of the pandemic COVID-19 which spread rapidly and forced people to change usual habits, not only people, but companies also. The pandemic influenced all spheres of life that made some of them such as restaurant business, tourist business and others in a totally crisis situation. People stayed at home in lockdown and stopped to spend money on the things that were not included in the list of the first necessary. However, companies tried to exist and discover new paths of work. For me, it was a way to see how the pandemic influences the market during the crisis time, and how auction houses adapted to the situation. Therefore, I collected all data from the beginning of 2019 to see the sales before COVID-19 and 2020 as a period of growth and recovery in the sphere. During the study I found several articles concerning book sales and the pandemic. James Tarmy (a journalist) in his article "Retail Might be struggling, nevertheless the rich are buying rare books" noted that the bookshops try to find a way to reside in the frame of limitations because of the pandemic, however rich people stay at home and invest money in rare books and manuscripts. It demonstrates that books are a very good option to invest money. Moreover, the pandemic gave a good push for auctions to develop online auctions with better conditions. However, it has one disadvantage: you can not see a masterpiece, you must guess and hope on the description. Andrew Brown in his article "The future of auctions can't be based on nostalgia" selected that "68.5% of respondents preferred in-room bidding, while 24.1% would choose the option of bidding over the internet. However, there were several signals that a number of buyers had enjoyed the convenience that remote auctions have afforded."[3]. It makes us think that people are still interested in real communications, feeling the atmosphere and have an opportunity to be in society. This aspect can relate to the essential issue which was raised by the pandemic is a person needs in a community to some extent. The in-room auctions give people this possibility to be back to real life.

---

[3] Brown, Andrew. "The future of auctions can't be based on nostalgia." EGI. 2022. https://www.egi.co.uk/news/the-future-of-auctions-cant-be-based-on-nostalgia/

The second issue which can be raised is why books printed in France were selected. France was chosen because of its rich historical aspect. In the 18th century, there was a flourishing of science, literature and art which all influenced the growth of book production. This period furthermore characterised by the development in the areas of fonts and illustrations. France was the country with the biggest advancements in book manufacturing at that period. The 18th century was a key developing period in the field of printing. One of the reasons of that is historical changes such as increasing the conflict between the monarchy and the set order. The progress in all fields such as science, art and culture was moved by authors and new movements. For example, in 1751 Denis Diderot and Jean le Rond d'Alembert produced the "Encyclopédie ou dictionnaire raisonné des sciences des arts et des métiers" (Encyclopaedia, or a Systematic Dictionary of the Sciences, Arts, and Crafts) which was printed secretly and mostly included practical articles and critical reviews of church and king. Peter Fuhring in his work "The Print Privilege in Eighteenth-Century France-I."[4] explained the key issues linked to the "Code de la Librairie"[5] (regulates printers and booksellers and obliges them to publish only books that have been approved by the censorship), work of censors and the trade.

Christine Gouzi in her article :

"French engravers in the face of Jansenism during the Eighteenth Century" mentioned a theological movement Jansenism' migration where were famous engravers and "some engravers in the early eighteenth century once again committed themselves to creating engravings, which were much more numerous than during preceding centuries owing to the development of printing and the loose print, which was distributed and sold by hawkers or available at booksellers. These engravings were anonymous due to their illicit nature, and their authors and publishers were sometimes worried because of them. As a result, some preferred to emigrate."[6]

Books of that time were distinguished by the beauty of engravings made on copper or wood by famous engravers such as François Boucher, Hubert-François Gravelot, Jean-Baptiste Oudry. Therefore, the 18th century was a period of development the laws of printing world via

---

[4] Fuhring, Peter. "The Print Privilege in Eighteenth-Century France-I." *Print Quarterly* 2, no. 3 (1985): 175–93. http://www.jstor.org/stable/41823682

[5] Saugrain, Claude-Marin. Code de la librairie et imprimerie de Paris, ou Conférence du règlement arrêté au Conseil d'État du Roy. Paris. 1744. https://gallica.bnf.fr/ark:/12148/bpt6k6452483t/f9.item.texteImage

[6] Christine Gouzi , « French engravers in the face of Jansenism during the Eighteenth Century », Encyclopédie d'histoire numérique de l'Europe [online], ISSN 2677-6588, published on 22/06/20, consulted on 24/06/2022. Permalink : https://ehne.fr/en/node/12348

inventions of the "Code de la Librairie", changes in the printing process because of new techniques of producing engraving, flourishing censorship and the desire to protect book printers from counterfeiting by a special mark such as "Avec Privilège du Roi" (With the King's Privilege).

At the same time one of the essential things is a type of a book in a sense of genre. After the analysis I decided to choose books which related to music including the texts of opera and comedy. Music has always been and remains vital in the world. People still go to the concerts to listen to classical music. During the wars it lifted the spirit, during normal times people catch an inspiration. Music and theatre were always side by side. The 18th century was a period of the growth of public interest in the concerts. William Brooks in his article "Mistrust and Misconception: Music and Literature in Seventeenth and Eighteenth-Century France" noted "...the public's appetite for music grew. It manifested itself, for example, in a vogue for public concerts of orchestral music and songs, such as the 'concerts spirituels' which began in the Palais des Tuileries in 1725".[7] William Weber in the article "Learned and General Musical Taste in Eighteenth-Century France" emphasised "Music was too essential to the daily lives of the upper classes for that to happen."[8] Therefore, music and literature was an important part of the society' life. Music was played at home, at theatres and at the restaurants. In the frame of collecting the data I included all types of sheet music, books of songs, plays and operas. It helps to see the entire landscape.

The main goal of the project is to create a database and a catalogue of books printed in France in the XVIII century and sold at auctions. These two formats (database and catalogue) were chosen owing to their friendly usability and well demonstrated results. Therefore, a database allows to make the data accessible to everyone, a catalogue grants to present the information in a readable and easy way. It can serve as a base for future projects and analysis. Therefore, the results will be presented in visual format such as graphics, tables and webpages. For achieving the goal of the project, here is the milestones I plan to complete on my way to create the database and catalogue:

— to do a bibliographical research;

— to detect what books were sold at auctions in 2019-2020 years and create a list with this;

---

[7] Brooks, William. "Mistrust and Misconception: Music and Literature in Seventeenth and Eighteenth-Century France." *Acta Musicologica* 66, no. 1 (1994): 22–30. https://doi.org/10.2307/932623.

[8] Weber, William. "Learned and General Musical Taste in Eighteenth-Century France." *Past & Present*, no. 89 (1980): 58–85. http://www.jstor.org/stable/650658

— to prepare and import the data on the platform Heurist;

— to create statistics on criteria such as genre of books, prices, printing houses, locations of printing;

— to analyse documents linked to auctions;

— to explore catalogues of books which were sold at auctions or presented by museums or libraries;

— to undertake a comparative analysis of identified catalogues:

— to create a catalogue of books printed in France in the XVIII century and sold at auctions.

The project includes several aspects: historical, the process of operation of auction houses, practical part-selection of lots, view auction catalogues and analyse them, creating a database and catalogue. One of the essential aspects of this project is an exploration of the oldest and biggest auction houses such as Sotheby's, Christie's and Phillips. In the past these auction houses were one of the first among such organisations. It is currently the biggest auction house in the world. According to the "Contemporary art market report in 2019", a share of Sotheby's provided 32.9%. This auction house increased the share of sales till $623 million (+17%).[9] A share of Christie's achieved 25,4%, Phillips – 11,9%. Its global presence influences book sales, audiences and prices. It indicates that these three auction houses account for most of the market. We plan to briefly observe historical aspects of the auction houses. Moreover, the project demonstrates the records (notes) of how books were sold, the information about first auctions and auction houses. The second aspect includes a terminology analysis of terms such as auction, lot, buyer, seller. Furthermore, this step is supposed to determine the main types of existing auctions. The practical part-selection of lots presents a database based on the site Auctions and database analysis and statistics compilation. The next aspect demonstrates steps that were made for creating the final products.

Methodology. The research methods used in the project are varied and communicate information from a variety of sources. One of the bases of the research were bibliographical resources which provided information for several aspects of the study. First of all, the bibliography became a basis for the terminological analysis which was used to describe the main terms like "auction", "catalogue", "auction house", "lot", and others. During this step

---

[9] The Best Auction Houses. 2019. 'The Contemporary Art Market Report in 2019', 2019, Artprice.com edition. https://www.artprice.com/artprice-reports/the-contemporary-art-market-report-2019/the-best-auction-houses.

13

were used dictionaries and professional literature. This analysis assisted to demonstrate specific terms of the auction market and make the study more explicit for each of readers. Secondly, bibliographical resources were used for recreating the path of auctions from the beginning till nowadays including the models of existing auctions.

The study demanded the comparative analysis of catalogues. As a source base I used the cloud of the master program "Rare Book and Digital Humanities" where 38 catalogues are collected from 2020. Moreover, I used the access to the BRILL archive and collection "Complete Sales Catalogues from 1600-1900" which helped to see what catalogues were produced years ago and how it was modified till our days. This analysis assisted to identify advantages and disadvantages of existing catalogues and take it into account for producing the catalogue with avoiding common mistakes.

A modelling method which was based on the data which I got during the comparative analysis was used for creating the catalogue. Also, I considered the design tendencies and inspiration which I caught from digital projects which I explored during courses of the master program. One of the features of the catalogue is his hybrid version due to consisting of textual and statistical information. Therefore, it will help to produce final research results and not commercial. It is supposed to facilitate the familiarisation with the final study results.

Another final product of the study is a database. The source of data was a website Auction.fr which collects the results of the auctions from all over the world. The data was collected manually due to the absence of a search filter with necessary options. For collecting data a table was created in Google Sheets and as a consequence it was a base for creating all required tables for the further import to the constructor of the database Heurist. The data from Google Sheets were imported automatically to Heurist where all fields were created in advance to the future database. The platform Heurist provided creation of the statistical information which subsequently was used in the catalogue.

The entire processed data, which was achieved during the bibliographical study, model creation and database creation, is presented on the website platform Wordpress. This tool allowed me

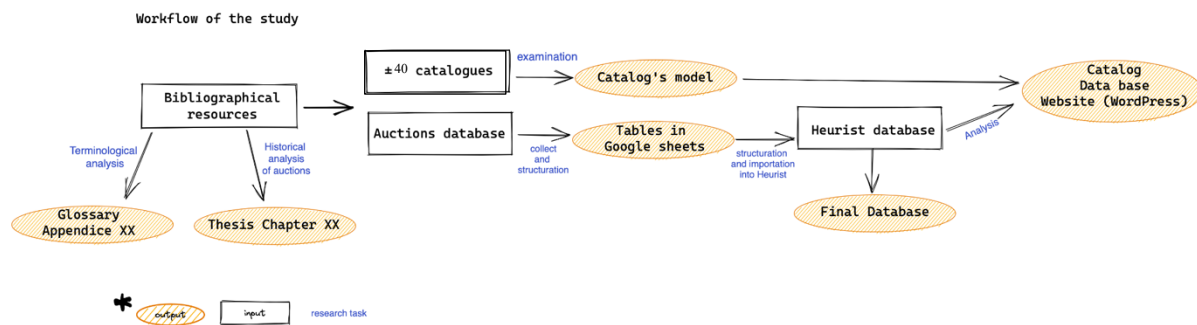to compile the results and present on the one platform for seeing the entire presentation of the project.

Figure 1 Workflow of the study

Content of the project. This study consists of 4 chapters. Chapter 1 Timeline of auctions and their mechanism demonstrates historical moments of the appearance of auctions and their working process. Chapter 2 includes the explanations of the methodology which was used during the research. Chapter 3 is a presentation of the data analysis which was processed during the project. Chapter 4 dedicated to the webpage on the platform WordPress as a final presentation of the project in the frame of the master program "Rare books and Digital Humanities". The study included the list of bibliography which is also presented in Zotero and appendixes such as the results of terminological analysis.

Chapter 1 Timeline of auctions and their mechanism

This chapter is dedicated to the history of auctions and auction houses around the world, and their development. This part of the research also describes the different models of how auction houses work. And the chapter provides a view of the origins of auctions and their working mechanisms to better provide a context for the analysis. Part of this chapter has also been prepared for presentation on the website, as it is an important part of the study.

1.1. Historical moments of the appearance of auctions

The word "auction" took its roots from the Latin word "auctius" which means "an increase". It is assumed that an activity resembling an auction originated in the 500th century BC, but the first mention of the term "auction" is noted in 1595. In the 17th century, events called auctions began to be held in England and items were sold there. The organisation of the first auction house, called Stockholms Auktionsverk (the Stockholm Auction House), was carried out in Stockholm in 1674. The further history of the auction world began strongly in England and nowadays auctions are held online. The auction world includes both large auction houses and very small ones. And there, and there you can find treasures that cost unthinkable money, but they are not sold at their right price because of incorrect valuation. Sometimes the determination of prices for some lots remains a mystery, but if one looks at books, everything is much clearer; it is important to know the features of the book and its physical condition.

It is assumed that auctions were mentioned as early as 500 BC in Babylon. As Ralph Cassady cited "The Histories of Herodotus" by Herodotus "once women of marriageable age were sold on condition that they be wed."[10] It was a typical Babylonian marriage market. Also, auctions were popular in the Roman era. J.A.C. Thomas in his work "The Auction Sale in Roman Law" explained that the auction included presentation of the goods before selling and 4 participants including a person whose property was being sold, a person who organised the auction, a person who promoted the auction and one who gave the biggest price for the goods. Auctions were organised for selling the property of someone who had to pay off the debts. Lucius Cecilius Iucundus was a Pompeian auctioneer who began to take "a one per cent commission and extended credit to buyers".[11]

---

[10] Ralph Cassady, *Auctions and Auctioneering* (University of California Press, 1967).
[11] Shireen Huda, 'Pedigree and Panache', n.d., 254.

Ralph Cassady mentioned that auctions existed in China where "the personal belongings of deceased monks were auctioned off as early as the seventh century A.D.".[12] That means ancient civilizations investigated new methods of selling goods that we took and started to develop.

After antiquity the history of auctions goes to Europe and America. The word "auction" is supposed to have originated in the English language in 1595, when a play Menaechmi by the Roman writer Titus Maccius Plataus was translated and there was a part about an trade of slaves, household good. The next important step in the history it is 1662 when was the first mentioned slave auction in the American colonies. In 1682 the London Gazette started announcing the auctions by advertisement to attract more buyers. There are mentions about auctions in the Diary of Samuel Pepys from 1662. In England three methods were investigated: "sale by inch of candle", "outroping",. "Mineing". All methods were used for selling different goods including books, furniture, art. In the 17th century a lot of auctioneers started their career from bookselling and then they went to the art market. In the 17th-18th centuries 21 auction catalogues were printed in Ireland which survived to the present day. A lot of medical, botany, chemistry, pharmacy, anatomy books were presented . Books were presented mostly in English and Latin. It was a way to promote sales and attention to the auctions.

The best time of the auction market was in the 18th century. In 1744 was founded an auction house Sotheby's by Samuel Baker who was an entrepreneur and bookseller. His career started from selling antiquarian and rare books in London. The most significant auction that he organised was in 1754. 10 thousands of books and manuscripts were presented which belonged to Dr Richard Mead, the auction lasted 2 months. One of the buyers was Louis XV of France. The Baker's partner became George Leigh in 1767. Samuel Baker died in 1778 and left a legacy of his business to his favourite nephew John Sotheby. For a long time the auction house started selling prints, coins, medals and antiquities. In 1861 the inheritance of the business was interrupted and the head became John Wilkinson who was the company's senior accountant. Then was a period of changing and in 1917 Sotheby's became the heart of the art world. Therefore, the accent was replaced by books. In the 20th century the auction house had an office in New York, Hong Kong, Russia and India. The expansion continued in 21th century in France and China. During the time the auction house has sold a lot of masterpieces, sometimes the prices achieved more than 100 million dollars.

---

[12] Cassady, *Auctions and Auctioneering*, 29.

Another big auction house was founded in 1766 and it was Christie's. The founder of the auction house is James Christie. In 1778 the owner sold the art collection of Sir Robert Walpole to Catherine the Great of Russia. The son of James Christie organised his first sale in 1794. In 1915 the auction house did the first Christie's Red Cross charity sales for donating money to the army. During the 20th century the auction house organised sales in Tokyo, New York, Zurich, Tel Aviv. In the 21th century Christie's sold masterpieces with prices more than 170 million dollars.

One of the important figures in the auction world was Samuel Paterson. He decided that he could be a bookseller and he wanted to import foreign books to England. He opened a shop and sold several libraries. Then he imported books from Italy and sold them. However, it was not successful. The main reason was simple: his overseas partners did not offer the right commission and he remained in a losing position. However, in 1755 Paterson decided to enter in the auction world and it became successful, he could estimate the real price of books. Besides books, he sold furniture, wine, and property. However, he was famous for selling books. He organised 322 sales and half of them were books. One of the important sales is an auction dedicated to the sale of the manuscripts of Sir Julius Caesar's. An interesting fact is that the catalogue of these auctions which has been itself from these auctions were kept and bought by some collectors. The feature of his catalogues is its own style, for example, it gave special titles for different editions with the descriptions which are interesting to scholars. Also, Paterson created his own classification, for example, for one auction it was a classification by county. He followed his own style and he was successful and famous in the auction world.

Ralph Cassady in his book Auctions and Auctioneering cites found auction rules from the 18th century which were presented in the book "Adapted from the original as given in James Brough,Auction!":

1. "I. The high bidder is the buyer and, if any dispute arises as to which bid is the highest, the goods will be put up for sale again.
2. No bidder may advance another's bid by less than sixpence when the amount offered is less than fr, or by less than one shilling when the price is fr or more.
3. The merchandise for sale is warranted as perfect, and before removing the goods from the premises any buyer may accept or reject them.
4. Each buyer must give his name and make a deposit of 5 shillings on each pound sterling (if demanded); no deliveries will be made during the sale.

5. All purchases must be taken away at the buyer's expense, and the amount due must be paid at the place of sale within three days after the purchase.

6. Any would-be buyer who is unable to attend the sale may have his commission executed by a representative of the auction firm."

From the rules given, it can be seen that auctions were held according to different rules, sometimes it was the English type with some peculiarities.

Therefore, the 18th century for England was a period of significant growth of the art market. Auctions were oriented on different subjects such as books, musical instruments, paintings, furniture. Auctions could last from one day till months. Auction houses were founded by one person and then developed in the partnership relationships and were inherited. Surely, auctions were organised by the government for selling the property of people with debts.

One of the interesting sources about the auction' life is the journal "Notes & Queries" which was found in 1849 in London. The journal includes small articles (notes) related to humanities subjects such as history and literature. This journal allowed me to find interesting notes from different periods. For example, the issue from 19 January 1850 mentioned that "Messrs. Sotheby and Co. will sell the extensive and valuable Collection of MSS. In all languages formed by the late Mr. Rodd".[13] There are explanations that the catalogue presents some treasures which can be captivating for collectors of manuscripts. There were one thousand lots including manuscripts in Greek and Latin. Except in this case they presented other auctions for example from Messrs. Puttick and Simpson. There were presented works on theology, history, classics, travels in English and foreign. They mentioned that the journal received catalogues that means auction houses and booksellers tried to make an advertisement for their auctions. In Figure 2 we can notice what type of advertisement booksellers gave to the journals and newspapers. The first interesting thing is that there is a duration of the auction and it is eight days. Secondly, they were using strong emotional words like "the most numerous and interesting" and "extremely rare". It was a method to attract participants. Also, there is a sign that the catalogue exists.

---

[13] 'Books and Odd Volumes', *Notes and Queries* s1-II, no. 52 (26 October 1850): 189–90.

19

Figure 2 Example of the note about an auction

Another interesting report was published 20 January 1906 "First book auctions in England " where presented the first book auction in England which was held by W. Cooper in 1676. There were sold 30 books, but not all were held by Cooper. This note helped to recreate the path of the first book auctions. The reports from 1900 talked about a catalogue of the first book auction in England and there mentioned that the British Library has some copies of this. The note from 1908 announced that the second auction was in February of 1676/7, where was presented the library of the Revd. Mr, Hartforshire, A.M., Rector of Hitchin. This example makes it clear that nothing changes, people have been selling books at auctions for centuries and continue to do so. The examples given here were chosen randomly, but related to books, as this corresponds to the main theme of the study. The journal also has reports about printers and booksellers who worked during the 17th century.

In America auctions came from England. In the beginning the auctions were an instrument for selling secondhand goods, domestic animals and property of bankrupt companies. In the 18th century British factories sent stuff for selling to American ports where agents worked with goods. It was a way to deliver foreign goods to America. However, it is important to mention the auctions of slaves that were popular in America. One lot could include one person or the whole family. Each lot has a price, but could be increased.

The auction market was developed in Europe in different ways. In the Netherlands first auctions were for sellingalles fruits and vegetables. In the 16th century there were books auctions, but it was a part of home property auctions where everything was property of someone. The most significant book auction was a sale of the cartographer's Abraham Ortelius library. The book auctions were organised by booksellers and they had a five percent commission. They evaluated books for sales and created catalogues which included not only books, but also paintings. Usually, book auctions are held in Amsterdam and Leiden. It is important to say

about Louis Elsevir who obtained official permission to auction books in 1596. He used this fact when he sold the library of Philips van Marnix de Sainte-Aldegonde in 1599. After this case books auctions were spread in the Netherlands. In the 17th century the book auctions were spread in Leiden, the Hague, Middelburg, Franeker, Rotterdam, Dordrecht, Utrecht, Amsterdam, Hoorn, Zierikzee, Leeuwarden. The book auctioneers could organise the book auctions only in determined time and places, had to send catalogues for verification and not to sell their own printed books. The books were in Latin, Spanish, French, German, Italian, and Chinese. The number increased from year to year.

Germany was famous for auctioning fish. Fishermen had contracts with distributors for selling goods on auctions. However, the beginning of art auctions is the 17th century. In 1690 was an auction where the collection of Duke Rudolf Friedrich von Holstein-Norburg. The auctions were held in Dresden, Hamburg, Leipzig. As in the Netherlands there were strict rules about who can organise auctions; it was related only to local people. Booksellers printed catalogues. The significant issue is the case of selling a manuscript by Johann Wolfgang Goethe on the second-price auction. It was in 1797 and documented in the letter from the writer to a publisher Mr. Vieweg.

The development of auctions was also in France. Gérard Marty mentioned the auctions for the sale of timber which were stabled in 1318 by Philippe V. However, the author emphasises that the most reliable data on the sale of timber for heating was recorded in 1516 by ordonance of François 1st. Confirmation has also been found that sales were carried out and resolved through the courts. In 1556 was an Act about the bailiff-auctions which gave the rights to organise the auctions of properties ``taken in execution''. The 18th century was the century of the development of the auction world in France. In 1801 the Paris Chamber of Auctioneers was created and Paris became the art capital. There were also catalogues that promoted the sales of paintings, prints, shells and other goods that meant auctions were popular. Auction market was and stayed regulated by the government. In 1852, the Hôtel Drouot was built, which was to become the most popular auction house of the late 19th century. A lot of French books were sold in London in the 18th century. The first thing that attracted attention to such books was the modernity of the writers' thoughts, as well as revolutionary sentiments that encouraged the nobility to leave for England, where their art collections, including books, were sold.

In Russia auctions appeared with the innovations by Peter the Great. In 1697-1698 Peter the Great bought books, instruments, and rare goods on auctions in Europe. After that, the emperor introduced a decree "About the sale of confiscated belongings from the Magistrate". It was a

method for selling confiscated property. After several years auctions were used for sale of lands, estates, movable property, as well as agricultural products. However, the first time the word "auction" was used in 1756 the empress Elizabeth introduced a decree about sales by auction's method of some type of property. Russian nobility continued to participate in auctions, but that was in Europe. In socialist Russia, auctions were perceived as the wrong segment that introduced rivalry. The first auction was in 1931 in Leningrad (St. Petersburg) where the fur was sold. The first auction house was opened in 1988 and had the name "Helos". Then the auction market was developed and European auction houses appeared such as Sotheby's and Christie's.

All European countries promoted auctions, created catalogues and the market was regulated by special rules. It allowed them to control the sales. Nowadays, we can follow the way of auctions by surviving catalogues. Some of them are now presented on auctions and bought or will be bought. It can be the proof of old auctions and the documents which create the representation of which books were sold. This gives an opportunity to recreate the path of sold books.

In addition to the development of the auction market in Europe, the Asian market was also developing. In Japan auctions have the root from fish as in the Netherlands and Germany. However, there was an exploitation of fishermen by distributors. Matsumura Goshun wrote a painting "Fish market" in the end of 18th century. There was a crowded fish auction which meant it was a big and important event. Unfortunately, not so much information existed about auctions in Japan in that period.

In conclusion, the auction world opened gradually in all countries and started with judicial sales or sales of, for example, fish or timber. The auction market started from selling products and then spread to all segments including art and books. In Emile Zola's novel Le Ventre de Paris one can also find evidence of auctions, where prices for fish are drawn out and the auctioneer strikes the hammer at the final price. If we look at auctions nowadays, more and more of them are devoted to paintings. However, in the 18th century, not only paintings were exhibited, but books were also popular.

The auction system has changed but not much, it remains important to prepare catalogues to familiarise participants with the lots. Auctions are still held in special halls. Only one seized property has changed and is being sold at special auctions and venues. And still auctions give an opportunity to buy treasures which can be invisible for others. However, bibliophiles and collectors know what they are looking for.

This historical account of the emergence of auctions in various countries has provided an insight into the auction world of the 18th century, the very period in which the books analysed in this study were printed. It also allowed us to see that catalogues were created almost from the very beginning of the flourishing of the auction world. Indeed, excerpts from some of them can still be found today and one can appreciate how different they are from those of today.

1.2. General characteristics of the auction market

The auction world did not just emerge and work from the same script, but it evolved and new types of auctions were introduced. The auction world has also acquired its own special characteristics. These features can also influence the final price of lots, which was analysed in the study. Therefore, the auction market is full of types of auctions which can be used in different cases.

The Economic Times presented one of the definitions of the auction market "is the market where interested buyers and sellers enter ambitious bids and offers, respectively, at the same time. The price at which the security trade reflects the highest price the buyer is interested to pay and the lowest price at which the seller is interested to sell."[14] That is, an auction market is characterised by a buyer-seller relationship, a defined selling time, the lowest or highest price is predetermined, and trading will be based on that.

In reality, the auction market has more characteristics. Professor John R. Drake (East Carolina University, Department of Management Information Systems) in his paper "An Exploratory Look at Early Online Auction Decisions: Extending Signal Theory" published a diagram in which he included the following characteristics : current bid, end time/time remaining, rate of bidding, number of bidders, shipping costs, shipping options, shipping insurance, seller location, return policy, payment methods accepted, proxy bidding, reserve price, minimum bid, buy now option, item quality, product description, photo of product, security, seller feedback.[15] As the author explains, the characteristics were highlighted in a survey of online bidders, but the characteristics given can be attributed to the stage of lot selection. However, this is directly related to the characteristics of the auction market, as auctions need to maintain buyer interest, and buyers are the main selectors of characteristics that will then influence the organisation of the auctions. Therefore, it is possible to define the main characteristics of an auction as the indirect relationship between buyer and seller through the market, offers, bids, highest or lowest price, sale-purchase conditions, and security.

---

[14] 'What Is Auction Market? Definition of Auction Market, Auction Market Meaning', The Economic Times, accessed 20 August 2022, https://economictimes.indiatimes.com/definition/auction-market.
[15] John Drake et al., 'An Exploratory Look at Early Online Auction Decisions: Extending Signal Theory', *Journal of Theoretical and Applied Electronic Commerce Research* 10 (1 January 2015): 35–48, https://doi.org/10.4067/S0718-18762015000100004.

Turning to the types of auctions, there are 4 main types: ascending-bid auctions (English auctions), descending-bid auctions (Dutch auctions), first-price sealed-bid auctions, second-price sealed-bid auctions (Vickrey auctions). All types have special characteristics.

Cynthia Wall in her article "The English Auction: Narratives of Dismantlings" wrote that "for most English-speaking readers presumably is the ascending-bid, going-going-gone method that is actually called the "English style auction".[16] English auctions are held in real time and bidders can participate physically or electronically. The seller gradually consolidates the price and the auction lasts as long as there is one left. This bidder wins and gets the lot at the final price. Dutch auction is an interactive auction format where the seller gradually decreases the price until the moment when someone accepts and wins. First-price sealed-bid auctions supposes that bidders present "sealed bids" to the seller. The winner is the bidder who offered the highest price. Vickrey auctions are also supposed to present "sealed bids" to the seller, the winner is a bidder who offers the highest price, but he pays the value of the second-highest bid.

Therefore, the English auctions are used in the English-speaking world and the seller tries to realise what a starting price is acceptable. Usually, antiques and artwork are sold through this type of auction. The Dutch auction is used in the Netherlands to sell flowers, in Israel for selling fish and in Canada for tobacco. The first-price sealed-bid auction is usually used for selling mineral rights in the U.S., sometimes it is used to sell artwork and real estate. The main feature is the bidders can't know the prices and revise the actions. The second-price sealed-bid auction is rarely used in practice. Each of these types can be used in different spheres. However, for books in the majority of cases English auctions can be used.

The next type of auction is descending-bid auctions or Dutch auctions. This species has been around for a long time and is actively used in Dutch flower markets. As the flowers could not stay fresh for long, the auctions had to go quickly and this type of auction made it possible.

The main characteristic of this type is the setting of an initially high bid price, which gradually decreases until the participant makes a bid. Octavian Carare and Michael Rothkopf in their article "Slow Dutch auctions" described the principle of the Dutch auctions as "The basic idea behind the models is simple. Imagine yourself entering Filene's basement to shop. If you see an item there that you want to buy, you have a choice. You can buy the item at once at its current price, or you can return at some future time in the hope that it will still be

---

[16] 'The English Auction: Narratives of Dismantlings on JSTOR', accessed 20 August 2022, https://www-jstor-org.scd1.univ-fcomte.fr/stable/30053642#metadata_info_tab_contents.

there and available at the known price. Some aspects of this choice are identical to the one you would face in deciding on a sealed bid on the item. The lower the price at which one intends to buy the item, the greater the chance that one will fail to buy at all.".[17]

Consequently, the main characteristic of this type of auction is that the auctioneer calls the highest price and then lowers it in certain increments until someone stops the auction. Dutch auctions can be used to sell many things, including a variety of types of securities, floating-rate debt instruments, and IPOs. During the analysis of lot prices, it was noted that some of the estimated prices had changed downwards relative to the final values, meaning that the books could have been sold under the Dutch auction system.

In this way, the Dutch type of auction is interesting, but also gives some tension to the bidders, as waiting for a low price for a lot can result in losing out to a competitor. Buyers need to be quick and determine in advance what price they are willing to spend on a lot and whether they are willing to take the risk.

The next type of auction that I considered was first-price sealed-bid auctions. This type can be characterised as a closed auction where the highest bidder is the winner and it is this price that is to be paid. It is also worth mentioning that buyers bid at the same time. Closed auctions are usually first price auctions. Such an auction is similar to a Dutch auction in that the buyers do not know any information other than the price at which the lot was sold. Therefore, the first-price sealed-bid auction and the Dutch auction are considered equivalent because the bidders must have strategies and the winning function is the same.

The fourth type that has been considered is second-price sealed-bid auctions (Vickrey auctions). The basic principle of this type is that buyers place their bids at the same time. The goods go to the buyer who names the highest price. The winner pays the seller the second highest bid, i.e. the highest bid made by buyers other than themselves. This type was proposed by the Nobel laureate William Vickrey. This type of auction is also referred to as a counterpart to the English auction, but with closed bids. Also for this reason, bidders must be symmetrical.

Turning to the sale of rare books at auction, how it happens and what the disadvantages and pros are. Not all auciones are willing to work with books, because it requires a lot of responsibility. This is why, in addition to the large auction houses, there are special book auctions such as Chiswick Auctions, Il Ponte, Koller Auctions, Quagga Rare Books and Art, Stellenbosch, Saffronart,

---

[17] Octavian Carare and Michael Rothkopf, 'Slow Dutch Auctions', *Management Science* 51, no. 3 (2005): 365–73.

Shapiro Auctioneers, Woollahra, Skinner, and Swann Galleries. Large auction houses like Sotheby's and Christie's have rare books and manuscripts departments, where staff members prepare books for auctions. They are also responsible for the presentation of the books, namely photographs of the lots and the creation of descriptions. Smaller auction houses may employ outside specialists to carry out book evaluation and description. Currently, there is a debate as to whether online or offline auctions are better, and it is voiced that online auctions do not give a feel for the object. In terms of books, this is indeed the case. Often collectors know a lot about a book, including how to check if the pages have been pasted in and what damages will affect the value of the lot. It is therefore important to inspect the books of interest before the auction to check that they match the description provided, and this allows you to decide which lots are worth looking at and buying. If the buyer does not have the opportunity to inspect the lots, a request can be made to the auction house to view a report prepared by an expert. The issue here, however, is also one of trust in the auction house. In the history of auctions, there have often been cases of forgery, both of lots and of information about them. For this reason, auction houses have begun to offer guarantees of authenticity, which may be for a limited period or for life.

The next step is to investigate the price. Auction houses give a quality estimate of the lot, but they also want to attract buyers, so the price may be lower or higher. In this case, the buyer determines for himself how much he would pay for the book, and the auction house really assesses the situation. It is also worth remembering that in addition to the hammer price, the buyer will also have to pay a buyer's premium, which can vary depending on the auction house. Previously, an auction characteristic such as delivery was discussed. In the case of books, this is worth taking into account as sometimes books cannot be transported in a particular way because of the binding material, for example. There are also many factors that affect the condition of a book. When the buyer determines what he wants to buy, he must bid in person or in absentia, depending on the auction method. If they win, the winner must decide on the delivery and become the owner of the item.

In conclusion, auctions are different and more models of auctions can be considered because they are also conducted by government organisations to find suppliers, for example. Also, the auction model chosen depends on the situation; sometimes there are auctions due to bankruptcy and property, including paintings and books, may be put up for compulsory sale. Consideration of the characteristics and types of auctions allowed us to hypothesise why sometimes the final price is higher and sometimes lower than the estimated price. It also made clear that books are a special kind of lot, which not all auction houses are willing to work with. Although, there is some possibility of finding treasures in an auction run by a small auction house that does not specialise in this. But for that, it is necessary to be a proper expert.

However, this sub-part of the chapter made one think about the terms used in the auction world and knowing them is essential for the subsequent research as well as for the presentation of the results. A terminological analysis was therefore carried out and included in the methodology chapter.

Chapter 2 Methodology

This chapter concentrates on the methodology that was used for the subsequent work on the final products of the study. In this way, the terminological analysis allowed us to delve into the auction world and to use this to understand which elements to include in the database. A comparative analysis of the catalogues was needed to subsequently create a model of the future catalogue, which is presented on the project website. The next method was the modelling method, which made it possible to understand the process of making the model and also to create our own model, which served as the basis for the catalogue.

2.1. Terminology base of the auction market

The auction market has its own vocabulary of terms that are necessary not only for people working in this field, but also to all persons participating in auctions. One of the aims of this study was to create a list of the most used terms and to analyse their meanings in different dictionaries. As part of this task, I decided to use terminological analysis, which involves searching for certain terms and accurately determining their meaning.

It is assumed that the identification of the main terms and the conduct of a terminological analysis will determine the basic principle of the auctions. It is also intended to allow the reader of this study to more easily understand aspects of the project, as well as its final products as a database, a catalogue and a website. To define the main terms of the auction market, both professional and educational literature was used, which is presented in the bibliography. The list includes terms such as: appraisal, auction, auctioneer, catalogue / brochure, hammer price, lot. As part of the research, it was decided that these terms are important for understanding the work of auctions.

To search for terms and their meanings, several dictionaries were selected, such as Cambridge Dictionary, Merriam-Webster, Oxford Learner's Dictionaries. It was also decided to find definitions of terms in professional literature and on professional websites such as Auction Terminology: A glossary – Sotheby's Institute of Art, Glossary of auctions by La Gazette Drouot, Glossary of auction terms by Rogers realty & auction CO, Inc., Auction Terms Glossary by Virginia Auctioneers Association. Different sources offer different terms. Dictionaries have a more understandable definition of terms; specialised literature gives definitions. related and working in a particular field.

Appendix 1 presents the meanings that were found in the above-mentioned dictionaries, Appendix 2 displays the meanings of terms found on specialised websites. Paying attention to the application, we noticed that the terms are given in general and not all meanings relate specifically to auctions. Also, some meanings of the terms are missing.

In a thorough review, it was noted that the term "auction reveals Cambridge dictionary in the most detail, which allows a person who is getting acquainted with the world of auctions to understand more precisely what it is. In general, "auction" is a method to sell properties which were used by someone and have some value. The term "auctioneer" is disclosed everywhere in the same form and gives a clear idea of who it is. Therefore, "auctioneer" is a person who conducts a sale by auction, the seller gives this right to this person. "Appraisal" was presented by all three dictionaries in a short form, which reflected the essence of the term, in general, related to the auction market. "Appraisal" is one of the essential processes in the preparation of auction which supposes estimating value of properties. The term "catalogue" has the same meaning in different fields of activity, all sources gave similar meanings to each other. Therefore, a catalogue is a printing material which allows us to present the properties available for sale. Usually, catalogues include pictures of items and descriptive text which allows acquaintance with lots. The full and auction-related concept of "lot" is given in the Cambridge Dictionary, most unrelated to the Oxford Dictionary. Lot is an item or a kit of items which are presented at an auction. Lots presented in catalogues with numbers for simple orientation. The term "hammer price" is missing in the Cambridge Dictionary; two other dictionaries presented definitions related to auctions. This way, "hammer price" is a price which was determined by the last bidder and approved by the auctioneer before the announcement that a sale is done.

Therefore, during the study I used the definitions for terms which I formulated for myself using the definitions which are presented in Appendix 1 and 2. It helps to be acquitted to the auction world and to present the descriptive picture of what happens during such events.

Dictionaries always offer definitions of terms in different fields. I decided to analyse definitions from professional websites which are directly related to the auction world. In the list of sources were included: Glossary of auctions by La Gazette Drouot, Glossary of auction terms by Rogers realty & auction CO, Inc., Auction Terms Glossary by Virginia Auctioneers Association, Auction Terminology: A glossary – Sotheby's Institute of Art. Therefore, my choice fell to the auctioneers' association, the auction houses' websites, and the newspaper. All sources mirror the auction market and their glossaries were created to help newcomers quickly to be familiar with the process of auctions.

If we will pay attention to the Appendix 2 we can notice that all definitions are related to the auction market and sometimes this assumes that the user is already familiar to some extent with the mechanism of auctions. Therefore, the value of "auction" gives only one resource and represents this as a method of sale. At the same time, the dictionaries from Appendix 1 say that this is just a sale. The term "auctioneer" is deciphered in two out of four resources. The meaning is given almost identical to those reflected in dictionaries, but in more detail. The term "appraisal/estimate" is described in each website, but special attention is paid to this term on the webpage "Auction Terminology: A glossary – Sotheby's Institute of Art". This indicates the orientation of the auction house's web page, which not only introduces the terms to site visitors, but also prepares personnel for working on the auction market. All four resources describe in detail the term "catalogue" and describe what it can include in relation to auctions. The term "lot" is missed in two resources and in other sources it is presented by short description. The last term "Hammer price" is described very well, especially on the website of auction house Sotheby's.

For better understanding, I decided to formulate the definitions of all previous terms only by combining 4 sources. It helps to think as actors of the market. As it was mentioned above, the term "auction" was presented only in one source such as Glossary of auction terms by Rogers realty & auction CO, Inc., literally we can stay with their definition "A method of selling real estate in a public forum through open and competitive bidding. Also referred to as: public auction, auction sale or sale". The term "auctioneer" was almost the same in two sources and we can adapt as a person who is called to lead the auction sale, this person to call about the auction. Next term is "appraisal/estimate" which can be determined as a process of estimating the value of items. As I mentioned earlier, all auction houses prepare catalogues with lots-items. Professionals describing the catalogue as is a printing advertisement which allows to present and describe lots. Nowadays, catalogues can be in online format or in both formats. If we pay attention to the catalogue of books, sales depend on the quality of bibliographical description. Sometimes descriptions don't present the real value of the lot, which makes sales low. Lot was determined by two resources and it is an item or set of items prepared for sale. Last term is "hammer price" which can be described as a price based on the price by the last bidder and auctioneer. If we will compare the definitions of this term in all sources we can notice that the Glossary of auctions by La Gazette Drouot mentioned that price is a "confidential minimum agreed between the seller and the auctioneer", it makes an interesting remark that price should be confidential. However, other sources don't confirm it.

When analysing and comparing the definitions of terms from Appendix 1 and Appendix 2, it was found that the specialised literature explains the terms in more detail, if they require details, some meanings may be omitted due to simplicity. Obviously, dictionaries should give a more general characteristic and relate to several areas, if applicable.

As part of the terminological analysis, it was decided to define our own definitions of terms to facilitate understanding of their use throughout the research. The values are determined based on the information from Appendix 1 and Appendix 2. We decided to formulate that an auction is a public sale of things that have a certain value and are sold by a method that implies the initial price of the lot with an increasing step. An auctioneer is an auction participant and directly conducts the auction, announces lots, monitors the auction, and determines who is the final buyer with the help of a hammer. Appraisal is one of the stages of preparing a lot for an auction, which includes an examination of the item and determining the limits of its initial price. Catalogue/brochure is a printed or online document with information about each lot that will be presented or was presented at the auction and may also contain the price and some details of the previous or past auction. Hammer price is the price that was named by the last buyer, so it turns out to be the highest and is confirmed by a hammer blow.

In conclusion, we have the meanings of all the terms that will be used throughout the research work. The terminological analysis confirmed that to get acquainted with the main terms of the auction market, you should use specialised sources or special literature. It is also interesting to consider how professionals in this field characterise and describe the terms and give examples.

2.2. Comparative analysis of auction catalogues

As part of the following methodology, a comparative analysis of auction catalogues was carried out to identify common trends that can be used or should be avoided when creating the final product. The basis for the comparative analysis was the catalogues collected in the cloud of the Master's programme, which is available to students of a certain year of study. As a result, thirty-eight catalogues were selected for analysis.

For the analysis, it was decided to select several criteria to be considered. The list of criteria included: design, informativeness, structure. These three criteria are essential elements when browsing any catalogue. Let's look at each of the criteria in more detail. The first thing a person pays attention to is how the catalogue looks, even if he or she is not picking it up but viewing it online. As defined above in the terminology analysis. A catalogue is a printed or online document with information about each lot that will or has been offered at a particular auction. It may also include the price of the lot and information about it, as well as a photograph. Because auctions can be about different categories of items, and if a collection is being sold that belonged to a person, there may be lots in completely different categories. Therefore, it is best to use a minimalistic design with a colour scheme of two or three colours. Another reason for using a minimalist design is that there is a lot of information which could be distracting in a saturated design. The next criteria is informativeness, which is responsible for the content of the catalogue, namely the presentation of full descriptions of the lots. This allows the buyer to become familiar with the lot and consider whether it is of interest to them. Competent descriptions allow auction houses to sell more lots. An important element of a catalogue is its structure, which should hierarchise the information in the right order and help the buyer to avoid confusion.

As a consequence of the criteria used, it was decided to create a table that would allow catalogues to be evaluated (cf. Appendix 3). The evaluation can be described as subjective. A rating scale was also defined for the evaluation. These criteria were evaluated on a three-point scale: 3 points - excellent, 2 points - average, 1 point - poor. In addition to scoring each of the catalogues reviewed, it was also decided to make small comments about what in the catalogue can stand out and what might put off a customer.

Examine a few of the catalogues that received the lowest average score and the highest.The high-ranking ones included: "Fine Antique Maps & Atlases" by Martayan Ian, "Continental Books 1497" by Maggs Bros LTD, "60 livres et manuscrits du XVe au XXe siècle" by Camille

Sourget, Livres anciens du XVe au XIXe siècle by Alde. The first catalogue attracted attention with its table of contents, not every catalogue analysed had this aspect, although some catalogues included around two hundred pages. The catalogue also had a good and clear structure, with no distracting elements on the pages. The Continental Books 1497 catalogue featured an unusual cover, the space between text and image was taken into account so as not to weigh down the page, each element was highlighted if it was to be visible, the text was made in two columns. The catalogue 60 livres et manuscrits du XVe au XXe siècle by Camille Sourget is designed in a calm colour scheme, with beautiful vector illustrations as well as raster images. The lots are presented in all dimensions and a detailed description is given for each one. The catalogue also features interesting fonts and types for the highlighting of subheadings. A disadvantage of this catalogue is that it does not have a table of contents. The latest catalogue to receive the highest score was Livres anciens du XVe au XIXe siècle, which is a product of the renowned French auction house Alde. The catalogue is designed in a simple style that does not detract from the viewing of the lots, but there are photographs. Also, interestingly, a form for purchasing the lot has been added at the end of the catalogue. However, there is no table of contents.

The next category was not rated as highly because of low eligibility. The list of low-rated catalogues included: Literary Manuscripts & Letters, Plantes et Jardins, Animaux, Lesser.

The catalogue Literary Manuscripts & Letters by Charles Agvent received the lowest score. The cover is a dazzling array of colours and it's hard to know what to pay attention to, the highlights throughout the text are too bright and take attention away from each other, which makes it hard to concentrate. The descriptions of the lots are short, but quotes from the lots themselves are inserted. The following three catalogues also received a low and equal score. The Plantes et Jardins catalogue by Les Amazones uses a poisonous blue colour throughout the pages, which makes it hard to concentrate. In addition, all underlining as the description progresses is done in colour, rather than as an element of the text writing like italics or bold. The bibliographic descriptions are too short and it is impossible to grasp the uniqueness of the books presented. In the catalogue, not always justified changes in the alignment of elements are applied. The Animaux catalogue is made by the same auction house and has the same flaws. The next catalogue was Lesser. The first thing that catches the eye is the lack of a cover, with the front page showing a photograph of the title page of one of the lots and the buyer at first not being able to tell if it applies to the lot. The distinction between the lots looks tentative. There are 148 pages in the catalogue, but there is no content, which makes it difficult to

navigate. In this way, we have looked at the catalogues, which have raised many questions about appearance and structure.

It was decided to calculate the average score of all directories for all criteria together as well as individually, which made it possible to identify the weakest side in the criterion of all directories. Thus, the average score for all directories was 2.3, which is not too bad, because it is an approximation from average to high. The average score for the design criterion was 2.1, which was the lowest score compared to the other criteria. This means that auction houses and people involved in auctions do not rely as much on the fact that a catalogue can help sell, but it is worth remembering that a catalogue can create a first impression that suggests that a valuable find cannot be found here. The informativeness criterion increased to 2.6, very rapidly approaching the mark of excellent. It is worth noting that all the catalogues differed in informativeness in one way or another and also presented the lots well. Some catalogues had an introduction or afterword that allowed the buyer to understand the focus of a particular auction. The average score for the structure criterion was 2.2, which is a low score and the main reason was the lack of structure in the lots and the unclear alignment of elements on the page.

This analysis has highlighted several criteria that should be avoided, as well as those that should be used. Turning to trends that should be avoided:

- using more than 3 colours (it diverts the reader's attention);
- putting too much text plus adding an image on the same page (this makes the page heavier);
- making bibliographic descriptions too long, adding unnecessary information, or conversely short, without showing the uniqueness of the book being sold;
- not try to structure the material by content and on the page;
- not create a cover for the catalogue, even if it is an online version.

These five recommendations make it clear that many catalogues are more about presenting the lots but not about attracting the buyer, whose aim is to draw attention to the items presented. These recommendations also provide a good basis for those recommendations that should be considered and applied when creating catalogues.

A list of recommendations that can be used when creating catalogues based on the analysis includes the following:

- work on the full design of the catalogue, including the cover;
- include navigation elements in the catalogue structure to make it easier for the customer to use, namely by adding a table of contents and indexes;

- use a minimalistic design so as not to distract the buyer's attention from the items themselves;

- try to use professional images and not overload the page with them;

- use the right typeface depending on the theme or classic;

- keep all catalogue pages in harmony.

Therefore, the comparative analysis allowed us to look at the catalogues of different auction houses from many countries such as Italy, the USA, France and others. It also helped to create recommendations which should be used and which are better kept in mind but not applied. Furthermore, this analysis allowed us to develop the future design of the final product of the study, the catalogue.

2.3. Creating a catalogue model

The final and important product of the project is a catalogue of books printed in France in the 18th century and sold at auctions from 2019 to 2020. It is assumed that the catalog will be of interest to participants of the auction market, scientists, as well as people interested in auctions. This is due to several aspects, namely, the catalog will contain historical information that will tell you how the auctions began and how they worked. The catalog will also contain statistical information that is interesting for professionals to track the dynamics. From an aesthetic point of view, the catalog may be of interest to auction houses, libraries, antique shops.

The catalogue should be interesting from an informative point of view, as well as aesthetic. It should be informative, easy to navigate (UX friendly), attract attention, be readable, have graphic elements and no congestion. Therefore, we decided that we should pay attention to the design and the structure of the catalogue. All information to be used in the catalogue is taken during the data collection for the database from the Auction.fr website. It is also worth noting that a catalogue model is being created, not a full catalogue The basis for creating the analysis was the comparative analysis of directories, which was carried out earlier and described in this chapter. Specifically, the recommendations derived from the analysis were used.

The first step in creating the catalogue was to create a structure (cf. Figure 3) that would later be applied.
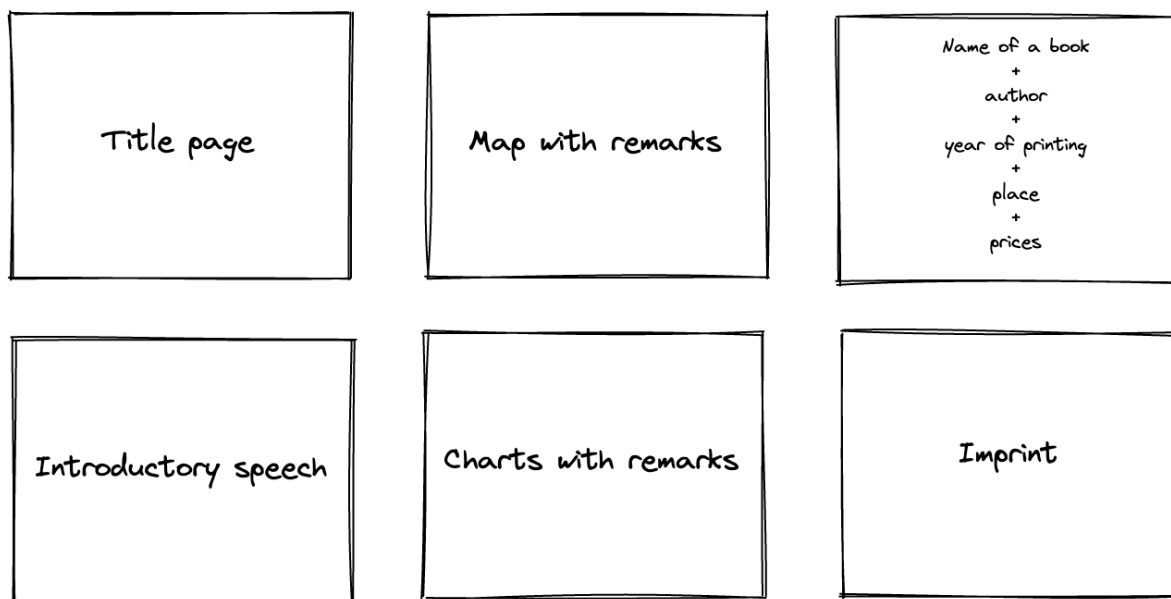

Figure 3 Structure of the catalogue's model

The structure included the main elements. For instance, the catalogue was supposed to have a cover, a short introduction, statistical materials (graphs and maps), which were reproduced as part of the data analysis. It was then envisaged to place the information on the lots that had been collected as part of the preparation of the database.

As part of the catalogue structure, it was also decided to divide the catalogue into several sections according to the year of printing. As part of this, the periods 1700-1740, 1741-1780 and 1781-1800 were identified. This made it easier to navigate in the catalogue and not to add content, but to note this in the introduction to the catalogue.

As part of the informativeness criteria, the way in which information about the lots was presented was considered. Thus, it was decided to leave information such as the title of the book, author, year of printing, prices, and a description which was taken from the Auction.fr website.

The next issue within the structure was the volume of the catalogue. Users may react negatively to a large volume of the catalog. As was seen from the comparative analysis of the catalogues, sometimes the catalogue is 200 pages long and does not have a table of contents. Therefore, we decided to reduce the information that will be given about the book, but at the same time there will be a link to the archive of the website, where a user can learn more if it is necessary.

Turning to design, we decided that the catalogue will be made in a modern style. It should attract attention with minimalism and not distract from the content. As part of the design of the catalogue, it was decided to choose a calm colour scheme that also harmonised with the website. Consequently, a palette (cf. Figure 4) was created that could be used in the catalogue. It included colours such as emerald, white, black, grey and cream.
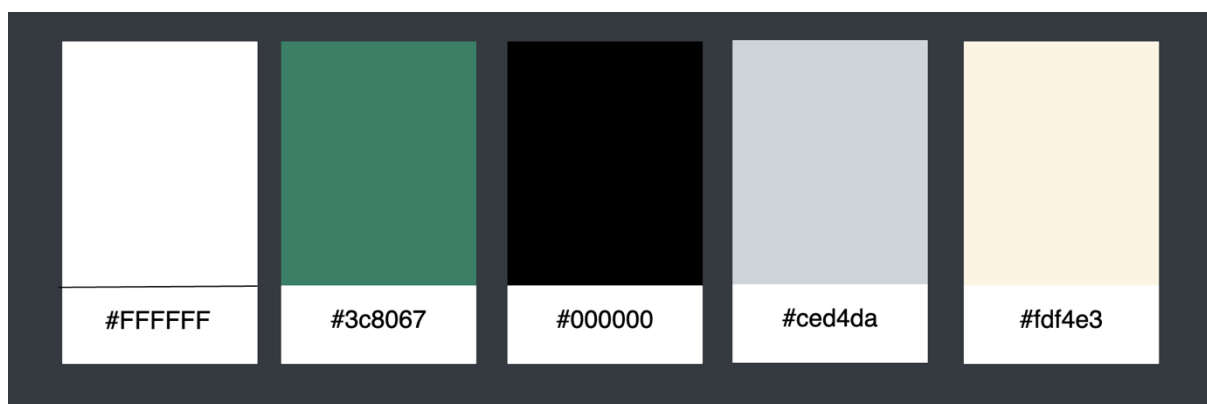

Figure 4 Catalogue colour palette

There has been a lot of research on how colour affects how people perceive things. Therefore, it was decided to determine what the chosen colours mean as catalogue elements. Moreover, there is an entire website dedicated to the meaning of colours, so it was decided to turn to it. As the influence of colour on a person is related to psychology, the authors of different theories are usually psychologists. However, the author of the above website is a world-renowned colour expert and also works in design, marketing and branding. Turning to colour analysis, the author defines each colour and what it reflects.

- o White – the colour of purity and innocence. It effects as refreshes, balances, simplifies. It also has disadvantages such as coldness, aloofness and advantages such as hope and clarity.
- o Green – the colour of harmony and health. It helps to relax, revitalize. However, merits are hope, luck and prosperity and shortcomings are envy, materialism.
- o Black – the colour of power and sophistication. This is supposed to make for a mystery effect. The virtues include formality and prestige, and the disadvantages include sadness and domination.
- o Grey – the colour of compromise and control. It has such effects as stabilizes, calms, relaxes. It has the virtues of being reliable, mature, and the disadvantages of being pessimistic and unemotional. [18]

Cream colour is not included, as it can be considered a shade of white. In summary, from the analysis of the colours, it can be said that the catalogue will be influential as being credible, responsible, elegant, and pure. What was originally planned to be brought in as a design.

The next step was to work out how the text would be positioned, and everything concerns it as a symbol. It was decided that the books will be presented in the form of records, possibly in the form of blocks with the inclusion of the book title, the author's name, if available, the year of publication, the estimated and final price, as well as the place of publication (cf. Figure 5). It was supposed that recordings should be made in a minimalistic style and have as few distractions as possible. I also thought about entering some signs, for example, to indicate the type of book. This will help the user, without reading the title, to understand what kind of book is in front of him and whether it is interesting to him if he is interested, for example, in atlases.

---

[18] '12 Color Meanings - The Power and Symbolism of Colors (Infographics)', Color Meanings, accessed 24 August 2022, https://www.color-meanings.com/.

[ROMAN (abbé J.-J.-T.)]
Le Génie de Pétrarque, ou imitation en vers françois de ses plus belles poésies
1778, Paris
Estimated price: 200 € - 300 €

Figure 5 Example of data representation in the catalogue

The following step was to work out how the text would be positioned, and everything concerns it as a symbol. Bodoni 72 was chosen as the font because it has strong lines and is also considered an informal handwritten font. This will give a reference to the fact that the catalogue contains information about books. In addition to selecting this font family, it was also planned to use variants of this font such as italics and bold.

Followed by was to choose a platform with which to implement the catalogue model. One of the important questions is how the catalog will be presented. It can be in PDF format or presented online as an Epub and posted on the Wordpress site as part of the research. We have two of these options, since both of them have their advantages and disadvantages. The PDF version will require working in several programs to create a catalogue and work with text.

While placing a catalog on the Wordpress platform, in addition to creating a catalogue in programs, it will require working on the platform and thinking through the concept of a website for placing a catalog. Therefore, the original plan was to run the catalogue in epub format in oXygen, but this idea was rejected because the catalogue had to be hosted on WordPress, which does not allow such formats, even using special plugins, so it was decided to use LibreOffice. This decision was made as part of the fact that the software is an open source document creation tool. This would make it possible to present the final product comfortably in PDF format on the project website. Since the project is created as research, the catalog can be created in PDF format, although the Wordpress version will allow you to present the project from different points of view, and also demonstrate not only the final result of the project, but also the research steps.

The process of creating a catalogue model in LibreOffice was fairly straightforward. As part of this, I used shapes as well as text. This made it possible to create the document in the right colour palette, as well as respecting the pre-defined structure. In addition, an important element was the addition of a header to indicate what the catalogue is about. However, the lack of

images made the catalogue look a little dull. The images could have been taken from the Auction.fr website, but they were not always present and there would have been an issue with the licence to use them. Unfortunately, the website does not give any information on how the data from the website can be used. A problem I have encountered more than once is that sites do not specify a licence which is responsible for the ability to use or not use the material. Apart from that, the lack of images did not affect the pre-conceived minimalist design. LibreOffice allowed the created catalogue to be saved in PDF format. This made it possible to integrate it into a WordPress website.

Chapter 3 Database analysis and visualisation

This chapter focuses on several steps such as creating the database, analysing the resulting data during its collection, and visualising the database and its use, visualising the final results of the analysis. This made it possible to prepare the final product within the project such as a database and to use the statistical data obtained in the catalogue and on the website. However, difficulties were also encountered in the process of working on the database, such as the limited ability to analyse the data on the Heurist platform.

3.1. The process of creating of the database

▪ **Data collection and preparation**

The database was an important element within the analytical part of the project. In this part of the chapter I want to explain how the database was created on the Heurist platform and why it served as the basis for the subsequent analysis.

The main source of data was the website Auction.fr. This platform promotes the sales and catalogues of more than 300 international auction houses. This allows to access the results of completed auctions as well as lots only for forthcoming auctions. Therefore, I used the given site to search for music-themed books sold in 2019-2020. The search was complicated by the fact that it was not possible to search for specific topics, so keywords such as music, sheet music, opera, comedy, sonnet, songs were used. A time frame should also have been established, but the search does not provide such possibilities, so the sampling was done manually and there may be errors in the final results that relate to human factors.

A document was created in Google Sheets to collect the data, allowing for quick data collection and easy editing. The first step was to determine what information should be collected for the subsequent database and its analysis. As part of this, several main aspects were highlighted that could be analysed. These included: title (full title of the book), author (surname and given names), year of the printing, place of the printing, auction house (name), publisher (surname and given names), estimated price, final price, currency, date of sale (dd/mm/yyyy), description (provided on the website), lot link. These fields were used for the main table, which later became the main table in the database. Part of the table is presented in Annex 3.

In addition to the main table, 4 tables relating to a specific aspect were created in Google Sheets, namely author, printer, auction house and price (cf. Annex 4). Data was collected both from the Auction.fr website, but also from the project data.bnf.fr, as well as from bibliographies

(for instance, to find the reason for moving some authors). Consequently, the author's table included data such as surname, first name, reference to the person in the database of the French National Library (data.bnf.fr), year of birth, year of death, city of birth, city of death, reason for changing city (if there was one). The following table (cf. Annex 5) was created under the name Publisher. It included several fields such as last name, first name, link to the page dedicated to the printer in the data.bnf.fr project. The third table (cf. Annexe 6) was a table dedicated to auction houses and included the name of the auction house, city and country, with a further field of the auction house's address (for later geo-mapping) being added. The last table (cf. Annexe 7) was a table dedicated to price and included the fields estimated price, final price and currency.

It is assumed that the title of the book and the name of the author will allow us to determine the genre of the book and assign it to a certain category for subsequent analysis. The year of the book's printing will allow us to determine which period is more interesting for auction buyers. Print location helps us to create a map with the main print locations and identify the most active print centres. The initial and final prices will be used to draw up a schedule of how interesting the object of sale may be and what step may be in the price.

After data collection was completed for all tables, a data cleanup was carried out using the OpenRefine tool. It makes it easy to work with a large amount of data and allows it to be used for appropriate purposes. I was interested in working with this program, as it allows easy navigation between data without problems and also allows easy manipulation of data. The final step in data preparation was to save the data in .csv format.

- **Creating a database on the Heurist platform**

The database is created based on the platform Heurist. It is a platform for creating online databases with the ability to add links and work with a large amount of data. The platform was created by Dr Ian Johnson from University of Sydney. It was developed for 7 years and still is updated. The platform is a useful tool for scholars in Humanities because it allows them to put different data and present the result of the research in a visual way. Nowadays, Heurist includes more than 1500 databases; this platform is used by scholars, students and organisations such as museums. Heurist is written in PHP and Javascript, MySQL data structure. The tool allowed easily to add entities and work on their characteristics. The fields of the database can be in different format such as numeric, text, term list, date, geographic, pointer with different tables, file attachments including URL. The platform offers to present the results of the research as

interactive maps, timelines, different types of visualisations, reports, and others. It is assumed that such a systematisation will be useful for creating statistics and a future catalogue.

The first step in working on the database on the platform was to create a layout of what structure (cf. Figure 6) it should have. The database schema was schematically drawn and included the tables that were created during data collection.
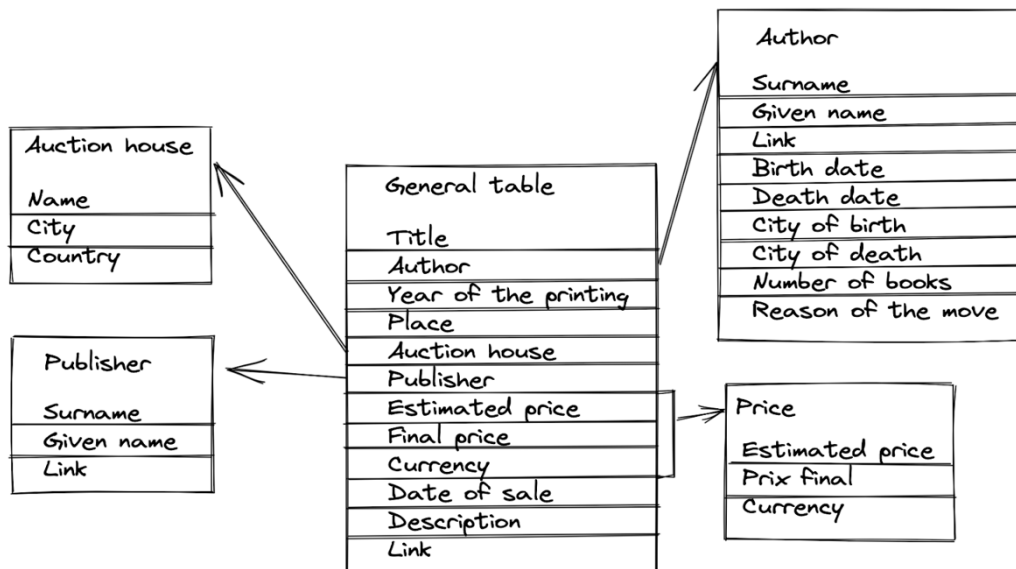

Figure 6 Schema of the future database

However, the database requires a more detailed structure and the content of the fields should have been kept in mind when creating the tables in the database. On the Heurist platform, it was decided to create 6 tables. The main table was the lot, the additional tables: author, auction house, location, price, publisher.

Turning now to the main table. It included 10 fields, each with its own type of content (a type of data) as well as significance. The table included all the fields presented in the chart above (cf. Figure 6). A special feature of the Heurist platform is that you can specify a certain data type, which will include a certain field. Therefore, it was decided that the main fields trumpeting mandatory information entry were Title, Auction house, Year of sale, Link. It was assumed that information in the remaining fields might not be available, but a definition was made for them - data entry recommended.

The platform offers input of the following types of data: dropdown (terms), numeric (integer or decimal), text (single line), memo text (multi-line or html), date/temporal, geospatial, file or media URL, record pointer/foreign key, relationship marker. The platform thus allows different

types of information to be entered for subsequent reflection in the correct format. The record pointer type means that the information will be populated using another table. If speaking about the type of data in the fields, the input occurred in this way:

- Title - text;
- Author - record pointer;
- Year of the printing - date;
- Place - record pointer;
- Auction house - record pointer
- Publisher - record pointer;
- Price - record pointer;
- Date of sale - date;
- Description - text;
- Link - URL.

The auction house table includes three fields such as name of auction house, city, country. The city field included a geographical marker, for this purpose adding the address of the auction house for correct display on the future map. The following author table included seven fields such as surname, first name, date of birth, date of death, city of birth, city of death, URL. The location table consists of three fields such as city, country and geolocation. The price table included the following fields: lower estimated value, upper estimated value, final price, currency. In this case, the estimated value column has been split into two because previously the price from the lowest to the highest value was presented through a dash, which prevented importing the data. The publisher table included fields such as last name, first name and URL. Therefore, it can be seen that the structure of the database is slightly modified, comparing it with the tables that were created to collect the data.

- **Importing collected data into a prepared database**

The next important step was to import the collected data into an off-the-shelf database on the Heurist platform. The data import started with small tables to establish the correct import settings. As part of this, the columns should be well separated and include information that corresponds to the field. For encoding was used the UTF-8 that means the Unicode Character Sets for implementing in HTML, XML, Java, JavaScript and others. A character in UTF-8 should be from 1 to 4 bytes long and it helps to make encoding for web pages. Next step was to determine what field separator should be used. The field separator is a character which controls how to split an input record into fields. The program offers to choose from comma,

tab, semicolon, pipe, colon, hyphen, equal sign, hash, dollar sign, at sign, ampersand, asterisk, left parentheses, right parentheses, left bracket, right bracket, slash, backslash. It was chosen a semicolon. Next step is what fields are enclosed in, there are three options such as ",', no enclosure. In our case we used ". Next setting is a line separator. This setting is used by the in-memory representation of file contents. For the Unix system is (\n), for MacOS is (\r), for Windows is (\r\n). We chose Windows because we prepared data in Excel that is more related to the Windows system. Then we must determine the multi value separator. This setting allows to provide an additional rule for field formatters and to represent it with a delimiter between the values. It used a semicolon. Last step was to choose the date format, there are only two options that include dd/mm/yyyy and mm/dd/yyyy. The first option is more convenient for the current case.

Once all the settings have been defined, it is then necessary to check whether the data looks correct or whether something needs to be changed. After this step we had to allow the platform to make an analysis of data. Next step is to choose the record type where the information will be imported. The main thing is to detect what data will be displayed. After we can see what data was imported and then to change the appearance of the data. All imported data remains in the form originally programmed when the database was created, e.g. with a sequence number.

This is why the title mask must be changed. In the same way as described above, the data of all the tables were imported to be displayed in a single database. In this way, all collected data was presented on the platform in the database created and ready for further analysis and visualisation of the results.

The database created can be accessed by following this link.

3.2. Database analysis and results

The aim of the database analysis was to identify the key points within book sales at auctions. This was necessary to provide practical information on book sales at auctions.

Within this, several key emphases were highlighted :

- identify sales uplifts based on the date the book was sold (before the pandemic and a time of lockdowns that prevented regular auctions and a period of getting used to online auctions);
- identify authors' sales statistics, and plot their birthplace and place of business, to what extent creators have moved from place to place;
- the main price parameters within the appraised value of the lot and the final price;
- geography and timing of book publishing;
- auctions and their geography.

These criteria made it possible to construct several graphs and maps, which subsequently became the subjects of analysis. Therefore, an analysis of prices over a period of two years made it possible to trace the ups and downs in sales, which made it possible to determine of propose some assumptions what impact the Covid-19 had on the auction market, although this data cannot be based on the fact that it only relates to one topic - music. However, in this situation it was interesting to see how music literature attracts an audience and how valuable such publications are.

The next aspect for the analysis was to determine the number of books sold by a particular author. The analysis also used the authors' dates of birth and death to build a map and reflect their activities in the territorial space. This indicator was supposed to represent the popularity of the authors and the interest of buyers in them, as well as to visualise the movements of the authors and to represent the attraction of some main cities.

Another indicator that was analysed was prices, both estimated and final. This aspect allowed me to identify the main price framework, as well as to present interesting points of excessively high and weak prices and to make assumptions of such jumps.

The geographical and temporal parameters were used to track the largest print centres of this type of literature at the time, the time frame allowed to visualise the most active time frames. The last indicator for the analysis was the auction houses at whose auctions the books under analysis were sold. This made it possible to present the most active auction houses and their

geography. For example, which countries the books that were printed in France ended up in. Let us turn to the analysis.

- **Identify sales uplifts based on the date the book was sold (before the pandemic and a time of lockdowns that prevented regular auctions and a period of getting used to online auctions).**

As part of the first aspect "identify sales uplifts" (cf. Figure 7), I started to use the data obtained through data collection to implement the database, namely the date of the auction to assign a particular book for sale to a specific month of the year. In this way, each year was divided into months and the date of the auction allowed me to calculate how many books were put up for sale in a particular month.

Sales uplifts based on the date of auctions

Created with Datawrapper

Figure 7 Books in the music category printed in France and presented at auctions in 2019-2020

The graph shows two lines that reflect two years - 2019 and 2020. Consequently, everything in 2019 and January 2020 refers to the period before the pandemic in Europe, the segment from February 2020 to December 2020 I have attributed to the period of peak pandemic and getting used to the situation. Consequently, in Europe in February 2020, the virus began to spread more rapidly and in March states began to close borders and impose blockades. This contributed to a stagnation in terms of activity towards the auction world, as well as the start of online auctions. In May 2020, countries began to lift some restrictions, but there were still limitations

on the number of people on the premises. In October-November 2020, countries began to reintroduce lockdowns. The graph shows that in early 2019 there were no music-themed books. The reasons may be different, a lack of interest from buyers and therefore unprofitability, or a lack of interesting copies of the subject matter. Only in mid-August did the number of books being auctioned start to climb. From February 2020 to July, a gradual growth in the presentation of lots can be seen until they reach a peak. August already shows a decline in demand, which is the same period when gradual easing was introduced as part of the fight against coronavirus, but in September we can see active growth again and a sharp decline by December 2020. Comparing the two graphs we can see activity in several similar months such as January and from August to December. However, it should be noted that the activity is not the same and is not equal. At this stage it can be noted that as such the pandemic has not had such an impact in terms of dynamics on the market, but in terms of quantity it is evident. It can be assumed that the online auctions allowed the distribution of sales in autumn 2020, given the experience of the first lockdown in March 2020. However, experts note that online auctions do not generate the same income as conventional auctions.

In this context, I have also chosen to look directly at book sales (cf. Figure 8), rather than their presentation at auction.

Book sales at auctions in 2019-2020
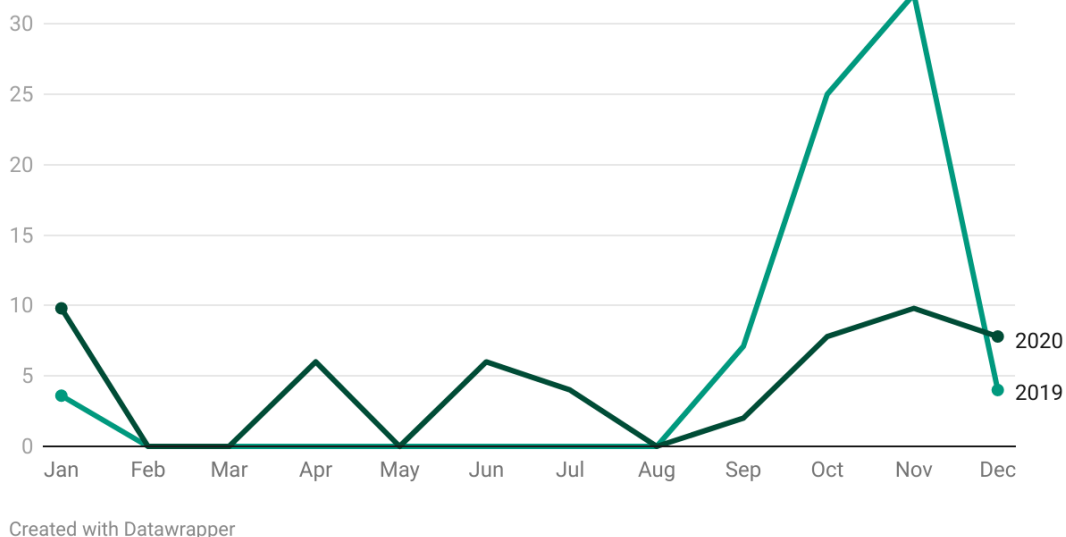

Created with Datawrapper

Figure 8 Books in the music category printed in France and traded at auctions in 2019-2020

The chart also shows the two years and the percentages of books sold at auction for each month of each of the years 2019 and 2020. In 2019, there were several important moments, namely the instant jump in sales in November and the lack of any activity from February to August.

Auctioneers are consequently more active from September onwards, when the summer season ends and life takes on a weekday character. In 2020, we should note a fairly even development of sales, however, with a few sales spikes. The most significant uptick in sales was in November. It can be noted here that in winter and spring, people stayed at home due to the coronavirus measures introduced and spent more time online. In September 2020, life returned to normal. However, at the end of October, restrictions were imposed again and people actively went back online. But this time it was more conscious, as these were not the first measures that had been introduced, so it was more likely to have a positive effect on sales.

Regarding the two years, it can be noted that the increase in sales was recorded in September-December, but the number of books sold varies considerably. So, the theory can be deduced that the covid has affected the number of books sold and the lockdown has forced auctions to switch online and people to invest more time online. Christine Bourron in the article *« Répercussions de la pandémie sur les chiffres des ventes aux enchères »* mentioned that three of the biggest auction houses such as Sotheby's, Christie's and Phillips are very busy from May to June, but in 2020 their sales are down 79% compared to the same period in 2019. Therefore, if the big auction houses reduced their revenues and changed their auction format to a hybrid one and most sales were made via the internet ("*Ainsi au premier semestre 2020, près de 73 % des ventes organisées par les trois grandes maisons de ventes étaient des ventes en ligne, contre seulement 23 % l'année précédente*"), one can imagine how the smaller auction houses were affected.

The financial collapse of the early days of the pandemic is also worth considering here. Many people became worried about their investments and available reserves. If one can divide buyers into categories: libraries/museums, bibliophiles/collectors and investors, it may have been during the epidemic that the number of investors who were looking for a way to invest increased.

- ▪ **The main price parameters within the appraised value of the lot and the final price.**

A significant part of the analysis was a study of both final and estimated prices. In preparation of the data for the analysis, it was noted that not every book was sold, but every lot had an estimated price. For this reason it was decided to do an analysis of both prices. Also an important consideration during data collection was the aspect of the currency in which the book was valued and sold. In this way several lots were identified that had been sold at auctions in

Switzerland in Swiss francs. Since the exchange rate does not vary that much, it was decided not to identify the exchange rate on a particular day and to calculate the value in euros. However, there is a margin of error in the final results.

In addition, it should be noted that several factors affect the estimated cost: the physical condition of the book, the features of the book such as who owned it, the material used to make the book, and the print edition. The final price is influenced by factors such as the interest of buyers, the quality of the bibliographic description, and the value of the book.

In order to analyse the appraised prices, a selection of appraised cost data was made from a table prepared for import into the database. The prices were then divided into several main categories such as:

- 0-100 euros;

- 101-300 euros;;

- 301-600 euros;

- 601-800 euros:

- 801-1500 euros;

- 1501-2500 euros;

- 2501-5000 euros;

- 5001+ euros.

This categorisation enabled a clearer analysis, as the amount of data was not as large and it allowed not to create a separate field for each different price. Thus, the analysis is clearer. As can be seen on the chart (cf. Figure 9), the most frequent prices were between 100 and 300 euros and between 300 and 600 euros. As we can notice, the prices are not that high. The smallest category in terms of number of lots was 5000+ euros, with not a single book registered within this framework.

Estimated price

100-300　300-600　0-100　800-1500　Other

Other
10.8

800-1500
10.9

0-100
14.1

100-300
39.1

300-600
25

Created with Datawrapper

Final price

100-300　300-600　600-800　800-1500　Other

Other
20.4

800-1500
11.4

600-800
11.4

100-300
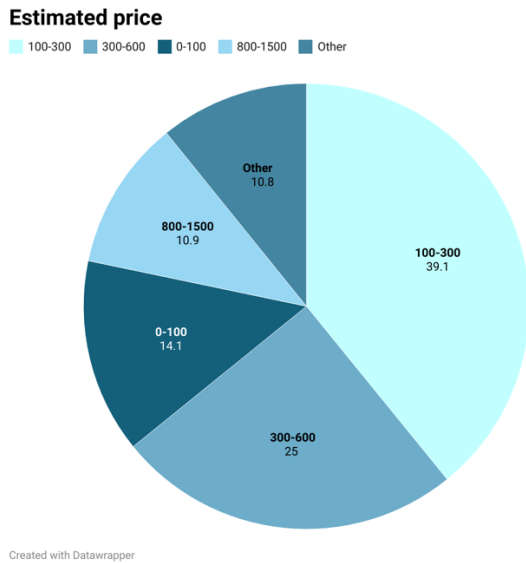29.5

300-600
27.3

Created with Datawrapper

Figure 9 Appraised price of books that have been auctioned off
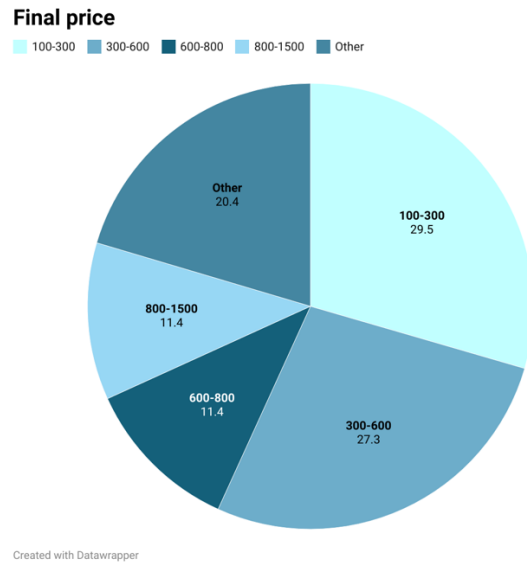
Figure 10 Graphs of the final prices of books sold at auctions

As part of the final price analysis (cf. Figure 10), it was found that the lowest category was 2500+ euros, while the category from 5000+ increased to 6.6%, indicating buyer interest. Some categories as a consequence increased and decreased. A similarity between the two pies should be noted - the two largest categories were also 100 to 300 euros and 300 to 600.

During the analysis, several of the most dramatic differences between the appraised value and the final value were observed, as reflected in the chart below (cf. Figure 11).

Difference in estimated and final prices

A	1500	7482
B	600	997
C	1000	13000
D	200	1470
E	130	200
F	180	250
G	450	714
H	500	2400
I	800	1230
J	350	700
K	150	431
L	49	120
M	300	1000
N	400	650
O	700	1500

Green circle - estimated price ; blue circle is final price
Created with Datawrapper

Figure 11 Reflection of price increases from estimated to final price

Therefore, it is worth highlighting the unusual leap in value from an appraised value of €800-1000 to €13,000. On first glance at this figure, I decided to analyse the lot wh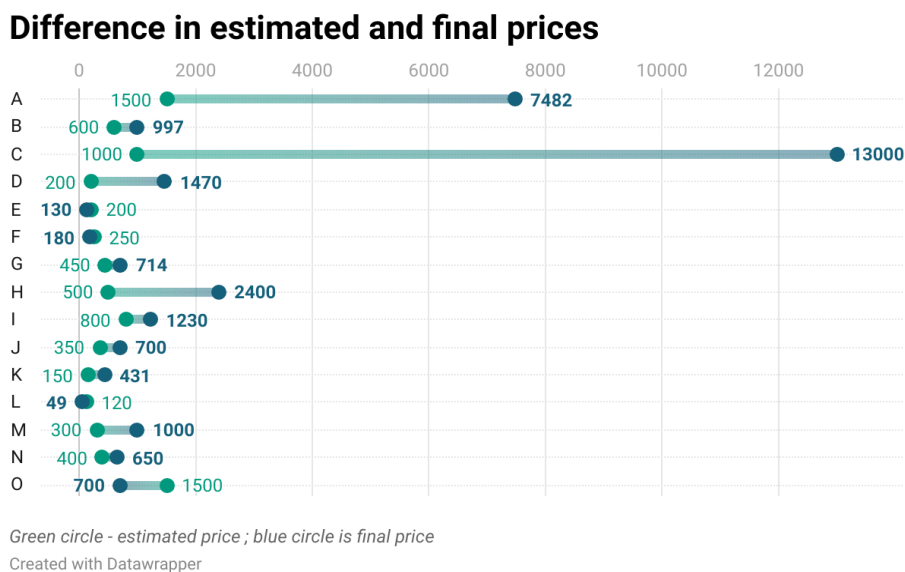ose value had increased so much. A book by authors Jean Serré de Rieux and Jean-Baptiste Morin entitled "La chasse du cerf, divertissement chanté devant Sa Majesté à Fontainebleau le 25me d'août 1708". When analysing the bibliographic description, several points were highlighted which may have influenced the increased interest of buyers. Firstly, the material of the binding is calf leather and the gilding is still in place. The second is the marking "unique and rare edition". Also peculiar to the copy is the binding of the leaves with the text at the end of the edition and not before the music; the presence of the coat of arms and the name of Joseph Bonnier, Baron de la Mosson. Above I mentioned the influence of the factor of who owned the book on the price. But in this case, it is interesting that it influenced the final price rather than the estimated price. Hypothetically we can assume that the auction involved several buyers interested in a particular edition, perhaps to collect the Baron's library collection.

Another interesting bounce in the final price from the appraised price was from CHF 1,000-1,500 to CHF 7,482. Under this lot was the book "Choix de chansons mises en musique" by Jean Benjamin de la Borde. From the bibliographical description it can be seen that the lot may be of interest as it includes 4 volumes of a single edition bound in Moroccan leather with red morocco endpapers with the coat of arms of the Poilloüe de Saintpérier family. Also importantly, the book has a large number of engravings and an ex-libris of Alain de Suzannet Provenance: Collection of a Basel bibliophile. The bibliographical description is concise and gives all the information required before purchase.

In addition to price rises during auctions, it is also possible to see a lowering of prices, a slight decrease but a drop. For example, a lot estimated at 80-120 euros sold for 49 euros. Underneath it was a book by M. de Beaumarchais 'Eugénie, drame en cinq actes en prose'. The first thing I noticed is that the description states that the binding is modern and made of linen, and also notes many physical flaws in the book as "des rousseurs éparses, parfois prononcées, des feuillets jaunis, titres anciennement recopiés à l'encre noire sur la 2nde garde blanche". However, the book has an engraved and armorial ex-libris: A. Brölemann. Thus, we can conclude that the value of the book is diminished due to the lack of the original binding as well as physical defects. Most probably bibliophiles were not interested in it because of the lack of physical value.

Another example of a lot sold for less than the estimated price was the book "Choix de chansons mises en musique" by Jean-Benjamin de la Borde. The lot was originally priced at €1000-1500,

53

but the final price became €700. From the bibliographic description, the cardboard binding, many engravings, and the indication that the edition is rare and the first should be noted. However, the edition did not arouse much interest among the bidders. A hypothetical reason could be the binding made of cardboard, but all of the copper engravings have been preserved.

In conclusion, a variety of factors influence both the appraised value and the final value of the lot. In the context of book sales, the bibliographic description is important, which should be concise yet detailed, making it clear to the interested buyer what is special about the book and what value it represents as a physical object as well as a substantive one. Covid has undoubtedly made an impact on sales. The article "EG Comment Feature - The future of auctions can't be based on nostalgia" points out that many people would want to return to the auction room, but many have seen the perks of participating in online auctions. Consequently, a hybrid system has emerged that allows both in-person and online auctions. TheExpressWire presented a report "Online Auction Market 2022 Top Manufacturers Records, Size, Market Share & Trends Analysis 2026" which notes that online auctions are expected to grow significantly in 2022, up to a million dollars from last year. Christine Bourron in "Répercussion de la pandémie sur les chiffres des ventes aux enchères" stresses that 2020 was an unusual year because of the pandemic - an unusually high number of online sales were recorded, but the revenues of auction houses fell.[19] Another important aspect is the subject matter of books, which has been altered by the pandemic. Music-themed books may have been reduced in representation.

- **Identify authors' sales statistics, and plot their birthplace and place of business, to what extent creators have moved from place to place.**

As part of the analysis, it was decided to identify the statistics of books by belonging to a single author. This allowed us to make an assumption that publishers favoured a particular author or were in principle oriented towards printing literature with a specific focus. Two columns of the table - book title and author - were used for the analysis. Therefore, it was determined that Jean-Jacques Rousseau was the most printed among the books analysed, accounting for 12 books. The second most popular was Jean-Philippe Rameau with 6 books. Turning to history, Jean-Jacques Rousseau paid considerable attention to music, creating operas, and also wrote his own musical vocabulary, which was in demand. Jean-Philippe Rameau is known as a composer and music theorist, which makes the publication of his works understandable. In

---

[19] DIRECTEUR GÉNÉRAL DE PI-EX LTD CHRISTINE BOURRON, 'RÉPERCUSSIONS DE LA PANDÉMIE SUR LES CHIFFRES DES VENTES AUX ENCHÈRES', *Droit et Patrimoine* 306, no. 306 (1 October 2020), http://nouveau.europresse.com/Link/FCOMTET_1/news·20201001·KDP·1528770033.

general, editions of the authors are noted in 1-2 titles. That is, the publishers relied more on the printing of books rather than a particular author. However, it is also worth considering that there may have been reprints of some books. In this analysis two authors were distinguished which books were of interest to publishers. For example, Jean-Jacques Rousseau's Dictionary of Music may have generated interest in publication, as he was already well-known at the time and this edition may have been in demand among buyers due to the prominence of the author. According to the writer's biography, he finished with the Music Dictionary in 1764. If we look at the books presented in the analysis, we can see that copies that were printed in 1768 and 1775 are represented. It appears that all the copies were printed during the writer's lifetime. The writer's personality was controversial, but he had powerful friends who supported him. It may also have influenced the interest in publishing this dictionary.

In the context of author data analysis, the place of birth and place of death were also analysed to determine the authors' movements along Europe during their period of activity (Figure 12).
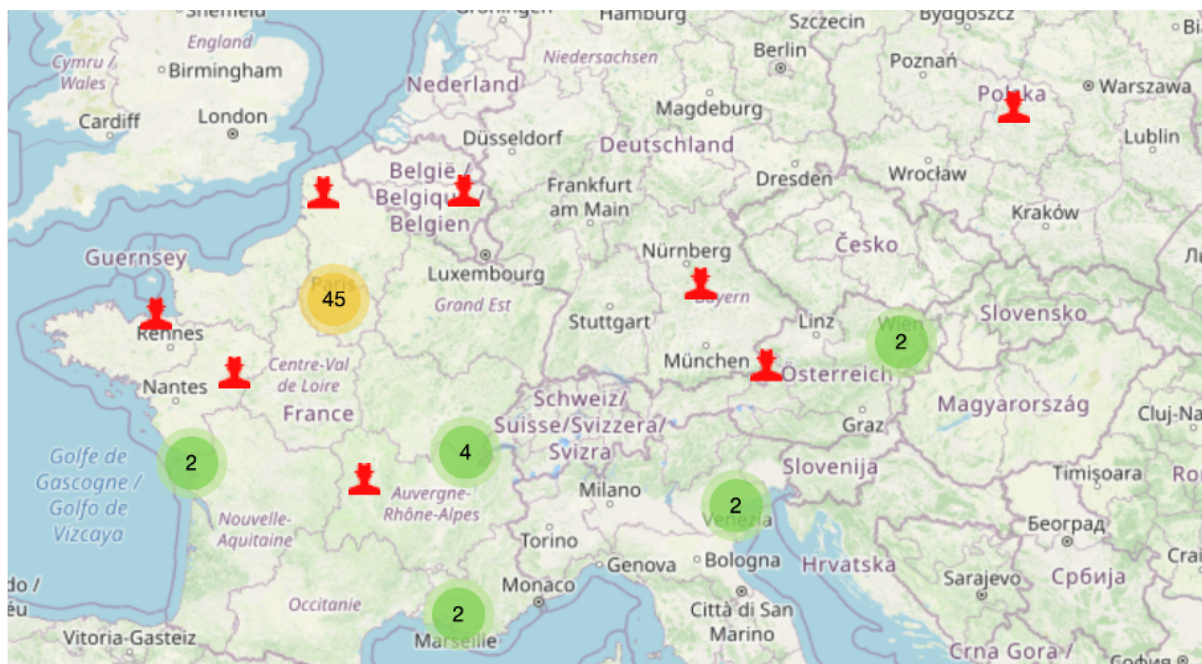
Figure 12 A map showing the birth and death places of the authors

Each author had a different story about moving around Europe. For example, Jean-Jacques Rousseau was born in Switzerland and died in Paris. His life was full of wanderings due to persecution, as well as his personal pursuit.

A map created from the Heurist database was also used at this stage. On the map we can note that the authors' main centre of activity was Paris, and we can also notice several marks on the map with 4 and 2 names each. But the question remains whether the authors were born there,

grew up there and died or moved away. For a more accurate analysis, it was decided to create a map of the cities and see the percentage born-grew up in a particular city or moved away.

Therefore, the analysis noted that all authors aspire to move to a big city, such as Paris or Vienna. But there were authors who were born in Paris, but moved to a smaller city, or were born in a small city, but close to a big city. So statistically, nine authors were born in Paris and 21 died. This suggests that Paris was the centre of literature and authors needed to live there to develop their careers. But an interesting case was found concerning the author Jean de Serré de Rieux, who was born in Saint-Malo and moved to Versailles. The question is why the authors moved and the possible reasons for this. To achieve this, it was decided to research the biographies of the authors who were moving around. Several reasons for relocation have been highlighted in this way:

- persecution and personal reasons;
- study;
- duty/job;
- revolutionary movement.

A study of the authors' biographies revealed that the moves were mainly related to finding a job, but also to studying. In most cases, the authors moved to Paris, as it was a cultural centre as well as more opportunities for career development. For example, serve with royal families. It is also worth noting that many authors were involved in politics and science in addition to music and literature. This also influenced their location.

In order to examine the map more closely, it was decided to create an additional map (cf. Figure 13) with labels that would mark specifically the birth and death places of the authors. In this way, it is possible to view the cities where the authors in question lived in animated mode. This map is available in animated mode on the project website.

Map of the authors' birth and death places

This map shows the birth and death places of the authors whose books were analysed in the study.
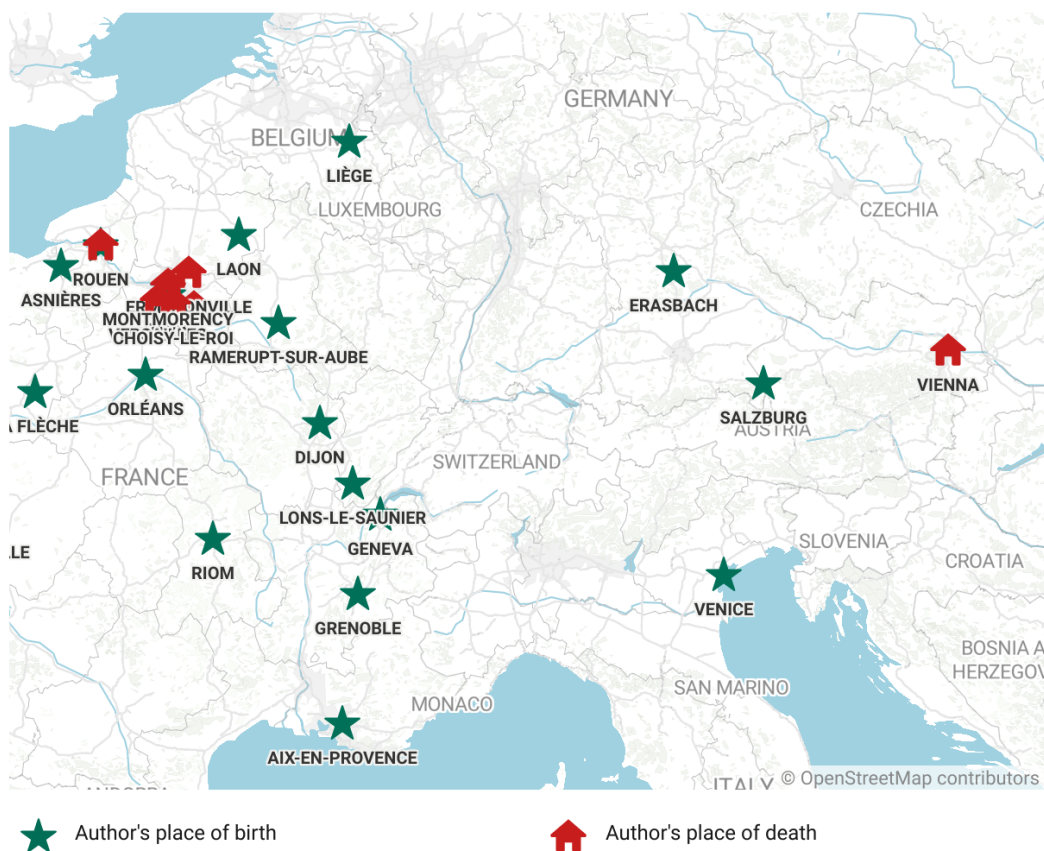
Figure 13 Interactive map of birth and death places of authors

▪ **Geography and timing of book publishing.**

As part of the geography and time frame aspect of book publishing, I decided that it would be interesting to trace the print centres that included music-related books, including theatre plays, in their print repertoire. As part of the analysis I used a map that was created automatically from the database data on the Heurist platform (cf. Figure 14). From the overall statistics, all books were printed in three cities: Paris, Lyon and Villefranche. Therefore, it can be said that Paris was the largest printing centre. To confirm this point, it was decided to study the main printing centres of France in the 18th century.
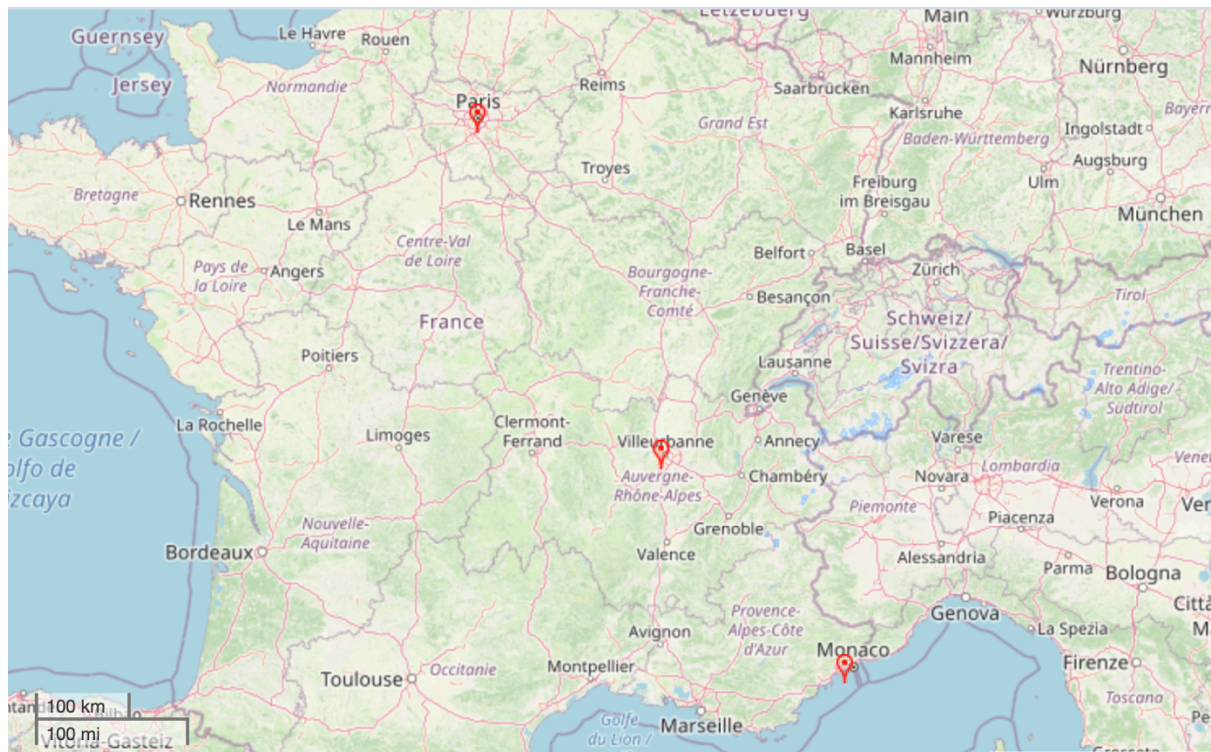
Figure 14 Map of book printing places

The first thing to note is that the 18th century was a period of change in the world of printing. For example, the division of the book business into printers, retail booksellers and wholesale booksellers were established. Secondly, in the 18th century there was strict state control of the printing world, including privileges for publishing books. And due to government control, many printing houses were closed down. Thus, the government issued decrees to shut down printing houses. These came out several times in the 18th century: in 1704, 1739 and 1759. "In 1764, France boasted some three hundred printing shops and seven hundred and twenty bookstores spread over hundred and seventy towns. The geography of printing and bookselling closely mirrored the map of urban France."[20] As can be seen, printing was very developed in France and there were printers in all the medium-sized towns in the country. Printers were very dependent on contracts with city governments as well as universities. According to the article Thierry Rigogne, Paris, Lyon, Rouen, Troyes and Toulouse were the main centres of print in France. The author also points out that the Paris printers were always larger than the printers in the other cities. Paris was thereby the centre for the printing of new works, which subsequently appeared in the bookshops of provincial towns.

---

[20] Thierry Rigogne, 'Printers into Booksellers: The Structural Transformation of the French Print Trades in the Age of Enlightenment', *The Papers of the Bibliographical Society of America* 101, no. 4 (December 2007): 533–61, https://doi.org/10.1086/pbsa.101.4.24293664.

It is well worth looking at the development of music printers specifically in 18th century France. The music world was quite conservative in the early 18th century under Louis XIV for the reason that the royal court was in Versailles. In 1715, however, music began to come alive again. Opera was popular at the time, so Jean-Philippe Rameau, for example, can be named. The books appearing in the lots under analysis. Another name is Jean-Jacques Rousseau, who was inspired by Italian opera and believed that music should be short and full of feeling. Christoph Willibald Gluck also brought opera in the Italian manner, but he quickly left Paris, although his operas continued to be staged. In parallel to the opera, music lived on in the salons that were arranged by the nobility and wealthy residents. Some of the nobles even organised theatrical performances in their homes. Wolfgang Amadeus Mozart, for example, played at one of Prince Conti's concerts. Music played a significant role during the French Revolution, and revolutionary songs were sung at concerts. Therefore, a music conservatoire was established in France to train young musicians to play in orchestras. The teachers were musicians who had lost their jobs when the aristocrats fled. As for the printing of musical works, it should be noted that in the early 18th century this area was « *quasiment monopolisée par la famille Ballard* ».[21] If one turns to the list of printers, one can spot this name. However, the family produced publications that were beginning to become obsolete in their form. But the family continued to work, for example the printer François Boivin married Christophe's granddaughter, thereby continuing the family business. These names can also be seen among the books analysed. Laurent Guillo also notes that « *Les inventaires de maîtrises le montrent bien : souvent les éditions sont en minorité dans les inventaires, le reste est constitué par la musique manuscrite de compositeurs maîtrisiens qui, pour beaucoup, n'ont pas accédé à une notoriété nationale* ».[22]

It is worth noting, therefore, that the historical framework reflects the fact that music literature was printed under the privilege and was also fairly monopolised. It is also noted that many of the notes were handwritten. This may have been due to the equipment on which the editions were printed. Also the history of book printing in the 18th century shows that books were printed mainly in a few major cities, and distributed throughout France at the expense of booksellers. This explains the reason why most of the lots represented were printed in Paris.

---

[21] Laurent Guillo, 'L'édition musicale française avant et après Lully.', n.d., 17.
[22] Guillo. The inventories of the choirs show this well: often editions are in the minority in the inventories, the rest is made up of the manuscript music of master composers, many of whom have not achieved national fame (*translation*).

Consider the element of the book's printing time frame. The Heurist database allowed us to create a timeline (cf. Figure 15) with printing years, however, it was decided to do a quantitative analysis and take the data with the printing year from the collected data.
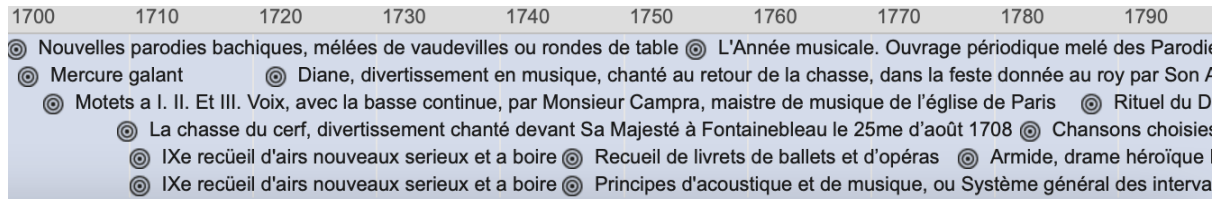
Figure 15 Timilene of book publishing

To conduct a quantitative analysis, I divided the 18th century into several categories, namely segments of 19-20 years. Thus, the following categories are obtained:

- 1700-1720;

- 1721-1740;

- 1741-1760;

- 1761-1780;

- 1781-1800.

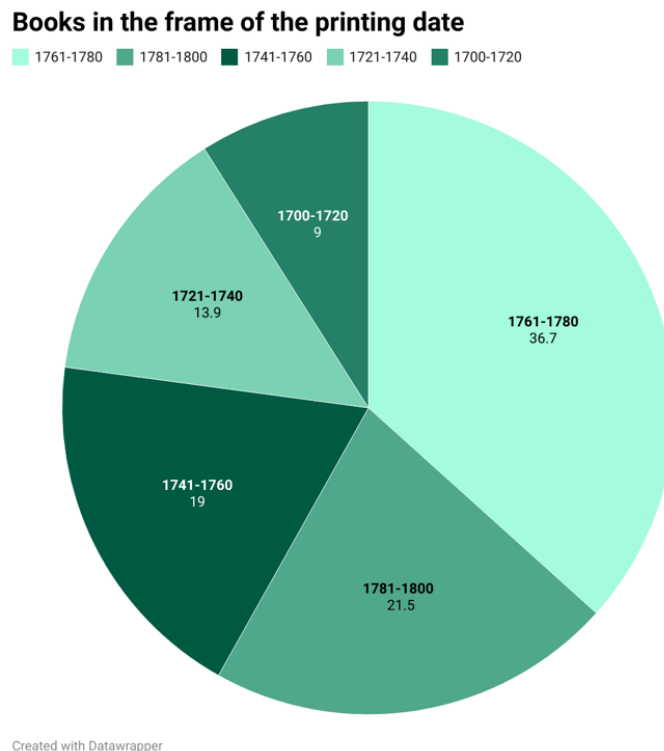This helped to create a pie showing the percentage of books printed (cf. Figure 16).

Figure 16 Percentage of books printed in the 18th century divided by 20 years

Therefore, the most active period in the printing of the books analysed were the years 1761 to 1780 and the most inactive from 1700 to 1720. One of the possible reasons why the period from 1761 to 1800 can be called the most developing in terms of printing of the analysed books is the increasing popularity of authors and the demand for specific books. Therefore, we can pay attention to the activity dates of the authors we have identified as part of the data collection for importing into the database.

As part of this aspect of the analysis, it was decided to look at historical moments in France in the 18th century. This was done for the reason that it had a direct impact on the printing of books. The 18th century can be characterised by wars, dissatisfaction with the existing regime, revolutionary sentiment, and the preservation of the monarchy. Between 1700 and 1720 France was at war with England, followed by the Roman Empire, the Huguenot rebellion, peace with the Roman Empire, and the death of King Louis XIV and the accession of King Louis XV. Think back to the history of music development as well, and one can see explanations for why not many books were printed during this period. Namely, the prohibition of balls, the staging of the same operas. In 1721-1740 there was a war over the Polish inheritance. The increase in the number of books printed has increased, but not by much. The 1741-1760 weavers' strike, the war between France and Prussia, the occupation of the Austrian Netherlands, the French-Austrian alliance and the Seven Years' War. In the world of music, new opera authors were appearing and there was a noticeable increase in the printing of books. In 1760-1781, Louis XV dies, Louis XVI becomes the new king, embodying the reforms of Turgot and Necker, and the outbreak of war between France and Great Britain. There was dissatisfaction with the reforms, which created conflict. Under the young king in power, the nobility increasingly hosted balls and salons. Book printing showed the greatest growth of the entire 18th century. In 1781-1800 the Treaty of Versailles was signed, the proposal of a new tax system angered the nobility, and anti-government demonstrations were organised in the streets. Both literature and music sensed revolutionary sentiments against the aristocracy.

Therefore, it is possible to note the influence of the development of the musical world, the printing press, as well as historical events. It can be seen that in the middle of the 18th century revolutionary sentiments were already emerging, thus comedies and operas were composed, scolding the government. However, there was government control and it was only during the revolutionary period that more and more revolutionary music was composed.

In order to analyse the impact of the authors' activity dates, indicators such as date of birth and date of death were decided upon. As a consequence, two graphs were created (cf. Figure 17

and 18), reflecting the period of the authors' activity. The graph of authors' dates of birth showed that the largest number of authors were born before 1700, also a large category was born between 1721 and 1740. If we go back to the graph of the date of printing of books, it can be noted that mostly the books of authors who had already gained fame were printed. The schedule of authors' deaths reflects that more authors died after 1781. There is a fact that most interest in authors is shown after their death and many posthumous editions are published. Therefore, it is possible to note the dependence of the date of printing of books on the dates of life of the authors.
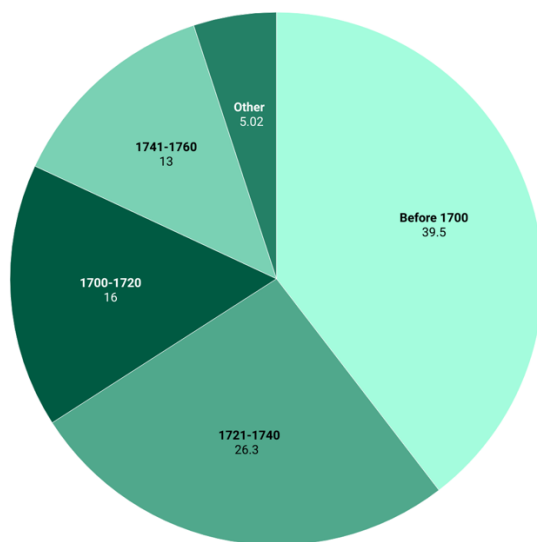
Figure 17 Graph of the dates of birth of the authors of the books analysed
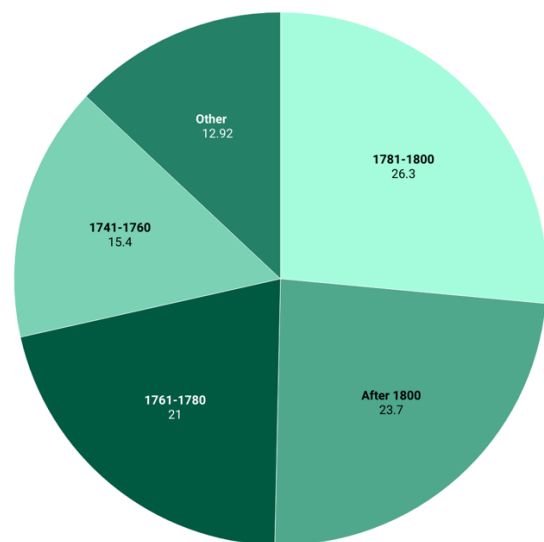
Figure 18 Graph of the dates of death of the authors of the books analysed

- **Auctions and their geography.**

During the data collection for the database, it was noted that sales took place at auctions around the world. For this reason, it was interesting to trace which countries the books printed in France ended up in centuries later. The Heurist platform allowed us to map the auction houses (cf. Figure 19).

We can notice that most auctions were held in France, mainly in Paris. But it is also possible to note an average number of auctions in Germany and Belgium. The map reflects that some lots were sold in the Netherlands, Italy and Monaco. It can therefore be noted that the books did not go far and moved to countries with which France has borders.
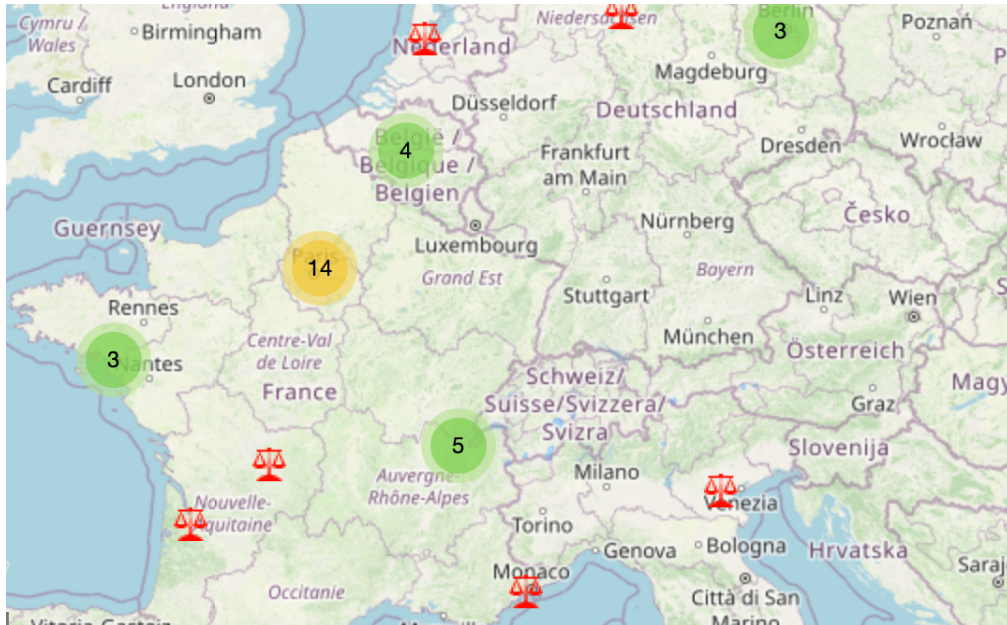
Figure 19 Map of auction houses

In conclusion, it can be said that the analysis has provided contradictory data, which should be considered from a broader perspective. For example, the period of analysis could be increased, as well as the category of books analysed. Firstly, the books belonging to the category music and theatre are quite specific, and secondly, the period of online auctions was considered, which was unexpected and many auction houses cancelled the scheduled auctions and changed the themes. Thus, it is possible that some amount of music literature was removed from the online auctions. However, several conclusions can be drawn from this analysis. The pandemic has undoubtedly influenced the sales and income of auction houses, but the covid has also allowed a new category of buyers to emerge: investors. As during the pandemic crisis, people were thinking about where to invest their money and books proved to be the most reliable option. However, another factor comes into play here - the value of books. As could be seen from the price analysis, in most cases the books presented were not very expensive with some exceptions. Though, sometimes the value of the books was raised many times over at the expense of a well-written bibliographic description, which showed the value of the book as a physical object. I wanted to capture this phenomenon in terms of the interest theory of multiple buyers and the value of the book's presentation. As part of online auctions, the question of how to view an item if you can't hold it in your hands, you can't check it out, also came up.

The next conclusion to be drawn concerns the authors. Most of the published authors were born in France before or at the beginning of the 18th century. The move to particular cities was linked to the authors' activities not only musically, but also scientifically and politically. In

63

most cases it was noted that the authors' main reason for moving to Paris was to take up a job, or to seek it out for personal reasons. Several reasons were put forward during the analysis: a big city - more opportunities, inspiration, a chance to be noticed. The geography of book printing, unfortunately, did not prove to be diverse and was concentrated in Paris, with a few books from Lyon and Villefranche also noted. Monopolisation in book printing lies here, as well as state control of the press. In a historical context, book printing was concentrated in Paris, Lyon, Toulouse and Troyes. However, printers in other cities printed books on the orders of their governments. In provincial towns, books were supplied to the booksellers from the printers in Paris. Another interesting finding was that the year of printing of the books was inextricably linked to the date of birth of the author and history of France. The earlier an author was born, the more books were printed.

A final interesting point of analysis was to look at the geography of the auctions and the travel of the books. The lots analysed were printed in France centuries ago, but most of them remain in France today. Only a few auction houses operating in other countries were found to offer books in French for sale and it is worth noting that the lots were presented in countries bordering France.

The Heurist database provided a good basis for analysis, but the analysis process required the use of other tools for analysis. For example, the Datawrapper platform was used for graphing and mapping. This made it possible to visualise the data and show the conclusions based on the analysis.

3.3 Final visualisation of the final results

The final output of the database and the analysis was a visualisation of the data obtained. This can be included in the editorialisation phase. This step involves visualising the findings for later presentation, meaning giving shape to the results for later reference. Marcello Vitali-Rosati she defined it in her article as « L'éditorialisation est une instance de mise en forme et de structuration d'un contenu dans un environnement numérique. On pourrait dire, en ce sens, que l'éditorialisation est ce que devient l'édition sous l'influence des technologies numériques. »[23] In this way, it adds value to the project and facilitates the perception of the study. I decided to use the process of the editorialisation to create a visualisation of the database I had created, as well as to reflect points that might be of interest when considering the analysis I had done.

Turning directly to the visualisation part. Tools such as the Heurist platform and Datawrapper were used for this purpose. This made it possible to use the resulting graphs and maps both directly presented in the sub-part of chapter 3 Database analysis and on the project website. Proceed with the database visualisation part. The Heurist platform allows publishing the created database both on a web page and on a website. The platform has a separate Publish menu where you can select a convenient option. I chose the website option because my plan was to put general information about the database and the project. The first thing I had to deal with was thinking about the design of the website. It was important to me that it harmonised with the main website for my project. For this I chose a minimalist style and calm colours like grey, white and black. So it was decided to name the website Auctions throughout time and create a small image in the form of an auction hammer and books as the logo. The design of the page required the use of programming languages such as HTML and CSS, they allowed the site to set the right font and also added what was intended to be a more attractive visualisation.

The next thing I had to figure out was how many pages should be on this website and what should be put there. Thus, it was decided to create two windows - two pages - about the project and discover. The first page included general information about the project, the main purpose and explanation of the database content, as well as a link to the main project website.

---

[23] Marcello Vitali-Rosati, 'Pour une théorie de l'éditorialisation', *Humanités numériques*, no. 1 (1 January 2020), https://doi.org/10.4000/revuehn.371.
Editorialization is an instance of formatting and structuring content in a digital environment. In this sense, we could say that editorialization is what publishing becomes under the influence of digital technologies. (*translation*)

The Discover page is a map and several filters that allow the user to determine what they want to see in the database. Filters are set up by the owner of the database, meaning that initially I built filters such as lot, authors and printers. Filters can be added and removed according to needs as well as user requests which allows the database to be adapted for specific purposes.

Consider in more detail the three filters that have been installed and how to interact with them. The first filter worth considering is the lot (cf. Figure 20), as it is the main filter and allows you to retrieve the main data from the database which was created. Items can be searched by such parameters as title, year of publication, year of sale, auction house name, and country.
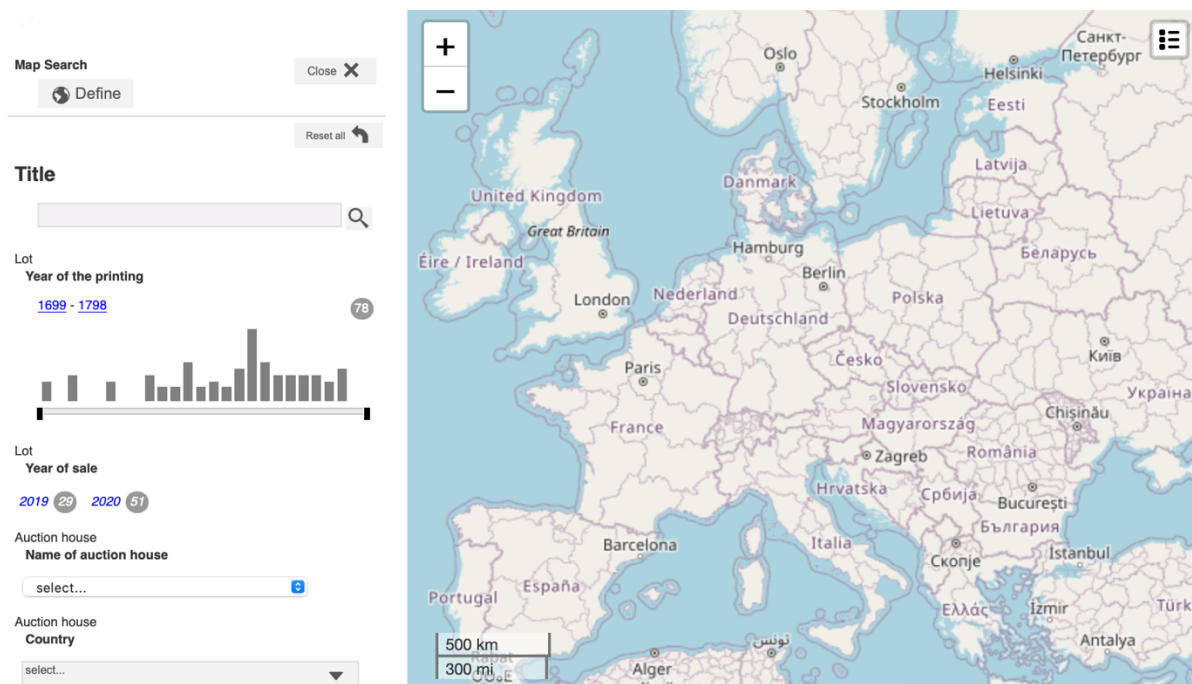
Figure 20 The first filter which is related to Lot's data

If searching for the word "music" in the title bar, a list of all lots with that word in the title will pop up. Additionally, we can see geotags on the map that show the number of books that have been printed in a particular city and fall under the word "music". Furthermore, we have the option at the bottom of the map to see the time frame of the books found by our search. We also have the opportunity to click on a particular entry to see full details of the lot, including author, printing location, auction house, printer, price, year printed, date sold, description and link to the lot. It is possible to continue the search with a limited scope, for example by entering the time period of the printing of the books or by indicating the auction house that put up the lot. In this way, the user has access to all the fields of the database and can search and study the contents of the database at the same time.

The next filter was authors, which allowed multiple tables to be combined for searching, thereby giving users more options. This filter allows you to search by first name, surname and dates of birth and death of authors. It is also possible to select a book title and see the author. In this way, the user is able to interact with the map (cf. Figure 21) where the authors are displayed, there is also a list of all authors to the right of the map, and there is a search menu on the left.
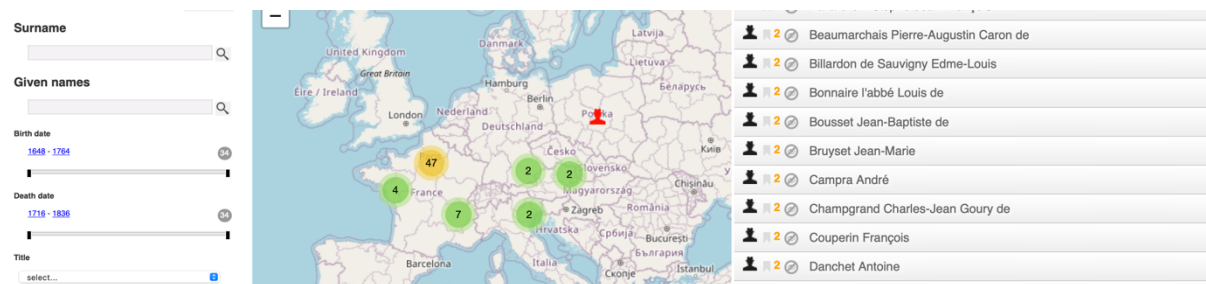
Figure 21 The second filter related to the authors

As can be seen in the image, the first and last names are searched by text. Searching by date of birth and death is done using the slider function, so the user can visualise authors who lived in a given period. It is also possible to select the correct lot name and see the author for that lot. When finding the desired author, the user has the opportunity to see the date of birth and death of the author, as well as a link to a page dedicated to him on data.bnf.fr, and to see on a map the place of birth and death of the author.

The visualisation of this filter has therefore increased the functionality of the database, as well as providing more interaction with the database for users. In addition to interacting with the map, there is also the option of working with a map, which makes it easier for users who are more comfortable working with data themselves.

The third filter was categorised by publishers (cf. Figure 22). This prompts you to search by first name, last name of the printer or by the title of the book that was printed.

Figure 22 The filter dedicated to publishers

When searching for a printer, we can select a particular book that has been printed by a particular printer, or we can see the entire list of books printed by a particular printer. This

allows getting to know more information about printers, as hovering over a specific person. displays information about their activities if you click on the link to the project data.bnf.fr.

The three filters thus make it possible to search for information in the database created, as well as to visualise the information found both in text format and on a map. This allows the user to provide more opportunities for research and finding new hypotheses. The user can use all three filters or just one as desired and needed.

Consequently, the visualisation components became the website, the map, the textual information, and the search menu. This allowed the database data to be presented in an easy-to-use format, and it made it possible to reflect the data that had been selected for analysis.

The second tool for visualising the results of database analysis was Datawrapper. The Datawrapper website allows the results of the analysis to be presented graphically. To prepare the data for subsequent analysis, I used available data and the use of Excel to calculate percentages and to prepare the data for graphing. The Datawrapper platform requires data to be correctly entered or imported for subsequent processing. The next step is to select the desired chart type, for me pie charts served as well as range plots. In addition to visualisation like graphs, I have also used the possibility of visualisation in the form of a map. As part of this, the map turned out to be dynamic and interactive.

In conclusion, the visualisation not only made it possible to show the database created and the possibilities of using it, but also to show the results of the research in an interesting format. This is an important point in the development of the digital humanities field.

Chapter 4 Creating a webpage

This chapter is about creating a website on Wordpress, including its structure and design. This made it possible to make the presentation of the research and its results open to all. Therefore, section 4.1 presented the possible interface of the future website and what was the inspiration for the design. Sub-part 4.2 included a description of the creation of the website itself. This made it possible to integrate all the digital objects created within the study, as well as adding the analysis of books sold at auction.

4.1. Possible web page interface

In order to present the research topic as well as its results, it was decided to create a website that would allow more people, both curious and professionals, to become acquainted with the project. To create the website, the WordPress platform was chosen, which works like a website builder and allows customisation of everything to specific requirements. Therefore the platform does not require building the site from scratch, but offers to choose a theme, which can then be modified using CSS codes or by adding elements using HTML language. Moreover, the platform offers the use of ready-made blocks such as paragraph, image, gallery, recommendations, file insert and others. Widgets and plug-ins can also be used to extend the functions of the website. A contact form widget can be added and all visitors who send a message to the website will be emailed to the owner. This makes it easier to communicate with users. In this way, knowing the platform to host the site, work began on the design for the future project.

- **Gathering ideas, design and menu development for the future website**

The search for inspiration began with browsing the websites of various auction houses, including Sotheby's, Christie's, Drouot and Alde. The first thing that caught my eye was that the pages of their websites use no more than 3 colours, which are considered corporate colours and are reflected, for example, in the logo. It was also noted that everything is concise and there are no bright accents. From the very first page, the auction houses try to present a calendar of auctions to be held in the coming months. In addition to the websites of auction houses, the websites of projects within the digital humanities were looked at. They turned out to be quite different, but all included a project presentation and specific research results. Sometimes, it might have been a page in the form of a landing page, and sometimes full-fledged websites.

This determined that the future site would be designed in a minimalist style and use as few striking elements as possible. The design should be laid-back. After that, it was decided to move on to finding a suitable theme on the Wordpress platform, and testing it as well. The final decision in the selection was the Seedlet theme. It included a very calm palette of colours such as Emerald, Black, Chocolate, Light Grey and Champagne. As a consequence, it was decided that the site would have a Champagne-coloured background and that the photographs present could be in black and white.

The next step was to develop a menu for the future site. The main challenge was to understand what should be reflected on the website, what data and results better represent the idea of the project and the results of the project. A preliminary layout of the site (cf. Figure 23) was created, which included such basic sections as Home, Creator, Results of the project, Bibliography, Contact.
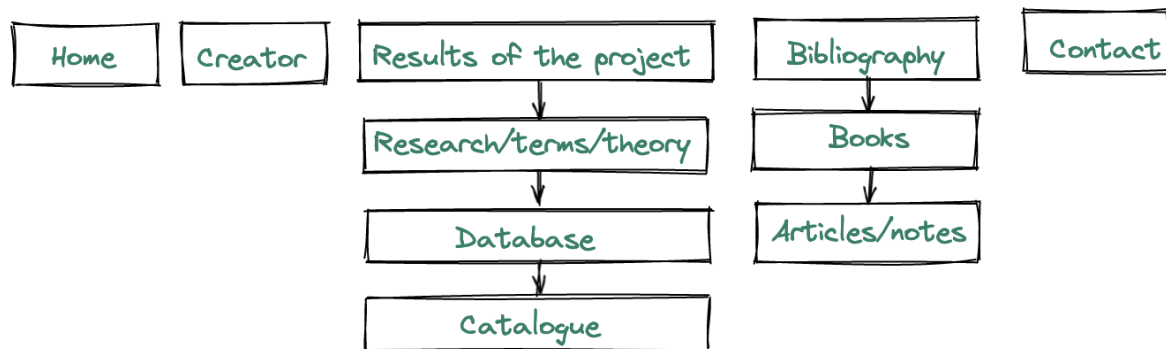
Figure 23 Schema of the interface

The intention was that the home page would include a brief description of the project, what it was about and what the user would find on this website, and that there would also be a small menu that would include the main pages of potential interest to the user. The Creator page was meant to provide information about the creator of the project, as well as the inspiration for the choice of this research topic. It was decided to divide the project results page into three main categories: research/terms/theory, database, catalogue. This page was to include a small menu similar to the home page menu, but subdivided into the main three project results pages. Subsequently, the research/terms/theory page was supposed to include a description of the main idea of the research, as well as a description of the methodology and the working cloud of the research, as well as the results of the methodology, such as a terminology analysis. A database analysis was also included here, together with examples of the statistics that resulted from this phase. The Database page consisted of a short instruction on how to use the database as well as a link to the database itself. The last page of this Catalogue section included a PDF

document, which was the catalogue. The next section was the Bibliography, which also included a small menu, as well as descriptions of the pages, and what information can be found on them. In this case, the section included pages such as books and articles/notes. This was done as part of the bibliography division for the reason that some are interested in monographs and some in articles. And another reason is not to create long lists with bibliography. The last page was the Contact page. It was conceived so that a visitor to the site could contact me directly in case of questions, or also add further information. It was decided that this was an important element of the research process to be able to get feedback.

This created a menu layout for the future website, which finally had to include 5 main pages as well as 5 subpages to the main sections. Consequently, the basic idea of easy navigation for site visitors was respected. On the website, the visitor could learn basic information as well as immerse themselves in the world of research, both theoretically and practically, by exploring the database. In addition, any user would be able to contact the person doing the research.

▪ **Development of design solutions**

Since the question of the general idea of the website design has been resolved, all that remains is to think about the design elements that can be used and their implementation. These elements can include selected colours to highlight certain elements on the pages, as well as the creation of photographic elements and possible visualisation options on the page.

Consequently, the first important element was the name of the website, which was decided to remain simply Auctions, as the keyword of the whole research topic. It was presented in black, but was coloured emerald when hovered over. Not only was it a design decision, but it also prompted the user to navigate to another page, for example. A similar solution was decided to apply to the menu and its sections.

Then the first page to be used as a review was the home page. The intention was to put very little text and make graphic elements to easily identify further actions. The backdrop of the page was the colour Champagne, the Fira typeface was used as the text font. The text was supposed to be highlighted on a white background and as this is the first page, use the code view for the text (cf. Figure 24).

```
This site is dedicated to books sold at auctions. The project was
developed as part of the thesis "The selling process of French
books printed in the XVIIIth and sold at auctions throughout
time", for the completion of the Rare Books and Digital
Humanities MA programme.
```

Figure 24 Example of the code's style text

The next step was to develop a menu (cf. Figure 25) to present the main sections to be visited on the website to the user. It was intended to be visually clear and easy to use.
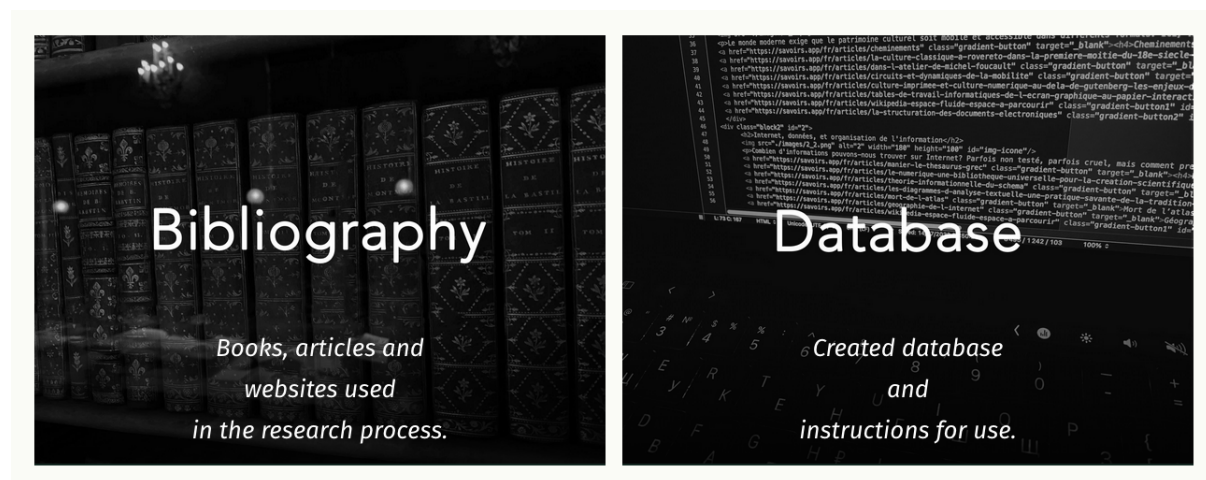
Figure 25 The example of the menu on the main page

Therefore, it was decided to take four photos that would respond to the categories Research, Database, Catalogue and Bibliography. The photo for the research presentation was a photo of glasses resting on a book, the database was presented as a coded window open on a laptop, for the catalogue a photo of a magazine in motion was taken and for the bibliography a photo of books standing on a shelf was taken. Next, a move was made to use Photoshop to create a black and white effect, as was intended to be used as the main design. The blackout effect was then applied and the text was overlaid in Avenir family font. Consequently, the menu included four photos with text that matched the design of the page.

Since the Creator page is in addition to the research information and is not important, it was decided to use champagne as the background colour and black text without the border, as well as to add a photo of the creator.

For the Research page, white highlighting was used, as well as using the Excalidraw tool to create one important element, the term cloud, using colours such as black and emerald to harmonise with the colours of the site's palette. To visualise the document in PDF format it was

decided to use a view mode, and to create a button in emerald to allow the user to download the document. In addition to this visualisation it was decided to use graphics, which were made using the Datawrapper tool, to make the page more interactive. So the decision was made to use several types of graphics, but in all cases branching out, using two side tools. This was supposed to diversify the page and keep the visitor's attention on the page.

The Database page was not particularly design friendly and the instructions were highlighted with a white bar and the transition to the database with an emerald-coloured button. The Catalogue page was left almost empty, only to add a PDF file viewer. The Bibliography page was also not notable for its design innovations and suggested highlighting the text with a white bar and creating a menu with two links to jump to the pages of the section. Two photographs were taken for the menu, converted to black and white and processed in Photoshop. The design of the Book and Notes/article pages was not different from other pages and the information was highlighted by creating a white bar on a champagne-coloured background. The last Contact page included a widget: which was described above.

Consequently, an organic, minimalist design has been considered, retaining the simplicity of the site from the inspiration of the auction house websites, but also evoking a bit of vintage in the form of a champagne-coloured background, which refers back to the history projects. The clever interface is also designed to be easy for visitors to use, and navigation is simplified by clear transitions between sections. The next step was to implement a clever interface using the creation of suggested elements by the WordPress platform.

4.2. The process of creating a web page and its presentation

The creation of the website took a large part of the time as the intended design and interface had to be implemented, as well as the technical issues of filling the site. The first step in implementing the ideas was the installation of the chosen theme, as well as the application of design solutions, namely changing the background using the colour customisation menu. It was also decided to immediately use the customisation menu to add the necessary css codes, which would be responsible for the font size and font name. This step was taken so that when working on the pages you could see the result at a glance. And if you don't like it, you can change it.

It was also decided to immediately use the customisation menu to add the necessary CSS codes, which would be responsible for the font size and font family. This step was taken so that when working on the pages you could see the result at a glance. And if you don't like it, you can change it. This ensured that the right font was chosen in advance during the design phase of the eventual interface.

The next step was to create a menu, but first it was decided to create all the pages that would later be used. This was done by going to the Dashboard - Pages menu on the platform and creating the pages was easy with just a click on the Add new button. After creating all the necessary pages, which were listed in the future interface diagram, work started on creating the menu from the created pages. Here the work was done on the Appearance - Menu tab (cf. Figure 26).
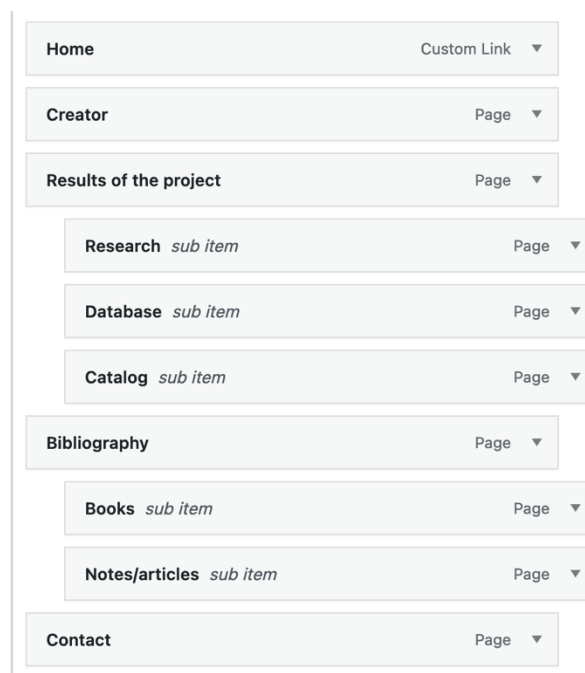
Figure 26 The example of the menu's preparation page

During the menu creation phase, the pages should have been arranged in the right order, which was made during the design of the interface. Thus, the first level was the Home, Creator, Project Results, Bibliography and Contact pages. Pages such as Research, Database, Catalogue, Books and Articles/notes were defined in the second level menu. In this way, two levels made it possible to create the right menu and define the pages to each section.

The next stage involved working on each page. Consider this in more detail. Work on the pages is done directly in the editing format on each page. It was decided to start with the Contact page for the reason that it only required two steps - finding a widget and installing it. As part of this, the Contact form widget was found, the address to which messages should be addressed, and the lines that must be filled in when addressing an email to the project creator were defined. The lines chosen were name, email, subject of the message, and the text of the message itself. The widget then generated code (cf. Figure 27) which was inserted in the Contact page.

Contact

If you have any questions, comments or suggestions, you can fill in the form below and I'll get back to you.

[contact-form-7 id="127" title="Contact form 1"]

Figure 27 Example of the page in edit mode

The next pages for placing information were Books and Articles/notes. In this case the Zotero tool was used, where the entire bibliography was collected and books and articles/notes were separated, allowing bibliographic descriptions to be obtained quickly and placed as text on the above two pages. Further work involved working on the colours of the text and the plate on which the text was placed. As the platform allows you to edit the background colour of the text, in this case white was used to make the text more prominent, and the text colour itself was chosen to be black. The original intention was to make the bibliography into a table, but since that didn't look aesthetically pleasing, it was decided to keep just a list.

Further work was carried out on the Biography page, which was planned to be similar to the homepage. Thus, black text was added on a white bar and a menu consisting of two sections sending to the Books and Articles/notes pages. To create the menu, two photos of the books as well as the website were taken and then processed in Photoshop to give the predefined style.

In addition, descriptions of the two menu sections have already been added directly on the platform and hyperlinks have been added to navigate to the relevant pages.

Afterwards, work on the homepage was planned, whereby the introductory text was edited and placed on the editing page, using the above-mentioned settings for the background, font colour and code style. Work was also done on the menu in the same Photoshop programme. This allowed the existing menus on the site to be unified. In this way, the homepage has come to reflect rigour, conciseness and historicity.

The Creator page has not required much time, as all that was required was the addition of text and a photo, which can easily be done with the blocks that the WordPress platform presents. However, this page was planned to integrate a widget that is responsible for social media. As part of this, the widget was integrated and icons were added for three social networks such as YouTube, Linkedin and Wordpress. Further, links to the profiles of these networks have been implemented for quick navigation.

The next page that was worked on was the Results of the study and this involved including a menu and a description of the main sections that went into this categorisation. As a consequence, earlier photos were taken and processed in Photoshop. Also on this page the layout of the checkerboard icons was changed and a description was added to the sides. This manipulation made it possible to change the layout. The following work was carried out on the three pages of this Project Results categorisation. The Research page included all the same elements as the other pages, namely the text on the white bar, the introduction of images, but also a viewer widget was used to present the document in PDF format. The main challenge on this page was the introduction of graph codes, which had to be conveniently positioned for later use by visitors. A two-column and, in one case, three-column tool was therefore used. This made it possible to place the graphics on one side and the text on the other. The last two Database and Catalogue pages required repetition of the same actions that were carried out on the other pages, a new element was the addition of a button on the Database page, which enabled a link to the database, that is based on the Heurist platform to be embedded.

In conclusion, it can be said that using the WordPress platform does not require specialist knowledge, however, it did require knowledge of programming languages such as HTML and CSS as part of the work on the appearance of the countries. They helped in adjusting the layout of elements on pages, as well as applying some features such as changing the font, font size and working on text styling. Unfortunately, while working on the platform, drawbacks were

discovered, such as the inability to download ebook and mobi files. Also, it might not work when entering the correct code. Here we should also keep in mind that each theme on the platform has its own features and not all plugins and widgets it can support. Consequently, the themes chosen should be tested beforehand. Also, the main work on the website was to prepare the text, which was planned to be placed on.

Conclusion

As part of the research undertaken, the aim was to analyse books printed in 18th century France and sold at auction in 2019-2020. The objective was fulfilled and presented not only in the form of a textual analysis, but also included several digital objects such as a database, a catalogue and a webpage.

The research has traced the history of the first auctions to the advent of auction houses, it has also helped to identify the main terms in the auction market to provide an understanding of the field, and clarified what types of auctions exist. This study was carried out through the collection and examination of bibliographies. This stage of the work showed how one topic can overlap with different areas. Therefore, as part of the project work, books in the economic field were studied to understand the work of auctions. The received data provided the basis for the subsequent analysis.

All parts of the study are interlinked with each other, so the analysis could not have been possible without the creation of a database, within which data from the Auction.fr website was collected. The databases and analysis of the data collected led to several conclusions regarding the movement of music-related books at auctions and the impact of the pandemic on book sales at auction.

Therefore, the movement of music-themed books at the auctions was not as high as expected. The analysis revealed 80 lots. However, it is worth bearing in mind that there were restrictions both on the period of the auctions and on the period and place where the books were printed. When looking at the place and period of printing, the study revealed that history invariably influenced the repertoire of books published, also influenced by the politics and legislation of the time. Indeed, it was found that Paris and Lyon were the main printing cities, but that the majority of books were printed in Paris, as there was a monopoly on book printing, especially of musical books. Mostly, the printers published with royal privilege. The distribution of books went from Paris to the bookshops of all the cities of France. In addition, there was a certain movement of authors who aspired to Paris. The reasons for their moves varied, including personal, academic and job-seeking reasons. The genre of books also varied at the time. While at the beginning of the 18th century most books with operas were published, from the second half there were sheet music and songs, as well as music theory, as society was changing, and music society was developing. New music schools were created at the end of the century during the French Revolution. Hence, the study has shown that the musical themes of books were

popular in the 18th century and were actively developed along with the emergence of famous musicians.

It was decided to link the small number of books presented and sold at auction to the small period of two years under consideration. As part of the study of the auction market, it was revealed that books are difficult to sell because one needs expert confirmation of the authenticity and uniqueness of the books. Few auctions are concerned with the display of books. However, the analysis showed an interesting jump in sales of music books in 2020 compared to 2019. The main hypothesis of this phenomenon was the increase in online auctions. The bibliography study revealed that with the introduction of lockdowns, it was decided to change many auction themes and diversification took place. However, another fact worth considering here is that during data collection on the Auction.fr platform, it was found that there were no auction results from major auction houses such as Christie's, Sotheby's and Drouot. This means that data collection did not take place in all sources and was also limited. Moreover, tracking the results of auctions has been noted as books travel. All the books were printed in France, but were also sold in Belgium, the Netherlands, Switzerland and Italy.

Another paradox that was noted during the analysis of the data is that not all books were sold, some were just presented. This data was derived from the collection of an element such as the estimated value. This data made it possible to raise the problem of book sales. Lots may have been unsold due to overvaluation, lack of uniqueness or lack of interest during the pandemic.

As can be seen, four areas are intertwined for the study - economics, history, music and printing. It was not possible to conduct an analysis without studying each of these areas and all influence each other. Hence, the field of economics allowed us to understand what types of auctions exist and how they work, this was important in the price analysis. Several lots were highlighted where the price went up or down significantly in relation to the appraised value. This helped to explain that there may have been different auctions where the value went down and somewhere it went up. History has been instrumental in elucidating the reasons for this or that surge in book publishing Music has also enabled us to find out what was popular at one time or another in 18th century France. Book printing was used as part of a framework for understanding the laws of book production at that time.

The technical part of the study required the exploration of new tools such as the Heurist platform, the Datawrapper tool, and the use of the WordPress platform which all of them are open source. This part of the research involved creating digital objects. As part of this, a

database, a website as well as a catalogue were created. Consequently, the database was used as part of the lot analysis and helped to create graphical objects such as maps. Moreover, the database has become a tool for presenting the results of the collected data, as it has been published on the website. It can be used by any user and will also be useful for those interested in rare books and their sales at auctions. The second digital object was a website powered by WordPress. This helped to present the whole project from idea to results. The third object was a catalogue, which was a model of what kind of catalogue could be created to attract the attention of more users and the research carried out as part of this helped to highlight common trends in catalogue creation. As part of this, an analysis of auction house catalogues from around the world was carried out and it was found that catalogue design is now very important and for auctions, the simpler the design, the better, as it helps not to distract the attention of buyers from the lots themselves. In this way, a model was created that has a minimalist design, statistical research results, as well as lots presented at auctions in 2019-2020. The creation was guided by taking into account all the shortcomings and merits of the analysed catalogues. The final result is published on the project website.

Consider the difficulties encountered during the research process. The first problem I encountered during the process of working on the topic was the lack of a bibliography that dealt specifically with auction sales. I had been finding articles relating to the sale of a particular collection of famous people, as well as books and articles relating to the economic theory of auctions. This forced me to look for information in various sources, including historical references. Historical notes from the 18th and 19th centuries have also been found, providing information on auctions at the time, but this required meticulous information-gathering. This issue is planned to be considered in the future as a continuation of the research. It is interesting to reconstruct the timeline of the auctions because book sales were more popular at that time. This would allow us to find out which books people were interested in and why. This would later allow to create a separate page on the website and a timeline of book auction events to be placed there.

Another problem I encountered was dealing with the Auction.fr website. Unfortunately, access to all results is only offered in premium mode, which made it difficult to collect data when the subscription year expired. This issue can be attributed to the openness of the data. As it turns out, the auction world is very closed. As well, the platform does not have search parameters that would make data collection easier. The site only allows you to select the category of lots,

but there are no categories within categories. Hence, searches were done on the basis of keywords. This could have affected the results of data collection.

The third problem concerned the Heurist database platform. Initially, it was planned that once the data was collected, it would be possible to build graphs and relationships between table fields using filters, but the platform did not allow for this. Therefore, most of the data analysis was done manually using Google Sheets, where the information was stored and additional tables were compiled with data counts for each required aspect. The Datawrapper tool was used to create graphs. This shows that many tools need further development within the digital humanities. However, it is worth noting that the platform allowed the database to be published in a visual format that is easy to use for any user.

Consequently, I encountered several problems in the research process, both technical and bibliographic. This did not hinder the research but introduced its own errors and also made me think about what could be improved to develop the project. The project could be further developed in several directions. It is important to look at the options in more detail.

The first thing I would like to do is to deepen the history of the auctions. As mentioned above, to line up the development of auctions, and to look at interesting and famous book sales. This would allow the project to develop from a historical perspective. Secondly, it would be interesting to expand the geography and look at books printed in that 18th century, but in other countries, as many books of musical themes printed in England were noted in the research process. In addition to Europe, Asia could also be considered. For the reason that development was different there.

However, it follows that the review of platforms that publish auction results should also be expanded. To the Auction.fr platform we could add the websites of auction houses such as Christie's, Sotheby's, Phillips and others. Also consider auction houses on other continents. As research shows, books printed centuries ago travel around the world. With such a study it would be possible to see how they travelled. Of course, there is no way to trace the full journey, however, some stretch. Furthermore, an ex-libris element could be added to the data being analysed, which would allow a map to be created of the people who collected the libraries and to understand why their books were sold. For example, in the process of research, an article was found about a nobleman who fled France to England because of the revolution and his entire collection of both books and paintings was sold at auction. Usually, such auctions could be conducted with the help of intermediaries.

In addition, as a continuation of the research, it is possible to develop the database by adding new data. In this way, descriptions of authors and printers can be compiled, and links can be added between them. In addition, it would be interesting to add historical references to the years. Short historical references should be added to the auction houses to allow an immersion into the world of auctions. These updates will have enriched the database and made it more interesting for users. Furthermore, the design of the database website should be improved in a more modern style in the future. The research could also broaden the scope, for example looking at auction sales from 2017 to 2022, as this would give a clearer picture of how sales were handled in the pre-pandemic period as well as in the peak and adjustment period to the pandemic. It will also allow a more in-depth analysis of sales and trace the biodiversification of books.

In this way, the project can be further expanded to enrich it with new data as well as to develop an analysis of the auction market in terms of book sales. This project can attract the attention of auction houses as a basis for improving the handling of books as lots. The study is also of interest to researchers in terms of printing books and history. However, another issue worth raising as a future project is data discovery. For example, the database was the first open access object. Although the project is now in a training framework, it may be a problem to use some elements within the licences in the future as the project develops. This includes an aspect such as data sharing. If now, data from Auction.fr is used with a link to use, in the future data such as the bibliographic description should be written independently, however, this is not possible due to the lack of possibility to evaluate the book in reality. The catalogue model created as part of the project is also publicly available on the website and includes data from Auction.fr..

In conclusion, it should be said that the objectives of the study have been achieved, namely the database, the catalogue and the website have been presented, a study of the emergence of auctions has been conducted as well as an analysis of the data collected to understand the auction world regarding books in a specific period. Aspects where the project could be expanded in the future were also identified.

Credits

The research was carried out by Tamara Glushetckaia as part of the completion of her Masters in Rare Books and Digital Humanities.

Data presented in the database as well as in the catalogue were taken from the Auction.fr website under copyright, the educational exception of the Berne Convention applies to students' work.

Bibliography

1. '- Visionneuse - Archives Départementales de La Vendée'. Accessed 3 August 2022. https://etatcivil-archives.vendee.fr/arkotheque/visionneuse/visionneuse.php?arko=YTo4OntzOjQ6ImRhdGUiO3M6MTA6IjIwMjItMDgtMDMiO3M6MTA6InR5cGVfZm9uZHMiO3M6MTE6ImFya29fc2VyaWVzIjtzOjQ6InJlZiI7O2k6NDtzOjQ6InJlZiI6O3M6NToiMTM5MjQiO3M6MTY6ImJvcm5lX3BhZ2VfZGVidXQiO2k6MTtzOjE0OiJib3JuZV9wYWdlX2ZpbiI7aTozOTk7czoxNjoidmlzaW9ubmV1c2VfaHRtbCI7YjoxO3M6MjE6InZpc2lvbm5ldXNlX2h0bWxfbW9kZSI7czo0OiJwcm9kIjt9.

2. Color Meanings. '12 Color Meanings - The Power and Symbolism of Colors (Infographics)'. Accessed 24 August 2022. https://www.color-meanings.com/.

3. Athey, Susan, Jonathan Levin, and Enrique Seira. 'COMPARING OPEN AND SEALED BID AUCTIONS: EVIDENCE FROM TIMBER AUCTIONS'. *The Quarterly Journal of Economics* 126, no. 1 (2011): 207–57. https://doi.org/10.1093/qje/qjq001.

4. Britannica. 'Auction', n.d. https://www.britannica.com/topic/auction.

5. Backlund, Caroline H. 'The Cutting Edge: New Auction Sources and Computer Projects'. *Art Documentation: Journal of the Art Libraries Society of North America* 9, no. 4 (1990): 175–78.

6. Baetens, Jan Dirk, and Lyna Dries. *Art Crossing Borders*. Vol. 6. Leiden: Brill, 2019. https://www.jstor.org/stable/10.1163/j.ctvrxk3fq.

7. Barbashina, E. V. 'World Auction Trade of Art Object World Auction Trade of Art Objects'. *Financial University under the Government of the Russian Federation*, 2019, 16–21.

8. Barbier, Frédéric. 'L'imprimerie strasbourgeoise au siècle des Lumières (1681-1789)'. *Revue d'Histoire Moderne & Contemporaine* 24, no. 2 (1997): 161–88.

9. Barham, Rebecca, and Aimee Graham. 'What Is It Worth? A Guide to Art Valuation and Market Resources'. *Reference & User Services Quarterly* 54, no. 4 (2015): 21–25.

10. Bennett, Murray, Rachel Mullard, Marc T. P. Adam, Mark Steyvers, Scott Brown, and Ami Eidels. 'Going, Going, Gone: Competitive Decision-Making in Dutch Auctions'. *Cognitive Research: Principles and Implications* 5, no. 1 (30 November 2020): 62. https://doi.org/10.1186/s41235-020-00259-w.

11. 'Books and Odd Volumes'. *Notes and Queries* s1-II, no. 52 (26 October 1850): 367.

12. Brilz, Angelika. *The Online Auction Market EBay. Why Is Online Auction a Perfect Competition Market?* GRIN Verlag, 2020. https://tinyurl.com/y2nah86m.

13. Carare, Octavian, and Michael Rothkopf. 'Slow Dutch Auctions'. *Management Science* 51, no. 3 (2005): 365–73.

14. Cassady, Ralph. *Auctions and Auctioneering*. University of California Press, 1967.

15. 'Catalogues of French Booksales: A Handlist'. *The Papers of the Bibliographical Society of America* 89, no. 4 (1995): 435–45.

16. Chatelain, Jean-Marc. 'Bibliophilie et Tradition Littéraire En France Au Début Du XVIIIe Siècle'. *Revue d'Histoire Littéraire de La France*, no. 1 (2015): 91–102.

17. CHRISTINE BOURRON, DIRECTEUR GÉNÉRAL DE PI-EX LTD. 'RÉPERCUSSIONS DE LA PANDÉMIE SUR LES CHIFFRES DES VENTES AUX ENCHÈRES'. *Droit et Patrimoine* 306, no. 306 (1 October 2020). http://nouveau.europresse.com/Link/FCOMTET_1/news·20201001·KDP·1528770033.

18. Coral, Lenore. 'Towards the Bibliography of British Book Auction Catalogues, 1801–1900'. *The Papers of the Bibliographical Society of America* 89, no. 4 (1995): 419–25.

19. Darnton, Robert. 'Reading, Writing, and Publishing in Eighteenth-Century France: A Case Study in the Sociology of Literature'. In *Daedalus*, 100:214–56. Cambridge: The MIT Press, 1971. https://www.jstor.org/stable/20023999.

20. Diderot, Denis. *Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers*. Paris: Briasson, 1751. https://gallica.bnf.fr/ark:/12148/bpt6k5785794x/f10.item#.

21. Doylen, Michael. 'Experiments in Deaccessioning: Archives and On-Line Auctions'. *The American Archivist* 64, no. 2 (2001): 350–62.

22. Drake, John, Dianne Hall, Casey Cegielski, and Terry Byrd. 'An Exploratory Look at Early Online Auction Decisions: Extending Signal Theory'. *Journal of Theoretical and Applied Electronic Commerce Research* 10 (1 January 2015): 35–48. https://doi.org/10.4067/S0718-18762015000100004.

23. 'EG Comment Feature - The Future of Auctions Can't Be Based on Nostalgia | Strettons'. Accessed 4 August 2022. https://www.strettons.co.uk/insights/eg-comment-feature-the-future-of-auctions-can-t-be-based-on-nostalgia/.

24. Ghosh, Arpita, and Aaron Roth. 'Selling Privacy at Auction'. *Games and Economic Behavior* 91 (2015): 334–46. https://doi.org/10.1016/j.geb.2013.06.013.

25. Greenleaf, A. Eric. 'Note on "Guarantees in Auctions: The Auction House as Negotiator and Managerial Decision Maker»' 48, no. 12 (2002): 1640–44.

26. Guillo, Laurent. 'L'édition musicale française avant et après Lully.', n.d., 17.

27. Haruvy, Ernan, Peter T. L. Popkowski Leszczyc, Octavian Carare, James C. Cox, Eric A. Greenleaf, Wolfgang Jank, Sandy Jap, Young-Hoon Park, and Michael H. Rothkopf. 'Competition between Auctions'. *Marketing Letters* 19, no. 3/4 (2008): 431–48.

28. Herrmann, Frank. *Sotheby's, Portrait of an Auction House*. New York: Norton, 1981.

29. Hong, Harrison, Ilan Kremer, Jeffrey D. Kubik, Jianping Mei, and Michael Moses. 'Ordering, Revenue and Anchoring in Art Auctions'. *The RAND Journal of Economics* 46, no. 1 (2015): 186–216.

30. Hook, Philip. *Breakfast at Sotheby's : An A-Z of the Art World*. London, England ; New York, New York: Particular Books, an imprint of Penguin Books, 2016.

31. Marketing&Growth Hacking. 'How To Create A Printed Catalog That Makes Sales', 2019. https://blog.markgrowth.com/how-to-create-a-printed-catalog-that-makes-sales-f9330c518a7c.

32. Pagination.com. 'How to Make a Catalog The Complete Guide', 2019. https://pagination.com/make-a-catalog/.

33. Huda, Shireen. 'Pedigree and Panache', n.d., 254.

34. ———. *Pedigree and Panache: A History of the Art Auction in Australia*. Canberra: ANU Press, 2008. https://www.jstor.org/stable/j.ctt24hdmd.1?refreqid=excelsior%3A1d055c9c2899a613083cbddd9eb4a49e&seq=3#metadata_info_tab_contents.

35. J.A.C. Thomas. 'The Auction Sale in Roman Law'. *Juridical Review*, no. 1 (April 1957): 43.

36. Jugan, Thierry. 'Le Trésor Du Bibliophile'. *Constellation Cendrars*, no. 1 (2017): 139–52.

37. Kagel, John Henry, and Dan Levin. *Common Value Auctions and the Winner's Curse*. New Jersey: Princeton University Press, 2002.

38. Klemperer, Paul David. *Auctions : Theory and Practice*. Toulouse Lectures in Economics. New Jersey: Princeton University Press, 2004.

39. Lacetera, Nicola, Bradley J. Larsen, Devin G. Pope, and Justin R. Sydnor. 'Bid Takers or Market Makers? The Effect of Auctioneers on Auction Outcome'. *American Economic Journal: Microeconomics* 8, no. 4 (2016): 195–229.

40. Landon, Richard. 'The Antiquarian Book Trade in Britain 1695—1830: The Use of Auction and Booksellers' Catalogues'. *The Papers of the Bibliographical Society of America* 89, no. 4 (1995): 409–17.

41. Christie's.com. 'Latest Stories', n.d. https://www.christies.com/features?sc_lang=en&lid=1.

42. 'Les Ventes'. *Bulletin d'informations Proustiennes*, no. 47 (2017): 137–90.

43. Lins, Mary. 'Book Auctions: Sure-Fire'. *The Clearing House* 25, no. 5 (1951): 294.

44. Lucking-Reiley, David. 'Auctions on the Internet: What's Being Auctioned, and How?' *The Journal of Industrial Economics* 48, no. 3 (2000): 227–52.

45. Lucking-Reiley, David, Doug Bryan, Naghi Prasad, and Daniel Reeves. 'Pennies from EBay: The Determinants of Price in Online Auctions'. *The Journal of Industrial Economics* 55, no. 2 (2007): 223–33.

46. Marty, Gérard. 'De la chandelle aux ventes informatisées. L'organisation des ventes aux enchères de bois des forêts publiques, entre gouvernement des intérêts privés et souci de l'intérêt général (1318-2020)'. *Économie rurale. Agricultures, alimentations, territoires*, no. 373 (30 September 2020): 43–59. https://doi.org/10.4000/economierurale.8012.

47. McNulty, Tom. 'A Subject Classification System for Auction House Sales Catalogues Based on the Getty Trust's Art and Architecture Thesaurus'. *Art Documentation: Journal of the Art Libraries Society of North America* 11, no. 4 (1992): 185–87.

48. Milgrom, Paul. *Discovering Prices : Auction Design in Markets with Complex Constraints*. Columbia University Press, 2017. http://univ.scholarvox.com/book/88865022.

49. Milgrom Paul. *Putting Auction Theory to Work*. <<The >>Churchill Lectures in Economic Theory. Cambridge New York: Cambridge University Press, 2004.

50. Milgrom, Paul R., and Robert J. Weber. 'A Theory of Auctions and Competitive Bidding'. *Econometrica* 50, no. 5 (1982): 1089–1122. https://doi.org/10.2307/1911865.

51. Myers, Robin, Michael Harris, and Giles Mandelbrote. *Under the Hammer: Book Auctions Since the Seventeenth Century*. New Castle: Oak Knoll Press, 2001.

52. Noblett, William. 'Samuel Paterson and the London Auction Market for Second-Hand Books 1755–1802'. *The Papers of the Bibliographical Society of America* 108, no. 2 (June 2014): 139–90.

53. Popkowski Leszczyc, Peter T.L., and Gerald Häubl. 'To Bundle or Not to Bundle: Determinants of the Profitability of Multi-Item Auctions'. *Journal of Marketing* 74, no. 4 (n.d.): 110–24.

54. Rees, WILLIAM S. 'The Rare Book Market Today'. *The Yale University Library Gazette* 74, no. 3/4 (2000): 146–65.

55. Rémy, Jacques. 'La Canne et Le Marteau: Le Cercle Enchanté Des Ventes Aux Enchères'. *Ethnologie Française Nouvelle Serie* 23, no. 4 (1993): 562–78.

56. Rigogne, Thierry. 'Printers into Booksellers: The Structural Transformation of the French Print Trades in the Age of Enlightenment'. *The Papers of the Bibliographical Society of America* 101, no. 4 (December 2007): 533–61. https://doi.org/10.1086/pbsa.101.4.24293664.

57. Sherk, Bill. *500 Years of New Words: The Fascinating Story of How, When, and Why These Words First Entered the English Language*. Dundurn, 2004.

58. Skemer, Don C. 'Book Auctions and Prices in Quattrocento Padua: Selling the Library of Francesco Malaffi Da Vicenza, 1484-1487'. *La Bibliofilía* 108, no. 2 (2006): 113–58.

59. Stoddard, Roger E. 'Book Catalogues and Life: A Preliminary Witness'. *The Papers of the Bibliographical Society of America* 89, no. 4 (1995): 395–98.

60. 'The English Auction: Narratives of Dismantlings on JSTOR'. Accessed 20 August 2022. https://www-jstor-org.scd1.univ-fcomte.fr/stable/30053642#metadata_info_tab_contents.

61. *The Oxford Companion to the Book*. Oxford: Oxford University Press, 2010. https://www.oxfordreference.com/view/10.1093/acref/9780198606536.001.0001/acref-9780198606536.

62. TheExpressWire. 'Online Auction Market 2022 Top Manufacturers Records, Size, Market Share & Trends Analysis 2026'. Digital Journal. Accessed 4 August 2022. https://www.digitaljournal.com/pr/online-auction-market-2022-top-manufacturers-records-size-market-share-trends-analysis-2026.

63. Venturi, Franco. *Europe des lumières: Recherches sur le 18ème siècle. Europe des lumières*. De Gruyter Mouton, 2017. https://doi.org/10.1515/9783110802931.

64. The Economic Times. 'What Is Auction Market? Definition of Auction Market, Auction Market Meaning'. Accessed 20 August 2022. https://economictimes.indiatimes.com/definition/auction-market.

65. White, Eric Marshall. 'GUTENBERG BIBLES ON THE MOVE IN ENGLAND, 1789–1834'. *Transactions of the Cambridge Bibliographical Society* 15, no. 1 (2012): 79–100.

Appendixes

Annex 1

Table of terms from dictionaries

№ n/n	Name of the term	Cambridge Dictionary	Merriam-Webster	Oxford Learner's Dictionaries
	Auction	A usually public sale of goods or property, where people make higher and higher bids (= offers of money) for each thing, until the thing is sold to the person who will pay most.	A sale of property to the highest bidder.	A public sale in which things are sold to the person who offers the most money for them.
	Auctioneer	A person in charge of an auction who calls out the prices that people offer.	An agent who sells goods at auction.	A person whose job is to direct an auction and sell the goods.
	Appraisal	The act of examining someone or something to judge their qualities, success, or needs.	An act or instance of appraising something or someone.	A judgement of the value, performance or nature of somebody/something.
	Catalogue / brochure	A list of all the books, paintings, etc. that exist in a place.	- a complete enumeration of items arranged systematically with descriptive details; - a pamphlet or book that contains such a list; - material in such a list.	A complete list of items, for example of things that people can look at or buy.
	Lot	In an auction (= public sale), an object or set of objects that are being sold.	A number of units of an article, a single article, or a parcel of articles offered as one item (as in an auction sale).	A large number or amount.
	Hammer price	-	The price at which an item is sold at auction.	The last and highest amount offered for something at an auction which is the price for which it is sold

Annex 2

Table of terms from books and professional websites

№ n/n	Name of the term	Glossary of auctions by La Gazette Drouot	Glossary of auction terms by Rogers realty & auction CO, Inc.,	Auction Terms Glossary by Virginia Auctioneers Association	Auction Terminology: A glossary – Sotheby's Institute of Art
	Auction	-	A method of selling real estate in a public forum through open and competitive bidding. Also referred to as: public auction, auction sale or sale.	-	-
	Auctioneer	-	The person whom the seller engages to direct, conduct, or is responsible for a sale by auction. This person may or may not actually call or cry the auction.	The person whom the seller engages to direct, conduct, or be responsible for a sale by auction. This person may or may not actually call or cry the auction.	-
	Appraisal / Estimate	Evaluation of an object provided by an authorised person, after an expert appraisal. It translates into a price "range".	The act or process of estimating value.	The act of or process of estimating value.	A formal evaluation of the fair market and/or insurance value of a given property. Fair market value represents what the auction house believes an item would bring at auction. Insurance value reflects what it would cost to replace an item. A Valuations department conducts appraisals by comparing a piece with similar, recently sold works, but no appraisal is definitive. You do not need a formal written appraisal in order to obtain a presale auction estimate.

91	Catalogue / brochure	Printed publication in which are described, estimated, numbered in the order of sale, and sometimes reproduced, the furniture and objects constituting the auction. It represents an indispensable guide for following the auction. It is possible to subscribe to Drouot in order to regularly receive catalogues at home with details of specialities which are of interest to you. The catalogues are also available online.	A publication advertising and describing the property(ies) available for sale at public auction, often including photographs, property descriptions, and the terms and conditions of the sale.	If an auction company makes a catalog available to you, be sure to get one. It can help you to know the description of the items sold and also how it will be sold. There may be a quantity of the commodity in each lot being sold and they may be for all one bid or so much apiece. Auction staff will be happy to explain these differences to you and your catalog will help you follow along. This way you won't miss an item that is important to you.	Factual information about a lot offered for sale, such as the name of the artist or maker, a detailed description of the object, the year of its creation, its provenance (history of its ownership), major exhibitions in which it has appeared and publications in which it has been documented.
	Lot	-	A parcel of real estate or a single or multiple article or asset.	-	An individual object or group of objects offered for sale at auction as a single unit.
	Hammer price	Confidential minimum agreed between the seller and the auctioneer, below which the object will not be sold off. It is not mandatory and cannot be higher than the low estimate.	Price established by the last bidder and acknowledged by the auctioneer before dropping the hammer or gavel.	Price established by the last bidder and acknowledged by the auctioneer before dropping the hammer or gavel.	The winning bid for a lot at auction. It is the price upon which the auctioneer's hammer falls, determining the sale price, but does not include the buyer's premium.

Annex 3

Catalogue comparison table

Catalogue name	Criteria			Average score	Commentary
	Design	Informativeness	Structure		
Sporting Books Fall 2020	2	3	2	2,3	James Cummins bookseller The catalogue is horizontal, one page is dedicated to one book, the colours are calm, the main colour is navy blue, not all pictures are in the same style.
September Miscellany A Selection of 12 Books	1	3	2	2	Buddenbrooks The cover is in a motley style that is impossible to read, this has been out of use for a long time, there are 2 books per page, but the text is too stuck to the images, there is not enough air.
Europe & The British Isles	2	3	2	2.3	BaumanRareBooks There are too many photos that distract attention, the background color makes the catalog heavier, it is impossible to determine where the lot name is.
Radicalism	3	3	3	3	Bernett Penka Calm design, well-chosen colors, little air
Natural History	2	3	1	2	Bernard Quaritch Ltd the presence of one primary colour, however, sometimes an unmotivated choice of background colour, as well as a peculiar arrangement of text and images
Slavery & Abolition	3	3	3	3	Bernard Quaritch Nice design with brown shades, not always justified arrangement of images
The English & Anglo-French Novel 1740-1840	3	3	3	3	Bernard Quaritch The design resembles the era of the 18th century, light colors, well-chosen font
Children's literature	2	3	2	2.3	James Cummins bookseller The pages are made in different designs, which makes it clear that books for different age categories could be separated structurally.

New York Antiquarian Book Fair	3	3	3	3	Bernard Quaritch harmoniously, each lot has its own number and the division between them is easily visible
New York Antiquarian Book Fair	2	3	3	2.3	Martayan Ian the books are well divided into sections, and the lots on the pages are harmoniously constructed, but attention is constantly distracted by a red plaque.
Marilyn Braiterman Fine and Rare Books	2	2	1	1.6	sometimes it's hard to distinguish where one lot starts and where the other, there is no cover
Fine Antique Maps & Atlases	3	3	3	3 (+)	Martayan Ian **Content table!** concise design without distractions, good structure
Continental Books 1497	3	3	3	3 (+)	Maggs Bros LTD All right
Summer Potpourri	2	3	2	2.3	J&J Lubrano Music Antiquarians The storyboard of the images is observed
Lorne Bair Rare Books	3	3	3	3	Authentic, content table
Grand Palais Virtuel	2	3	2	2.3	Librairie d'âpre - Vent Not really clear the structure, too much text
Plantes et Jardins	1	2	1	1.3	Les Amazones
Animaux	1	2	1	1.3	Les Amazones
Lesser	1	2	1	1.3	
Americana	2	3	2	2.3	James Cummins bookseller failed image insertion due to background
International Rare Books Fair	1	2	2	1.3	Table of contents unclear text selections
Littérature	2	3	1	2.3	Librairie Benoît Forgeot
60 livres et manuscrits du XVe au XXe siècle	3	3	3	3 (+)	Camille Sourget Stylish and good pictures
Curiosités XIXe siècle	2	2	2	2.3	Librairie Laurent Coulet

Literary Manuscripts & Letters	0	2	1	1	Charles Agvent unprofessional
Significatifs et choisis	3	3	3	3	Camille Sourget
The Arts and Science of the Islamic World	2	1	2	2.3	Thomas Heneage Art Books Short descriptions
Egyptian	2	1	2	2.3	Thomas Heneage Art Books
Back of beyond books	2	3	3	2.6	Arthur H. Clark Introduction, no air
Bauman rare books	2	3	2	2.3	Reminds the presentation
B&B Rare Books	1	2	2	1.3	
Autumn Arrivals	2	3	2	2.3	James Cummins bookseller
l'autographe	2.5	3	3	2.8	fresh
Arengario	2	2	2	2.3	Structured, but too heavy layout
Livres anciens du XVe au XIXe siècle	3	3	3	3	Alde Laconically, nothing superfluous
A Brief Ollapod of Early Imprints (and a manuscript), 1495-1800.	2.5	3	3	2.8	W.S. Cotter Rare Books
Lettres et manuscrits autographes	3	3	3	3	Alde
Livres anciens du XVe au XIXe siècle	3	3	3	3	Alde