

7th International Conference on Watermarks in Digital Collections

Verona, Italy, September 6-8, 2023

Fondazione Biblioteca Capitolare di Verona e Museo della Carta di Toscolano Maderno

Abstracts

Wednesday, September 6

- Emanuel Wenger (Austrian Academy of Sciences)

14.5 years of memoryofpaper.eu

The Bernstein project was a project of the European Commission under the framework of E-ContentPlus. It was running from September 2006 until February 2009 with 9 teams from Austria, France, Germany, Italy, The Netherlands and the United Kingdom. The website www.memoryofpaper.eu gave access to 4 databases when it went online in January 2009. Now, in August 2023 the website combines 54 databases from 25 countries with more than 320 000 watermarks.

- Maria Stieglecker (Austrian Academy of Sciences)

The same or not the same: Watermarks and their variants

Theodor Gerardy, in his article "Dating by means of watermarks", pointed out the importance of watermark variants, explained how they came about and defined the term variant. At the same time, he pointed out the difficulties of Briquet's handling of variétés identiques, similaires, and divergentes, the vagueness of these terms, and why they are not useful in filigranology as we do it today.

With modern imaging methods, there are now completely different possibilities for reproducing watermarks, so that variants in the sense of sieve variants can be clearly recognized. Recognized as such, they can be profitably used for investigations into the dating and localization of papers. The presentation will explain how this is done in the context of the project WZMA - Watermarks of the Middle Ages and what variety of variants are possible.

- Frieder Schmidt (Germany)

Wikipedia / Wikimedia: Watermarks and Filigranology

Wikipedia has been online as a non-profit project since January 15, 2001 and provides lexical knowledge as a donation funded free encyclopedia, which is developed according to the principle of collaborative writing. Actually there are 318 active language versions with over 60 million articles. It has become a mass medium in terms of audience demand and distribution and has brought about the end of the great printed general encyclopedias. Wikipedia is ranked 5th in the "Most Visited Websites by Traffic in the world for all categories, May 2023".

In 2022, a survey was carried out to determine how well the world of paper, in past and present, is represented in the various language versions. A long list of Wikipedia links came about, bringing together a wide variety of aspects. Emanuel Wenger publishes this list on the IPH website, and it is regularly updated: https://www.paperhistory.org/Wikipedia/wiki_links_paper.pdf. It is necessary to point

out that the text-based articles in the various language variants are supplemented with image material from Wikimedia. Over 93 million images, sounds and films are now available there. Images are understood to mean: animations, charts, drawings, maps (atlas), paintings, photos, symbols.

The first part is to show how Wikipedia and Wikimedia document the world of watermarks and their scientific research and recording. In the second part, suggestions are given as to how existing deficits can be closed step by step.

- Neil Harris (Università di Udine, Italy)

The Beginnings and Purposes of the Countermark

Countermarks, or secondary watermarks, usually placed in the corner of the mould opposite to the half containing the principal watermark, are a characteristic of Italian paper and more specifically of paper produced in or around Lake Garda and Toscolano. Their history and original purposes are obscure, and they have also been neglected by watermark scholars, who have often failed to note their presence. Scholarship, including a fleeting remark by Briquet in *Les filigranes* (1907), has so far identified the earliest instances of countermarks in 1483, and suggested that their primary function was to identify individual papermakers. In the context of ongoing research on the *Zornale of Francesco de Madiis*, a bookseller's ledger from Venice covering the years 1484 to 1488, I have been examining a large quantity of incunabula on paper, often from Lake Garda. The first examples of marks placed in the corner of a sheet, albeit without a main watermark in the other half, appear in Venetian incunabula from 1476 and 1477. Seemingly, their purpose was to identify some unusual paper sizes, such as the half-median, although by 1483 some examples of marks with initials have also been found. The paper surveys the use of countermarks in paper up to the end of the Fifteenth century, with some remarks about their subsequent development.

- Marc Smith (École Nationale des Chartes, France)

Watermarks as evidence of the paper trade in Cambridge c. 1450-c. 1560

A survey of paper in Cambridge archives, conducted in 2022, has produced new insights into the circulation and use of paper within the university and borough. As in all England, paper had been entirely imported from Italy since the fourteenth century, but French paper gradually took over and Norman mills dominated the market by the mid-sixteenth century. Identical stock used in various places at the same time suggests paper was mostly bought in limited quantities and used up fast. On the other hand, Cambridge stationers were able to provide massive blank books, ready-bound, to be filled in over decades or even centuries. In the mid-sixteenth century, a paper mill was set up on the outskirts of Cambridge by a printer from Strasbourg, Remi Guédon. A systematic examination of surviving samples from the mill (c. 1553-1558) offers much new evidence concerning that unhappy business venture, from the identities of Guédon's sponsors to the circumstances of his demise.

- Louise Wilson (National Gallery of Victoria – Melbourne, Australia):

NGV's Scott watermark album

The proposed paper would discuss how the NGV's Scott watermark album was uniquely assembled to aid his print scholarship. Research into the album and the history of print collecting has helped reconstruct Scott's dispersed and largely untraced collection of works on paper while also making it possible to discover how he arranged and studied his prints. A number of the watermark tracings in the album are of Italian origin and the Paper

Conservation studio plans to digitise the tracings making them widely available via the NGV website and the Bernstein Memoryofpaper watermark portal based in Austria.

- Silvia Hufnagel (Árni Magnússon Institute for Icelandic Studies, Iceland)

“Life of Paper”: Quire Structures and Watermarks in 17th-Century Icelandic Manuscripts

In the three-year-project “Life of Paper. Cycles of Paper Production, Use and Reuse in 17th-Century Iceland”, we focus on paper history in Iceland during the 17th century. An essential part of the project is the analysis of material aspects, particularly watermarks and quire structures.

A major output of the project will be the digital representation of watermarks in manuscript quire structures. It is envisaged to include information of watermarks, as well as textual information, in the programme VisColl, a system by Dot Porter at the Schoenberg Institute for Manuscript Studies et al. for modelling and visualising manuscript quire structures. I will give a short introduction to the system and show examples of our files in VisColl to illuminate the advantages and disadvantages of this system. I will also give an overview of our solution to incorporate our VisColl-files into the online manuscript database www.handrit.is.

- Fabiana Baudo (Università di Pavia, sede di Cremona, Italy)

Watermarks used as starting points for a historical-territorial study

The discovery of a documentary parchment dating back to 1308 and of other documents kept in the parish archives of the Niviano district of Rivergaro (PC), made it possible to start a historical-territorial research that resulted in the catalogue of the exhibition "*Immagini e documenti raccontano...*", held at the 'Casa del Popolo' auditorium in Rivergaro from 16 July to 11 September 2016. The analysis of 18th- and 19th-century documents kept in the archives has made it possible to identify different types of watermark, with more or less complex and identifiable subjects: the case studies I am going to illustrate, published in the Historical Archive for the Provinces of Parma LXXIII/2022, concern in particular two types of watermark, one bearing the name of the paper mill and the other the name of the place where the factory was located, 'AL MASSO' and 'VIGOLZONE'. This research has delved into the industrial history of the Tuscan Pescia Valley and the Nure Valley in the Piacenza area, and has brought us into contact with particular types of paper, such as that produced from mulberry bark. The Vigolzone watermarks have also proved useful in estimating the period when some bindings were made, using the dates of the documents that reported the variants on the flyleaves as complete data. Through this study, I have tried to shed light on other aspects of the history of Piacenza, its economy, trade, society and culture, as watermarks can reveal a great deal about a bygone era and its achievements.

- Federica Formiga (Università di Verona, Italy)

Paper in Verona between costs and watermarks. Some examples in the 17th and 18th centuries

The first records of paper trade and use in Verona date back to the early 13th century and the presence of paper became more frequent from the 14th century, also thanks to the activity conducted within the *Domus Mercatorum*, a real governance body, which guided Verona's economy by dictating the lines of development, providing and protecting the new companies, including those that were established on those territories rich in resurgences useful for the establishment of the mills. The Venetian domination broadened the sphere of business, allowing new investments due to the ever-increasing need for writing and

printing media for both book and bureaucratic needs. The need for rags for papermaking led to the ban on their export from Verona and the Verona area already in 1407 and forced the registration of master paper-makers, endowed with skills and expertise, among the members of the art. Actions that demonstrate how production was also the object of concern on the part of the authorities. The paper will focus on two key points: the first will concern the watermarks present in the editions of some Veronese printers, who worked in the city of Verona from the beginning of the 17th century until 1630, that is, until when Verona could make use of printers capable of satisfying the city's needs to a large extent. After the plague, and hence the second point, paper was increasingly affected by duties and legal actions, such as accusations of false declaration, for the purpose of profit, on the quantities produced or sold. In view of some irregularities, the art of papermaking drew up chapters (which will be illustrated), the first date of which can be traced back to 1674. and which were also useful for regulating the opening of new shops.

The archival fund of the Papermakers Art conserved in the Verona State Archives will be one of the main sources of investigation in an attempt to remedy the discrepancy that exists between the watermarks found in printed documents, which end up in the repertoires, and the impossibility to name the paper mills, know the quantity produced and the turnovers. These two forms of information often do not communicate with each other, but travel on two parallel tracks: on the one hand the product on the other the organization of the system. The documentation, from an initial survey, unfortunately indicates a break in continuity and concerns mainly individual court proceedings or the 19th century, when paper was approaching industrial production; the opportunity could be to attempt to cover the hiatus that existed between the paper object and its producers in the Verona area.

Thursday, September 7

- Jedert Vodopivec (University of Ljubljana & AlmaMater EC Maribor, Slovenia)

Paper and watermarks with the Valvasor's copies from 1689

During the examination of preserved copies of the first edition of our important encyclopaedic work in 4 volumes, which was printed in Nürenberg in 1689, and is one of the pillars of Slovenian and part of Croatian history and culture, appreciated by many disciplines of science, from natural and social sciences, to arts and humanities, we found that the paper in the text block in question, especially in terms of appearance, watermarks, discoloration, thickness, uneven sheet formation, feel and sound, differs among copies of the same edition.

We became interested in why this is so, so we started researching the literature and examining the paper and watermarks in the preserved copies of this book in Slovenian and Croatian institutions, as well as some copies from Germany and Austria.

When examining the paper and watermarks in the text blocks of this book, we found that the paper can be grouped into two main groups, while the paper in the copy kept by the Metropolitan Library in Zagreb and the City Library in Nuremberg, is different from the rest of the examined copies. The findings will be in more details presented during the conference.

- Marie Benešová (Moravský Zemský Archiv v Brně, Czech Republic)

Import of paper to Jihlava before paper mill in Staré Hory

The municipal books of Jihlava (Iglau) before 1540 are written on paper although the Jihlavas paper mill was not established yet here. The oldest books are written on parchment but at the turn of the 15th and 16th centuries there are books in which is combine parchment with paper. Paper is mainly foreign. Watermarks from these municipal books were used to map the import of foreign paper to Jihlava at the beginning of the 16th century.

- Sanja Šetić (State Archives in Pazin, Croatia)

Urbarium of the County of Pazin, codex from 1571 and watermarks

The Urbarium of the County of Pazin is a feudal codex bound in limp vellum covers made of parchment dyed green on one side. The book block is sewn with a thick thread on four bands reinforced with strips of undyed parchment. The parchment is reinforced on the inside with paper, which is a characteristic of bindings made in the German-speaking area. The book block consists of hand-made sheets that are well-preserved, except for foxing and slight mechanical and biological damage, which do not impede the readability of the text. The text is written in brown iron gall ink. The title and some subtitles are written in German half-Kurrent script, while the rest of the text is written mostly in Kurrent script with overemphasized initial letters. Examination of the sheets against backlight revealed five forms of watermarks and three countermarks, which were recorded. Most of the sheets feature the watermark of a cardinal's hat, which is a typical Venetian watermark from the 16th century. In addition, there are three forms of watermarks representing angels and one form of heraldic coat of arms on the front and back sheets of the Urbarium, which can indicate the owner of the paper mill or the owner of the district where the mill was located. Three countermarks containing the initials of the mill owner and one form of watermark on an inserted sheet of paper which does not belong to the period in which the Urbarium was created were also recorded. For the identification of watermarks, Bernstein's database of watermarks was used. A comparison of the recorded watermarks with the marks recorded in the catalogues of Charles-Moïse Briquet and especially Leonardo Mazzoldi has shown that the paper was produced in the mills of the Toscolano Valley near Brescia.

- Scott Mandelbrote, Marc Adam Kolakowski (University of Cambridge, UK)

Advancing Watermark Analysis: From Alan Shapiro's Research Notes to Digital Technologies

The Newton Watermark Project (AHRC project n°AH/V009486/1, “Digital approaches to the capture and analysis of watermarks using the manuscripts of Isaac Newton as a test case”) aims to provide an idea of the organization and chronology of the vast corpus of Isaac Newton’s manuscripts by the analysis and comparison of the watermarks found in them. Building upon the groundbreaking work of Alan E. Shapiro, whose seminal 1992 article “Beyond the Dating Game: Watermark Clusters and the Composition of Newton's Opticks” provided a significant foundation, the Newton Watermark Project utilizes the extensive archives of his watermark research, now held by the University of Indiana. This wealth of knowledge, enriched by the images of thousands digitally captured watermark instances, serves as a crucial resource, enabling us to explore new frontiers in watermark analysis using digital technologies.

While Shapiro's research relied on “manual” methods, the Newton Watermark Project leverages advanced digital technologies to enhance the efficiency and accuracy of watermark analysis. We aim to employ computer vision algorithms, image processing techniques and data visualizations to systematically compare watermark instances across Newton’s manuscripts. This transition from manual to digital methods empowers us to

delve deeper into the intricacies of his works, revealing previously unseen patterns and insights.

Two central topics of discussion emerge from our research, which could be of interest to other participants to the 2023 Bernstein Conference. Firstly, we would like to address the persistent issues related to the definition and naming of watermark classes. By employing a data-driven approach (assessing textual continuity within a given corpus, for instance), we seek to establish a more rigorous framework for defining watermark classes, thereby facilitating their use in interpreting historical manuscripts. Secondly, we would like to delve into the challenges related to comparing watermark instances, within a single corpus and across multiple corpora, in a way that follows the standards of "data interoperability" in today's global context. The ability to seamlessly compare and correlate watermark instances across different collections and archives holds immense potential for unlocking hidden connections and shedding light on historical contexts of textual production. By presenting some results obtained from our research on Newton's manuscripts, we hope to discuss ways to develop innovative methods and strategies to tackle this complex issue.

- Günther Koliander, Paul Gulewycz, Marlene Peterlechner, Clemens Gubsch, Andrea Lindmayr-Brandl and Katharina Loose-Einfalt (Austrian Academy of Sciences)

From Thermographic Data to Watermark Images

In the last decade, thermography became a widely-used method for the digitization of watermarks. Thermographic imaging devices use an infrared (IR) camera to capture the radiation from a moderately heated plate traversing a page of a manuscript of interest. This is very similar to transmitted light photography but in place of visible light, light in the invisible IR spectrum is used. The great benefit is that many inks are almost transparent in the IR spectrum and thus only the structure of the paper is captured by the camera. However, IR cameras also come with restrictions compared to their classical visible light counterparts: the resolution is usually worse, the lens effects are less rigorously studied, the handling is more challenging, and they are expensive. Furthermore, since we are capturing something that is invisible, it is not immediately clear how to best visualize and represent the data output of the camera. In this talk, we will present all steps that have to be taken to transform the data from the camera into a faithful image of the watermark. Our focus is here to not manipulate the data in any way but only to correct errors that can directly be associated with the acquisition method, such as lens distortion. Finally, we will discuss some methods that change the visualization to highlight certain features in the data, e.g., local variation or prevalent frequencies.

- Alice Moretti (Università di Udine, Italy)

A Briquet source: Ferdinando Ongania's *L'arte della stampa nel Rinascimento italiano* (1894).

Ferdinando Ongania was a bookseller-publisher in Venice from 1871 to 1911, whose bookshop – located under the Procuratie Nuove of Piazza San Marco – specialized in the production and sale of illustrated art books. Among the best known publications is *L'arte della stampa nel Rinascimento italiano* (The Art of Printing in the Italian Renaissance) of 1894, which also had releases in French and English. Divided into two volumes, the work contains heliotype reproductions of title pages, illustrations, typographic characters, letter heads and casts of watermarks, taken from 122 texts printed in Venice from 1469 to 1539. The facsimiles, printed in red and black, retrace the history of printing in Venice, from its origins with the brothers Giovanni and Vindelino da Spira, passing through Aldo Manuzio and up to the printing of music with Antonio Gardano. After a publisher's note signed by

Ongania, the textual part is entrusted to the then prefect of the Marciana Library, Carlo Castellani, who writes the preface and texts on book bindings, typographic brands, music printing and Signs of paper mills and watermarks.

For the compilation of his famous 1907 repertory, in addition to manuscript sources, of which he prefers archival and notarial documents, and printed texts, Briquet makes use of earlier repertories of watermarks, and in this sense *L'arte della stampa* plays a conspicuous role, of which he cites the 1895 French edition, with the textual part translated by Médéric Le Monnier and the *title L'Art de l'imprimerie pendant la Renaissance italienne à Venise*. Of the 122 editions cited in Ongania's work, 62 are those from which Briquet draws casts for Les filigranes, making a total of 206 references, of which 107 are primary and 99 secondary. The references concerning Ongania within Briquet's repertoire bear the place and year of edition of the printed text from which the watermark was traced and the words "FILIGR. EMPRUNTÉ À ONGANIA", with the page number and the number assigned to the watermark within *The Art of Printing*. These citations are opaque, as they do not include the indications of the original printed texts - such as the author's name and title - from which the casts are taken, forcing anyone wishing to trace the original watermark to search for Ongania's work. It was generally not understood that these were printed books, so that these references are missing from their index added by Allan Stevenson to Briquet's 1968 Jubilee Edition. Therefore, the aim of the research in the first instance was to identify the 122 editions within the GW and ISTC databases for the 15th century and Edit16 for the 16th century. In a second instance, a sample of the editions found in the libraries of Udine, and later at the Biblioteca Nazionale Marciana, was examined, book in hand, and surprises were not lacking. The paper therefore illustrates the story of Ongania and the relationship with Briquet's repertory.

- Elisa Borsano (Biblioteca Diocesana di Genova, Italy)

Analysis of some Genoese papers of the sixteenth and seventeenth centuries: structural characteristics and watermarks

The production of paper in Genoa, attested by documentary sources starting from the thirteenth century, assumed increasing importance in the city's economy, in the sixteenth century the Ligurian capital had become one of the most flourishing centers as regards this manufacture. Paper, produced in Voltri and in the neighboring territories, was appreciated throughout Europe and was exported to Spain, southern France, England and Holland.

The richness of the repertoire of watermarks preserved in Genoese documents constitutes the starting point of this presentation which aims to illustrate the main points of the investigation I have undertaken on the characteristics of Genoese paper and the watermarks kept therein.

Using a transmitted light device, I examined the watermarks and the visible internal structure of papers found in printed volumes, documents and drawings preserved in Genoa and dating back to a period between the sixteenth and seventeenth centuries. The information obtained converged into a catalog made up of eighty cards, one for each specimen taken into consideration, the data relating to watermarks belonging to the same typology were then examined and compared with each other, in an attempt to reconstruct the work processes involved in its production, starting from the observation of the artefact. In some of the papers examined, I have identified characteristics that allow us to associate them with Genoese manufacture, such as the presence of doubled chain stitch lines in the texture of the sheet and the Armi di Genova watermark. The richness of the material kept in the libraries, in the archives and in the Drawings and Prints Department

of Palazzo Rosso encourages us to expand the repertoire prepared with the detection of new watermarks. The creation of a database of the found watermarks would make it possible to carry out an easy search and to make immediate comparisons between them.

- Maria Chiara Leonori (Biblioteca Civica di Fermo, Italy):

Sign and drawing. For a study of the watermarks of the Cola dell'Amatrice notebook preserved in the "Romolo Spezioli" civic library of Fermo

The "Romolo Spezioli" civic library of Fermo proposes a project to survey and study the watermarks present in one of the excellences of its rich graphic collection: the notebook of Nicola di Pier Gentile, also called "il Filotesio", known as Cola dell'Amatrice (1480-before 1550), a painter who lived for a long time in Ascoli Piceno and worked in the State of the Church and in the Kingdom of Naples, whose graphic activity had remained unknown until the discovery of the Fermo notebook.

Within the vast collection of over 250,000 documents it holds - mostly of historical, graphic and bibliographic interest dating from the 15th to the 19th century - the Library possesses a large number of manuscripts which it would also be interesting to investigate under the profile of the watermark, but has chosen to favor a document belonging to the graphic arts collection, taking into account the interest that the scientific community is currently showing in watermarks found on historical and artistic assets, in particular on drawings (see for example the studies on the sheets of Raphael, Michelangelo, Canova, etc.).

The aim is first and foremost to enrich the current knowledge relating to the notebook, through the identification of all the watermarks in it and their accurate description according to existing standards. To this end, the support of the Fedrigoni Fabriano Foundation will be fundamental, as it has graciously given its willingness to do so, having at its disposal the most suitable human and instrumental resources for the survey, comparison and study of the watermarks.

The project, which is highly innovative - for a non-specialist library - due to the focus it places on the artistic drawing rather than on the documentary sheet, is conceived as an experience centred on the one hand on the enhancement of the region's cultural heritage and on the other hand as a pilot experiment to assess the feasibility of a comprehensive project for the identification, description and digitisation of the watermarks of the Library's rich graphic collection.

- Rebecca Taldo, Maria Chiara Palandri, (Accademia di Belle Arti di Brera, Italy), Marco Fagiolo (Archivio di Stato di Torino, Italy)

Dating and locating the watermarks of a 15th-century manuscript in the National Archives of Turin

The 15th-century medical manuscript J.B.VII.6., owned by the National Archives of Turin (Biblioteca Antica), is currently the subject of a thesis project in Paper and Book Conservation at the Archives Conservation Service. This opportunity made it possible to conduct in-depth research on the materiality of the artefact, aimed at identifying its production, period of use and location. The hypotheses of geographical contextualisation were expanded through the study of watermarks and the paper support. The manuscript contains two watermark motifs: the bull's head and the half-moon, which were photographed under transmitted light and processed in post-production. Thanks to the digital comparison, it was possible to classify the bull's head motif into four groups and the half-moon motif into one group. Subsequently, historical research was conducted using online databases, specialised literature and a direct comparison with original material

from the same period held in the National Archives in Turin. This comparison allowed the area of production to be narrowed down to northern Germany and dated to the 15th century, confirmed in some cases by bibliographic research on the format of the paper production moulds. Among a series of dated documents in the National Archives, a watermark identical to Group I, catalogued by Piccard, was found together with other watermarks traceable to Chambéry and Caselle Torinese. Through a brief investigation of the provenance of all the bullhead watermarks in the National Archives' collections, in combination with other binding elements, it was possible to identify the origin of the watermark variant found in manuscript J.B.VII.6.

Friday, September 8 (Excursion to Toscolano)

- Martin Eybl (University of Music and Performing Arts Vienna, Austria)

Paper makers from Toscolano on the Viennese market of music supplies

During the reign of Empress Maria Theresia members of the Viennese court collected scores of operas that were performed in the Habsburg capital. From the time span between 1760 and 1775 over one hundred scores have survived, all of them written by local copyists in Vienna. The major part of the paper that was used in these beautifully executed opera scores came from the Toscolano area.

The presentation focuses on three paper makers most represented in the Viennese manuscripts: Faustin Calcinardi and Gaudenzio Fossati from Maina as well as Antonio Seguito from Luseti. The Viennese sources provide information about the motives of the watermarks, the sequence of different watermarks from the same papermaker and the frequency of change, allowing observations on the durability of the meshes.

We have little information on the paper trade from the Venetian state to the Austrian capital. Some sources suggest that the paper was brought to Venice, shipped to Trieste and was transported from there overland to Vienna. It is still unclear where the five-line staves were added to transform the product into music paper as it was needed by the Viennese copyists.

- Eva Neumayr (Archiv der Erzdiözese/ Int. Stiftung Mozarteum Salzburg, Austria)

Watermarks in the collections of Wolfgang Amadé Mozart's Sons Franz Xaver Wolfgang and Carl Thomas Mozart in Salzburg

When in 1841 the Dommusikverein and Mozarteum was founded in Salzburg, its aims were to reorganize music in the churches of Salzburg, to found and keep a music school and to preserve Mozart's legacy and cultivate his music. Already in 1844, when Mozart's younger son Franz Xaver Wolfgang Mozart died, the Dommusikverein und Mozarteum received his valuable music collection comprising a large number of letters and documents, paintings of the Mozart family, the unfinished compositions, a number of Mozart's instruments and the large collection that Franz Xaver Wolfgang Mozart had amassed as a pianist, composer, teacher and conductor. In 1858 Carl Thomas Mozart, Mozart's older son, bequeathed his collection to the society as well. This collection within the holdings of the Dommusikverein and Mozarteum has been called the "Mozart-Nachlass" and was catalogued for the RISM-Database by the author between 2014 and 2018. From this data, a printed catalogue was developed that recreated the order of the old catalogue of the institution, which was published in 2021.

The watermarks of this collection were described in the RISM-database and will be published in the Bernstein-Portal. They show manifold provenances and will help to re-estimate the history of this remarkable collection.

- Marlene Peterlechner (Austrian Academy of Sciences)

Viennese music paper history through Franz Schubert

An overview of the music paper used by the composer Franz Schubert provides an interesting insight of the provenance of music paper in Vienna. Music paper, which initially came from Italy, was replaced by mainly Bohemian paper during the composer's short but intensive writing career, which lasted from 1810-1828. Even after his death, this trend can be traced in the copies that friends made of his works. But this seeming point of view could also be the result of a limited focus on Schubert. Because of that, it shall be specially discussed in the lecture. As an interesting coincidence, also pieces of the history of Viennese music paper emerges out of these investigations, which shall also be explicitly presented in the lecture.

As part of the work in the DRACMarkS project (Digitization, Recognition, and Automated Clustering of Watermarks in the Music Manuscripts of Franz Schubert), which takes place at the Austrian Academy of Sciences, the watermarks in Schubert's music papers are being recorded by using thermography and then processed for digital representation in the source database Schubert digital of the composer. For that purpose, it is not only necessary to recognise and precisely describe the individual watermarks, but it is also important to ascertain the origin of the paper used in each case. This project shall be represented as positive example for an individual-related source database with regard to watermarks.

Furthermore, the research into the individual paper mills of Franz Schubert's music papers has brought light into paper-historical connections, which reveal the development of the paper industry in times of the Austrian Empire and the industrial rise of Bohemian paper mills. Since this has not yet been presented as part of the historiography in connection with the composer, this lecture will be the first attempt to report on it.