

DE GRUYTER

# PAPER STORIES – PAPER AND BOOK HISTORY IN EARLY MODERN EUROPE

*Edited by Silvia Hufnagel, Þórunn Sigurðardóttir  
and Davíð Ólafsson*

MATERIALE TEXTKULTUREN



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## **Paper Stories – Paper and Book History in Early Modern Europe**

# **Materiale Textkulturen**

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# Silvia Hufnagel, Davíð Ólafsson & Þórunn Sigurðardóttir

## Introduction

On the last leaf of an autograph manuscript containing an anthology of his own poetry, the Icelandic pastor-poet Bjarni Gissurarson (1621–1712) copied a poem in which he reflects on the forseen lack of paper in the year 1710. The Danish merchant, Niels, was late arriving in the eastern part of the country, and the poet feared that no imported goods would be available in his part of Iceland that autumn:

*Nái ei til vor Niels minn  
nú í ár með pappírinn,  
þá meg[um] rita á roð og skinn,  
rekkar vítt um héruðin.*

If dear Niels won't arrive hither  
this year, bringing paper,  
then we must write on fish skin and vellum,  
all the men in the district.

*Ætla eg sannist orða blað  
sem öldin gamla forðum kvað:  
Enginn veit hann átti hvað  
áður fyrri en missti það.*

I presume the saying comes true,  
which the old ones said before:  
No one knows what he has  
until it is lost.<sup>1</sup>

The poet was acutely aware of the materiality of writing and material aspects of his craft, despite the duality of oral and written transmission of literature in post-medieval Iceland. In his poem he touches upon several aspects that are relevant for early modern textual production—not only in Iceland but also in the rest of the world. All of these aspects are of a particular relevance for this volume: paper, paper shortages, paper trade, trade networks and the materiality of writing and textual production.

European pre-industrial paper was made by hand. Rags were collected and sorted by colour and quality, then cleaned and retted (a fouling or rotting process). With water-powered hammers and later the so-called Hollander beater, the fibres were broken down until the pulp was smooth enough for making paper sheets. The paper-maker scooped the pulp out of the vat (Germ. *Bütte* and hence *Büttenpapier* for handmade paper) with a mould, a fine metal screen in a wooden frame with a detachable deckle, then let the excess water flow off and couched the remaining pulp onto a sheet of felt, covering it with another sheet of felt. When a sufficient number of paper sheets had been created, the sheets were pressed to press out excess water. The sheets were then dried and, in the case of writing paper, sized to reduce their naturally absorbent

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<sup>1</sup> Reykjavík, National and University Library of Iceland, Lbs 838 4to, f. 149v. Niels was a Danish merchant arriving each spring with goods from Denmark. The poet wrote another poem concerning merchants not arriving with goods where he mentions Niels again and enumerates all the goods they should be bringing, including paper: “Pappír víða enginn er / eflaust fækka titlarnir” (Paper is widely lacking / surely titles will become fewer). On Bjarni Gissurarson and the elusive merchant Niels, see also Parsons’ chapter in this volume.



qualities. They were then sorted according to their different qualities and packed, ready for transport and sale.

Various people were involved in the production process. Rag collectors were responsible for collecting rags and delivering them to the papermills, where others—often women—sorted and cleaned the rags. Two persons, the vatman and the coucher, created the actual paper sheets, while others hung and sorted the sheets before and after drying and packed them—again commonly women. To speed up the production process, the vatman and coucher used a pair of moulds, switching between the two: while the vatman put one mould onto a rack above the vat after scooping out the pulp, the coucher would take the other mould and couch a paper sheet onto a sheet of felt.<sup>2</sup>

The screen of the moulds was made of metal wires: thin ribbing wires along the long side of the mould with minimal distance between them and slightly thicker warp wires along the short side of the mould with a few centimetres between them and small wooden bars beneath them for support. Bent wire figures were attached to the screen as signs of origin and quality. In transmitted light we can see the imprint of the ribbing and warp wires, creating laid lines and chain lines, and the wire figures, creating watermarks. Since moulds had a lifespan of only one or two years due to heavy wear and tear, watermarks can be used as dating aids for undated documents: if we find identical or related watermarks (see, for example, Maria Stieglecker's chapter in this book for details) in both a dated and an undated document, we can surmise that the undated document was written around the same time—within a few years—as the dated document. Watermark repositories, both printed and online, are a useful tool in finding watermark matches, and watermark research, also called filigranology, is carried out in a wide variety of scholarly disciplines, such as art history, musicology and history.<sup>3</sup>

Paper is a Chinese invention that came via the Islamic world to South Europe in the early Middle Ages. Paper spread as a writing material to the rest of Europe at different times. The earliest European paper production sites in Europe, such as Nuremberg and Basle, were important trade centres, often with important textile and metal industries.<sup>4</sup> Aristocrats in both the East and the West supported the introduction of paper—it was a top-down-development.<sup>5</sup> In France, a country where papermills were founded already in the 14th century, wealthy merchants, bankers and ecclesiastical institutions were often those who founded papermills.<sup>6</sup> French paper was exported

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<sup>2</sup> See, e. g., Hunter 1974; Rückert/Hodeček/Wenger 2009; Tschudin 2012; Schultz 2018; Calhoun 2020. On non-European paper see, e. g., Hunter 1974; Tsien Tsuen-Hsui 1985; Bloom 2001; Monro 2014; Fowler 2019.

<sup>3</sup> See, e. g., Loeber 1982; Haidinger 2004; Rückert/Hodeček/Wenger 2009; Castagnari 2015.

<sup>4</sup> Müller 2012, 30, 48–49.

<sup>5</sup> Da Rold 2020, 35.

<sup>6</sup> Zaar-Görgens 2004, 77–87, 205, 209.

to today's Netherlands and the Lower Rhine area early on and soon also to southern German printing centres, e. g., Nuremberg, the Upper Rhine area and the Hanseatic and Baltic regions; it was often sold at fairs, for instance in Brabant and Frankfurt am Main.<sup>7</sup> In England, paper was used already before 1300.<sup>8</sup> There, we can see “a flourishing 13th-century diplomatic paper correspondence in an established network of high-profile figures” that was used for the exchange of news and economic and political information but also private affairs and religious feasts; paper was also used by royal correspondents, bishops and monasteries.<sup>9</sup> Foreign merchants recorded their wool trade on paper when conducting business in England,<sup>10</sup> and in the 14th century paper use had spread from royal administration and merchants to a more local level, e. g., for keeping accounts and registers.<sup>11</sup> In this setting, where paper was a sought-after medium for durable records, literary paper manuscripts began to emerge, containing, for example, romances and also religious and pedagogical texts. Finally, by 1500, paper had become a household commodity.<sup>12</sup> In Ireland, the Dublin administration used paper already in the 15th century, initially for letters and copies of documents and from the mid-15th century for other texts as well. However, paper supplanted parchment for manuscript production only in the 17th century; the earliest paper manuscripts contained mainly medical texts and Gaelic poetry and were written by highly learned men.<sup>13</sup> Paper came later to the Nordic countries, with the oldest preserved paper documents written in Scandinavia around the mid-14th century: a letter written in Åbo/Turku, Finland, on 20 September 1350; a letter written in Denmark in 1359; and a letter from the royal chancellery in Oslo, Norway, on 15 August 1370. Moreover, there is evidence of some earlier, now lost documents.<sup>14</sup> In Iceland, the earliest known use of paper is in the form of paper seals on a parchment letter dated 1 July 1420, but it was not before the 16th century that paper supplanted parchment and wax tablets.<sup>15</sup> Until c. 1400, it was mostly royalty who used paper in Denmark; in the first half of the 15th century, paper was still relatively rare but became more common after 1450 and supplanted parchment in the course of the 16th century.<sup>16</sup> It was initially often used for private letters, privileges, court records and missives; the use of paper spread to other textual genres in the 15th century.<sup>17</sup> In opposition to what

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**7** Zaar-Görgens 2004, 122–203, 212–216.

**8** Ivy 1958, 37–38, who adds that paper manuscripts did not become common before 1400; Da Rold 2020, 13.

**9** Da Rold 2020, 38.

**10** Hills 2007.

**11** Da Rold 2020, 43–48.

**12** Da Rold 2020, 49–57.

**13** Ó Macháin 2019.

**14** Lindberg 1998, 81–83.

**15** Stefán Karlsson 1963, 224; Arna Björk Stefánsdóttir 2013; Hufnagel in this volume.

**16** Jexlev 1983, 88–89.

**17** Jexlev 1983, 89–97.

historians often have surmised, paper was deemed no less valuable or durable than parchment; the famous Treaty of Kalmar from 20 July 1397 was always considered valid even though it was written on paper; it was copied on parchment in 1425 only because three of the original ten seals of the original had been lost.<sup>18</sup> The practicality of paper was important: although it proved to be less suitable for bearing seals, it was easier to write on and easier to fold than parchment.<sup>19</sup> Central administration bought paper at regular intervals from merchants, shopkeepers and booksellers, as well as from ships that passed the Sound; paper was for sale in most of Denmark's towns.<sup>20</sup> In Finland, the number of paper documents seems to have increased considerably between c. 1410 and 1445.<sup>21</sup> Until the first Finnish papermill was established in 1667, all paper had to be imported to Finland. In the beginning it came from Italy, and from France until c. 1570, from Germany since the late 16th century and the Netherlands, Denmark and/or North Germany, particularly from Bäk close to Ratzeburg, in the 17th century, and often from Sweden between 1670 and 1685.<sup>22</sup> Much paper was traded and transported along the Rhine and via Baltic sea ports.<sup>23</sup> High-quality paper from France or the Netherlands was often used for documents that were to be kept and saved in archives but lower-quality paper from other sources was used for more ephemeral writing, such as receipts.<sup>24</sup>

Paper is an exceptionally versatile material and is suitable not only for bearing text but also for a wide variety of objects and uses. It was, and in many cases still is, used as image-bearing material, both painted and printed, as material for seals, as wrapping material, as raw material for cartapesta (papier-mâché) decorative and devotional objects, as toilet paper and as wallpaper, as well as for clothing, umbrellas, bank notes, and so on. The list is endless, and many objects made of paper may seem surprising to the modern eye, for example the gilded and lustred reliefs made of papier-mâché that were put onto small house altars for private devotion. Other paper objects, particularly printed books, come to mind more easily when thinking of paper. But the meaning and relevance of books may not be straightforward and easy to grasp. Books shape and create meaning and value in their social interactions with people, as the concept or theory of object biography emphasises: “Meaning emerges from social action and the purpose of an artefact biography is to illuminate that process”.<sup>25</sup> Meanings and values can accumulate and transform through time and space, and objects can lose some of their value or acquire new meanings, values and relations. We can

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<sup>18</sup> Jexlev 1983, 87.

<sup>19</sup> Jexlev 1983, 87–88.

<sup>20</sup> Jexlev 1983.

<sup>21</sup> Lindberg 1998, 85.

<sup>22</sup> Lindberg 1998, 39–89.

<sup>23</sup> Lindberg 1998, 47, 51, 56–57, 72.

<sup>24</sup> Lindberg 1998, 48–49.

<sup>25</sup> Gosden/Marshall 1999, 170.

only fully understand an object when we look at the totality of the object's production, dissemination, exchange, use and reuse, repair and consumption (and, ultimately, demise or destruction).

Social, political, historical and cultural contexts form an important part of object biographies, and their analysis can help us to comprehend the full meaning of objects better.<sup>26</sup> For example, ceremonial performances can create or add meaning. The medieval manuscript *Flateyjarbók* (Book of Flatey, Reykjavík, The Árni Magnússon Institute for Icelandic Studies, henceforth R-AMI, GKS 1005 fol.) may serve as an example of how far-reaching such a meaning might become. The 14th-century Icelandic codex, one of the finest examples of medieval Icelandic penmanship, was presented to King Frederick III of Denmark in 1656 and placed in the Royal Danish Library in Copenhagen. At that time Iceland was a part of the Danish realm, and Denmark's most important manuscript collector, the Icelander Árni Magnússon (1663–1730), had his own magnificent collection of Icelandic and other manuscripts in Copenhagen. During the struggle for independence in the 19th and 20th centuries, the Icelandic manuscripts were claimed by both Iceland and Denmark, and the debate intensified after the founding of the Icelandic republic in 1944. Eventually, negotiations between Denmark and Iceland led to an agreement of manuscript repatriation. On 21 July 1971, the Danish patrol ship *Vædderen* arrived in Reykjavík, and *Flateyjarbók*, alongside R-AMI, GKS 2365 4to, the *Codex Regius of the Poetic Edda*, became the first of many returned manuscripts.<sup>27</sup> The return of these two manuscripts was celebrated profoundly; the day was declared a national holiday, the town was decorated, large crowds gathered at the harbour where *Vædderen* was docked and the national broadcasting station transmitted the festivities live—the first such broadcast in Iceland. When the Danish minister of education handed *Flateyjarbók* over to his Icelandic counterpart with the words “Værsågod, Flatøbogen” (Here you are, the Book of Flatey), the audience applauded loudly.<sup>28</sup> The ceremonial return of the manuscript added to and increased the meaning of *Flateyjarbók* as a national treasure and as a symbol of Icelandic sovereignty and literary and cultural importance.<sup>29</sup> Object biography helps us to better understand the importance and relevance of how objects interact with us. We understand object biography as a perspective on both the material and the intellectual history of text bearers. The focus is on the processes of their production, reception and use, and on their physical appearance and aspects of wear,

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<sup>26</sup> See, e. g., Tilley et al. 2006; Gosden/Marshall 1999.

<sup>27</sup> Sigrún Davíðsdóttir 1999.

<sup>28</sup> On the 50th anniversary of the return in 2021, several public events and television programmes were organised, including the ceremonial laying of a cornerstone for a new building for Icelandic studies. The cornerstone included digital editions of *Flateyjarbók* and the *Codex Regius of the Poetic Edda*, as well as a commemorative poem, composed by the Icelandic novelist Bergsveinn Birgisson for this occasion.

<sup>29</sup> Guðmundur Hálfðanarson 2003; Guðmundur Hálfðanarson 2008.

tear and repair. This extends to the investigation of the origins of the raw materials involved in paper production, as well as manufacture, use, ownership, exchange and trade and preservation of the text-bearing objects.

The focus of this edited and peer-reviewed volume is on the material aspects of the written word and on object biography in early modern Europe. With it we would like to enhance our understanding of the material and intellectual history of paper and paper objects through examining the physical aspects of the written word in post-medieval Europe. The focus is on the various paths that paper took following its production via the processes of being made into documents, manuscripts and books to the present repositories of these text-bearing objects in library collections. The volume brings together the research of book historians, paper experts, philologists, conservators and others who conduct research on paper and watermark history, the paper trade, the history of collections and object biography. We thereby address material features of documents, manuscripts and books, as well as object biography, from an interdisciplinary point of view.

In this volume we follow applied and interdisciplinary approaches. By tracing the history of paper, books and collections through case studies of historically important objects, we identify agents and hotspots of production, trade and ownership from both centres and peripheries of Europe from the late Middle Ages until the beginning of industrialisation. By doing so, we provide insight into actual practices of the past and the material history of written texts.

This volume is the product of two research projects funded by the Icelandic Research Fund ([www.rannis.is](http://www.rannis.is)). One is *Paper Trails. A Material History of 16th and 17th Century Icelandic Books from Paper Production to Library Collection*, hosted by the Árni Magnússon Institute for Icelandic Studies.<sup>30</sup> The other is *My Favourite Things. Material Culture Archives, Cultural Heritage and Meaning*, hosted by The Centre for Microhistorical Research at the Institute of History, which is a part of the University of Iceland.<sup>31</sup> The projects deal with various material aspects of scribal practices and the circulation of paper in Iceland in the early modern period. The first project focuses on an analysis of paper used in Icelandic manuscripts and printed books by studying watermarks, the routes of paper commerce from Europe to Iceland and its distribution within the country. The second research project studies the material world of the Icelanders as it is represented in archives of written and material form. One of its strands aims at investigating books and manuscripts as private property, as they are discussed in egodocuments and compared with their representation in probate inventories and archives. The participants in the two projects joined forces and prepared a conference

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**30** The project is funded by the Icelandic Research Fund at RANNÍS (184961–051). The project has also received funding from the Gerda Henkel Stiftung. See the project's official website: <https://papertrailsiceland.wixsite.com/papertrails> (accessed 01/04/2022).

**31** The project is funded by the Icelandic Research Fund at RANNÍS (2018–2022). See the project's official website: [www.hh.hi.is](http://www.hh.hi.is) (accessed 01/04/2022).

on these and related subjects, inviting international scholars working in various disciplines to partake in the event. The goal was to illuminate the close and intricate connections between the various European countries and regions and the similarities of paper use, manuscript and book production, object biography and collection studies across geographical, temporal, linguistic and cultural borders. Our interdisciplinary approach enhances and enriches the results of our combined efforts.

The conference was to take place in the spring of 2020 but had to be postponed due to the COVID-19 pandemic. The organisers decided, however, to go through with the proposed conference volume and follow it up with a conference in the spring of 2022, where authors would introduce their published papers and hopefully develop ideas for continued research and debates.

The collection is designed around three thematic strands, based on the lifecycle of handwritten documents and manuscripts and printed books: first, production of paper; second, production of books and manuscripts; and third, trade and exchange and ownership of such objects. One third of the chapters explore cases from the history of paper use and manuscript production in post-medieval Iceland. The remaining two thirds of the articles are either set within other European communities or offer a wider European overview of the subject. Despite the emphasis on Iceland, this volume should certainly not be read as a collection of studies into the history of Icelandic paper consumption, in which insights from other areas serve mainly to illuminate the background context of the Icelandic studies. Rather, this is a collection of studies into various aspects of the subject addressed in the book's subtitle, *Paper and Book History in Early Modern Europe*.

Paper production, the first thematic strand, is concerned with research on the actual place and time of producing the transnational commodity of paper, with focus on international demands and expanding markets. Particularly through watermark analysis, we establish where and when paper was introduced to new national markets and who served as agents of change. Research on new purposes of paper, differing from other writing materials, such as parchment and wax tablets, are included in this strand. We also investigate human interconnections and collaborations, as well as the changing personal situations of paper users and producers of texts through a focus on individuals and their networks.

In her article, **Silvia Hufnagel** discusses the development of the utilisation of paper in Iceland in the 15th and 16th centuries. She presents the earliest documented uses of paper as writing and non-writing material and the societal implications and backgrounds of the first users. By applying watermark research and historical research, origins and trade partners are identified and trade routes revealed.

**Paul M. Dover's** contribution explores the coevolution of paper and European writing culture, approached through evolutionary and coevolutionary theory adopted from biology. He argues that not only did society shape the material forms that paper assumed, but the use of paper shaped political, social and cultural practices in the early modern era. Furthermore, he explains how both printing and handwriting, for

example letter writing, instigated what he has called the “information revolution of Early Modern Europe.”

**Xu Xiaojie** analyses fibres of paper used for printed books in Europe in the 16th and 17th centuries and compares the paper with Japanese and Chinese paper from the same period. She found blue fibres and straw in the European papers, adding new findings and perspectives on the history of papermaking.

Paper was handmade for centuries, although a certain level of mechanisation, e. g., glazing rolls, was introduced before paper machines were invented in the early 18th century. Some of these early machines produced high-quality paper that is surprisingly similar to hand-made paper. The Sembritzki machine, for example, used double moulds to produce a strongly felted, thick and smooth paper with its structure of chain lines, laid lines and watermarks clearly visible, as **Sonja Neumann** explains in her chapter.

A useful descriptive overview of watermark classification and representations in print and online catalogues is the basis of **Ermenegilda Müller’s** paper, followed by a presentation of a promising new method for cataloguing watermarks using TEI-P5 conformant XML. Müller introduces a TEI customisation for the description of paper and watermarks, which enables the inclusion of detailed and structured information about paper in standard TEI descriptions of handwritten and early printed sources. The proposed method allows cataloguers to enter more detailed information about paper types, papermills, watermarks and more into databases, in addition to standardising the representation of paper and watermark data in TEI.

Production of books and manuscripts, the second thematic strand, focuses on the early stages in the biography of text-bearing objects. We elucidate how material aspects influenced the production, form and function of books and manuscripts. An analysis of scribes, patrons, publishers, printers and bookbinders illuminates the manifold social and economic dealings between them. The interdisciplinary study of copies of books, including archaeological and conservational methods, provides evidence of material aspects that lead to a better and more holistic understanding of transmitted texts and their cultural importance.

In his article, **Pádraig Ó Macháin** studies the transition of Gaelic vernacular manuscripts from the vellum tradition of the late medieval era into the paper tradition of the early modern period. Ó Macháin argues that it is not possible to discuss the use of paper in the Gaelic manuscript tradition without also understanding the use of the material that it replaced. The survey presented here focuses on the material aspects of this important change when the Gaelic late medieval vernacular manuscript tradition gave way to a new practice of learning and new literary tradition-bearers, due to the disintegration of elite Gaelic society brought about by the English conquest.

Based on watermark analysis, **Maria Stieglecker** traces the manuscript production of Johannes de Spira (b. 1383), a scribe and monk, during his journeys from Heidelberg to Melk Abbey and from Melk to Lambach, Basle and beyond, thus contributing to the object biographies of late medieval manuscripts.

In their interdisciplinary analysis of the history or biography of the *Missale Nidrosiense*, printed in 1519 for use in the province of Nidaros, **Nina Hesselberg-Wang and Chiara Palandri** reveal that the missal was printed on paper from mixed stocks. Their archaeological approach uncovers the printing sequence in which black and red ink was applied to the page and other aspects of the printing process. Some of the illustrations and decorative elements, for example, metalcut initials, were reused from the printer's supply. The missal was commonly sold unbound, but several copies were bound in the same workshop with binding material sourced in Norway.

The subject of **Geoffrey Day's** article is the influence of climate on papermaking and printing in 18th-century London, especially in the years following the eruption of the Icelandic volcano Laki in 1783–1784. Day uses contemporaneous correspondence and printed material to demonstrate the effects of major weather events on paper making and different modes of printing at the so-called Frost Fairs and the problems and frustrations experienced by papermakers, printers and authors.

Trade, exchange and ownership is the third thematic strand, focusing on object biography. It highlights the actors and actual dealings of purchasing, selling, collecting and owning text bearing objects. An analysis of booksellers and book owners provides insight into the system of book dealing activities and the numerous social actors and their connections. It also explains the building of library collections and the organisation of knowledge that came with the written word.

In her article, **Martina Hacke** examines the agents of printer, publisher and bookseller Johann Amerbach, who worked for him at the book fairs of Basle, Lyon and Paris in the early 16th century. These agents contributed profoundly to the printing, publishing and trading of books through their vast and far-reaching networks and know-how. They were thus not only agents of the book trade but also of cultural transfer, and they contributed to the spread of humanism through the book trade.

In their paper, **Haldóra Kristinsdóttir, Jón Kristinn Einarsson and Rannver H. Hannesson** explore the activities of one scribe belonging to the active scribal community in the Westfjords, Iceland, in the late 17th century. From an analysis of watermarks in this scribe's manuscripts, it appears that the paper he used was mostly of a quite recent manufacture, with one exception: one manuscript written in 1663–1665 contains paper from the beginning of the 17th century. They demonstrate that paper was both imported and sold on demand but that scribes (or their patrons) were also willing to buy and use recycled paper.

**Beeke Stegmann** investigates the value of paper in Denmark and Iceland at the beginning of the 18th century by studying Professor Árni Magnússon's (1663–1730) usage of paper in the organisation and preservation of his collection of manuscripts. Árni used pieces of paper to make notes on the manuscripts and their texts, as well as to wrap unbound manuscripts. Although he produced and commissioned many complete manuscript transcriptions, he also copied overlapping text sections from existing paper manuscripts from the 17th century, which he divided up into smaller units in an attempt to organise the texts according to criteria such as genre. Stegmann



examines watermarks in this material to determine where Árni Magnússon acquired his supplies of paper. The manuscript collector apparently used an assemblage of contemporary paper, blank leaves from old paper manuscripts and diplomas and available waste paper. This indicates that writing paper was considered valuable commodity in Árni's day, at the same time as it was affordable for a scholar of moderate means in early modern Copenhagen.

**Már Jónsson** explores a manuscript containing court proceedings and verdicts collected by a 17th-century Icelandic sheriff (*sýslumaður*) from the north-western part of the country. The manuscript contains material removed from original court books and in some cases copied from such volumes. Most of the cases concern witchcraft trials, and the sheriff in question is notorious for his enthusiastic persecution of people suspected of sorcery. Már suggests that this collection is the reason for this sheriff's bad reputation in Icelandic history, "since without it much less would be known about his willingness to go after alleged sorcerers and much less also on witchcraft in 17th-century Iceland in general".

**Gunnar Marel Hinriksson's** essay deals also with the scribal community of 17th-century Iceland. His chapter recounts the story of a paper thief in the Latin school at Skálholt, Iceland, demonstrating that paper had a high commercial value in the academic community of 17th-century Iceland. The punishments meted out to the thief and those who had purchased the purloined paper were nevertheless lenient by the standards of the day.

In his chapter, **Davíð Ólafsson** investigates the relations between literacy practices and acquisition of paper among popular scribes in 19th-century Iceland and explores the channels through which popular scribes could obtain the necessary material for their manuscript production. The article employs conceptual frameworks from book history, new literacy studies and post-medieval manuscript studies to reflect on the links between agency and materiality as integrated components of the production of handwritten books.

**Viðar Hreinsson** juxtaposes manuscript culture with environmental humanities and ecocriticism. These academic practices have been prominent over the last few decades and have lately been influenced by new materialism and scholars like quantum physicist Karen Barad and philosopher David Abram. Manuscript culture can also be linked to ideas of biodiversity and biosemiotics, based on Jakob von Uexküll's ideas. In this sense, it can be regarded as organic growth, natural in the sense that it is a complex, diversified process of reproduction, re-creation and eventual decay rather than an exponential accumulation of written material.

As a form of postscript, **Katelin Marit Parsons** explores the connections between paper and poetry in Iceland during the 17th century. She describes how in Iceland, paper shortages were viewed in connection with trade difficulties and disruptions rather than production challenges or the finite nature of the materials involved. The raw materials of paper—hemp, flax, linen rags—were either scarce or entirely unknown in Iceland, and paper had thus "no imagined lowly past life as rags". On

an island where paper was only known as a commodity, far from the papermills that transformed plant matter into writing surfaces, the nature of paper was largely unseen by poets and audiences alike.

## A Note on Icelandic and East Asian Names

Most Icelanders follow a patronymic (or matronymic) name system rather than using surnames, with patronyms ending in “-son” (son) for men and “-dóttir” (daughter) for women. It is the custom to refer to people by their given name or by their given name and patronym, but never by their patronym alone. Following this custom Icelandic names are arranged in the bibliography by given name and not the patronym, as is the rule in most journals that deal with Old Norse or Icelandic studies.

According to East Asian name conventions, surnames are cited before given names.

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## **Production of Paper**



Silvia Hufnagel

# The Rise of Paper

An Overview of Paper Provenance and Use  
in 15th- and 16th-Century Iceland

## 1 Introduction

Iceland can boast a particularly long-lasting and prolific manuscript culture, long before the introduction of paper and the printing press to the country in the 15th and 16th centuries.<sup>1</sup> The codex form and writing in the Latin alphabet were introduced to Iceland shortly after the adoption of Christianity in the year 1000.<sup>2</sup> The oldest surviving manuscripts and manuscript fragments are dated to the 12th century.<sup>3</sup> Icelandic manuscript culture stands out for several reasons in a European context, particularly because manuscripts were produced not only in ecclesiastical but also in secular centres and because the advent of the printing press did not lead to the end of manuscript production.<sup>4</sup> The first printing press was established around 1530 by the bishop of Iceland's northern diocese of Hólar, Jón Arason (1484–1550); it operated under the auspices of the church and remained the island's only press for centuries.<sup>5</sup> The publishing endeavours of Bishop Guðbrandur Þorláksson (1541–1627) were particularly fruitful.<sup>6</sup> Partly because it was almost exclusively devotional, liturgical and religious material that was printed in Iceland for centuries, Icelandic manuscript transmission did not cease with the advent of printing but continued until the early 20th century.<sup>7</sup> Today, there are c. 20 000 Icelandic manuscripts extant.<sup>8</sup> Of these, c. 650 are dated to the 12th–15th centuries,<sup>9</sup> c. 2 000 are dated to the 16th and 17th centuries and the remainder to the 18th–20th centuries.<sup>10</sup> Almost all of the post-medieval manuscripts

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1 Hufnagel 2021, 302; Driscoll/Svanhildur Óskarsdóttir 2015; Guðvarður Már Gunnlaugsson 2007; Gísli Sigurðsson/Vésteinn Ólason 2004.

2 Guðvarður Már Gunnlaugsson 2007, 245–246; Hreinn Benediktsson 1965, iii, no. 2.

3 Guðvarður Már Gunnlaugsson 2007, 245–246.

4 Hufnagel 2021, 302–303.

5 Klemens Jónsson 1930.

6 Einar G. Pétursson 2006, 579–587.

7 Klemens Jónsson 1930; Margrét Eggertsdóttir/Driscoll 2017; Hufnagel 2021, 303.

8 Hufnagel 2016, 151, fn. 19.

9 Guðvarður Már Gunnlaugsson 2007, 249.

10 Hufnagel 2016, 151, fn. 19.

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were written on paper. There have, however, never been paper mills in Iceland except a modern recycling plant, and all paper had to be imported.

In this article, I will give a brief introduction to historical studies of paper in the countries with which Iceland maintained the closest ties and analyse how paper was employed in the early phase of paper use in Iceland and what materials it replaced. I will then discuss three closely related questions: when was paper introduced to Iceland, who played a role in its introduction and where did the paper originate? I will thus give an overview of paper use in Iceland, particularly with regard to cultural and social aspects. The focus will be on the 15th and 16th centuries, when paper was first used and when it became increasingly common.

In the 15th and 16th centuries, Iceland was part of the Danish realm and had close ties with mainland Denmark, Norway and England. In Denmark, paper is first mentioned in a will from 1358, and the earliest extant paper document is dated 29 July 1367; nine other paper documents, as well as an account booklet, are dated to the 14th century.<sup>11</sup> The earliest use of paper is connected to the royal court and the Ribe bishopric and was introduced by a steward from Germany.<sup>12</sup> Paper use increased considerably in the second half of the 15th century and overtook parchment use around 1500.<sup>13</sup> The first paper mill in the Danish realm was established in 1570, however, it was only a short-lived enterprise and Denmark had to rely on imported paper for a long time to satisfy demands.<sup>14</sup> Paper was introduced via Sweden to Norway and was first used by royals and high-ranking clerks. The earliest paper document was presumably a royal letter from 7 January 1364, sent from King Magnus Eriksson, who was in Sweden at the time, while in 1371 the chancellor had a Swedish clerk send a paper letter to the son of the late King Magnus.<sup>15</sup> Paper use increased in Norway in the 15th century, too, but was used parallel to parchment for a long time.<sup>16</sup> In England, paper was known already in the 13th century, when diplomats and members of royal and aristocratic households sent paper letters to the crown and when Italian wool merchants brought paper to England to record their trade dealings; it became more widespread in the 14th century in administration, trade and commerce, even in local administration (e. g., in guilds), and was now also used by scholars and for literary manuscripts.<sup>17</sup> This widespread use indicates no shortage of paper, even though it had to be

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**11** Fiskaa 1967, 30–31; Fiskaa 1968, col. 108.

**12** Fiskaa 1967, 31; Fiskaa 1968, col. 108.

**13** Fiskaa 1967, 31; Driscoll/Olrik Frederiksen 2021, 39–41 with slightly different numbers. For a more detailed analysis, see Jexlev 1966–1967.

**14** Jørgensen 2007a, 46. On Danish paper history and the earliest Danish paper mills, see e. g., Fiskaa/Nordstrand 1978, Rottensten/Waaben 1987.

**15** Fiskaa 1967, 31–32.

**16** Fiskaa 1967, 32; Fiskaa 1968, col. 109; Jørgensen 2007a, 47; see also Fiskaa/Nordstrand 1978.

**17** Da Rold 2020, which includes an extensive bibliography.

imported.<sup>18</sup> By the 15th century, paper was seen as a commodity and employed for a wide variety of uses distinct from writing, such as for decoration, medicine and wrapping.<sup>19</sup>

In Iceland, paper history and watermark research are heavily understudied fields. Arna Björk Stefánsdóttir was the first to conduct a systematic study on the introduction of paper as a writing material in Iceland. She describes the earliest known charters and manuscripts and argues that paper use increased around 1540 and began to overtake parchment in the last two decades of the 16th century, which corresponds to the period during which the printing press was established and book production increased.<sup>20</sup>

Paper replaced parchment and wax tablets during the 15th and 16th centuries, but it was first used for or by the upper echelons of society for textual genres that were frequently also found in wax tablets, particularly for ephemeral and administrative texts, such as calculations, letters and drafts.<sup>21</sup> Watermark analysis provides evidence that Danish paper was used in a small number of Icelandic manuscripts, although it was previously assumed that paper from this specific mill was used only locally and in nearby Copenhagen; the analysis furthermore made a more precise dating of the manuscripts in question possible.<sup>22</sup> Watermark analysis also provided new evidence for relative datings of paper copies of the *Kringla* codex made by the Icelandic scribe Ásgeir Jónsson (d. 1707).<sup>23</sup> Some of the findings of the Rannís-funded project *Paper Trails*, which focused on paper history based on historical and archival research and hyperspectral watermark imaging, are presented in the present article.

## 2 Earliest Known Uses of Paper: The 15th Century

The earliest known use of paper in Iceland was in 1420, when Bishop Jón Tólfason (d. 1423) used small slips of paper for seals that were pressed onto a parchment letter to King Erik of Pomerania.<sup>24</sup> To create a paper seal, a drop of wax is put onto the parchment, and a small slip of paper is then put on top; the seal stamp is then pressed

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**18** Da Rold 2020, 51; Tschudin 2012, 113, who provides more detailed references and points out that paper making in England was irregular until the late 17th century, even though the first paper mill was established in 1488.

**19** Da Rold 2020, 55–57; see also the various articles in Bittel/Leong/Oertzen 2019.

**20** Arna Björk Stefánsdóttir 2008, 2013. I thank her for sharing her data with me. See also Driscoll/Olrik Frederiksen 2021, 25, 28. The earliest paper documents and paper manuscript are also mentioned briefly in Guðvarður Már Gunnlaugsson 2007, 251.

**21** Hufnagel 2020.

**22** Hufnagel 2019.

**23** Jørgensen 2007b, 206–207, 221–238.

**24** *Íslandske originaldiplomer*, 224.



onto the paper. Such use of paper was quite common in Europe.<sup>25</sup> The letter, written at the Alþingi (Iceland's national assembly) at Þingvellir on 1 July 1420, still has five small, round seals in place.<sup>26</sup> Traces of two or three other seals are visible, one of which was large and almond shaped and must have been Bishop Jón's seal. It was presumably transferred to the manuscript Reykjavík, The Árni Magnússon Institute for Icelandic Studies (henceforth R-AMI), AM 217 a 8vo by the collector Árni Magnússon (1663–1730), who had received a stack of parchment letters, including two letters by Bishop Jón to the king and the loose paper seal.<sup>27</sup> Very little is known about the bishop. He was presumably from Sweden,<sup>28</sup> and he was at the royal court of King Erik for some time before he sailed from Bergen in Norway to Iceland in 1419, eight years after his appointment as bishop of Hólar, and he passed away in 1423.<sup>29</sup> Considering his stays at the royal court and in Bergen, where the German Hanseatic League had one of their main offices,<sup>30</sup> he certainly had ample opportunities to purchase paper.

The earliest known reference to paper used for writing is given in a witness statement from 15 April 1423. The Norwegian priest Michael Jónsson publicly protested the appointment of another priest as *officialis* (official, bishop's proxy and judicial and administrative authority)<sup>31</sup> of the diocese in Hólar, North Iceland, claiming that the late Bishop Jón Tófason had appointed him to the post.<sup>32</sup> Eight men testified that they witnessed Michael's proclamation, and they also state that a copy of the proclamation was written on paper.<sup>33</sup> Unfortunately, this paper copy has not survived, and we can therefore not verify the use of paper or ascertain its origin. Perhaps Michael had his own paper supply,<sup>34</sup> or perhaps he had access to Bishop Jón's paper stock. Since both the proclamation and the witness statement were drawn up at the estate Möðruvellir, it also seems possible that the estate's owner, Loftur *ríki* Guttormsson (the Wealthy, c. 1375–1423), provided paper. Loftur belonged to two of the leading families of the

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<sup>25</sup> Trætteberg/Liedgren/Prange 1968.

<sup>26</sup> Reykjavík, National Archives of Iceland (henceforth NAI), Leyndarskj. 6 (former Copenhagen, Danish National Archives, Isl. & Fær., Fasc. I, 6); edited in *Íslandske originaldiplomer*, 223–224, no. 177; edited in DI, vol. 4, 281, no. 341.

<sup>27</sup> AM 217 a 8vo, ff. 66r–v, 69r, edited in *Sigilla Islandica*, 71–73. Stefán Karlsson, *Íslandske originaldiplomer*, 225 believed the paper seal belonged originally to the second letter from Bishop Jón to the king, dated 28 July 1420, now NAI, Leyndarskj. 7 (formerly Copenhagen, Danish National Archives, Isl. & Fær., Fasc. I, 7; edited in *Íslandske originaldiplomer*, 224–225, no. 178; edited in DI, vol. 4, 282, no. 342). However, that letter contains traces of a dark green wax seal, whereas the wax used to create the paper seal is red. I thank Vasarè Rastonis for confirming my analysis of AM 217 a 8vo, f. 69r.

<sup>28</sup> Stefán Karlsson 1963, xxii.

<sup>29</sup> Björn Þorsteinsson 1970, 48, 58–59, 77.

<sup>30</sup> Burghardt 2015.

<sup>31</sup> Einar Laxness 1974–1977, vol. 2, 81–82.

<sup>32</sup> R-AMI, AM Dipl. Isl. Fasc. VIII,5; *Íslandske originaldiplomer*, 234–239, no. 188; DI, vol. 4, 303–308, no. 365. On the role of officials, see Sigurdson 2014, 72–79.

<sup>33</sup> *Íslandske originaldiplomer*, 239–240, no. 189; DI, vol. 4, 308–309, no. 366.

<sup>34</sup> Arna Björk Stefánsdóttir 2013, 229.



Fig. 1: Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM Dipl. Isl. Fasc. X,6 (Möðruvellir, 13/09/1437), the oldest surviving paper document. For a colour image, see Appendix, p. 431 of the print version.

country, the *Skarðverjar* and the *Svalbarðsætt*, and was extraordinarily wealthy.<sup>35</sup> He presumably spent time abroad with King Erik and acted as *hirðstjóri* (governor) of North and West Iceland in 1427.<sup>36</sup> We can safely assume that he was able to purchase paper either during his own time abroad or through his dealings with foreign merchants. The hypothesis that it was Loftur who provided paper for the witness statement is backed up by the oldest extant paper document.

The earliest surviving paper charter, confirming the exchange of land, is dated 13 September 1437 and was also written in Möðruvellir (R-AMI, AM Dipl. Isl. Fasc. X,6, see Fig. 1). The scribe was Loftur Guttormsson's son, Þorvarður *riki* Loftsson (the Wealthy, c. 1410–1446). He inherited Möðruvellir from his father, along with many other assets, and lived there with his wife, Margrét Vigfúsdóttir (c. 1406–1486) until his death in 1446.<sup>37</sup> Þorvarður used only part of a leftover sheet of paper, or the leftover part of a sheet for the charter — perhaps one third or one fourth of a sheet. The charter measures only 102 × 215 mm, and in the top left corner are traces of writing that has been cut off, confirming the notion that paper was used economically. In the plica, the bottom fold of the charter where the seal was appended, we can see a fragmented watermark: a dragon's tail ending in a loop and the tips of a wing (see Fig. 2). This type of dragon watermark appears in documents written in the area of the Rhine Delta and Lower Rhine, covering today's Benelux, north-eastern France and north-western Germany, between 1410 and 1434, though mostly in the years 1418–1424.<sup>38</sup> It was perhaps produced around Troyes in France.<sup>39</sup> A paper with a variant of the watermark observed in

<sup>35</sup> Páll Eggert Ólason 1919–1926, vol. 3, 509–511; ÍÆ, vol. 3, 395; Jón Þorkelsson 1963, 23, 25, 32.

<sup>36</sup> Jóhann Sveinsson 1941, 6; ÍÆ, vol. 3, 395; Jón Þorkelsson 1963, 24–25.

<sup>37</sup> ÍÆ, vol. 5, 254.

<sup>38</sup> Piccard 1980, n. p., no. 869–916. A small number of the paper documents with this watermark type were written in places further afar, such as Paris.

<sup>39</sup> Piccard 1980, 12.



**Fig. 2:** Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM Dipl. Isl. Fasc. X,6 (Möðruvellir, 13/09/1437), fragmentary watermark dragon.

the Icelandic charter was used in Culemborg (today part of the Netherlands) in 1425.<sup>40</sup> Paper sheets bearing variant watermarks were produced with the same mould but at slightly different times, as watermarks might change somewhat with gradual wear and tear or repairs. Given the short lifespan of paper moulds of one to four years<sup>41</sup> and the existence of paper with a variant watermark, which was used in 1425, the paper of our Icelandic charter was most likely at least a decade old before it was cut up and written on.<sup>42</sup> If so, the paper was presumably purchased not by the young Þorvarður but by his father Loftur, and this would also lend support to the hypothesis that it was Loftur who supplied the paper for the copy of Michael Jónsson's proclamation.

The next reference to paper brings us to Margrét Vigfúsdóttir, Þorvarður Loftsson's wife and Loftur Guttormsson's daughter-in-law. Like her husband, she was born into one of the wealthiest and most powerful families of the country: her father and paternal grandfather were *hirðstjórar* (governors), and her mother came from a rich Norwegian family.<sup>43</sup> In 1415, her father took her and her family to Canterbury, England, where he may have passed away, although Margrét and her other family members returned to Iceland.<sup>44</sup> Margrét married Þorvarður in 1436.<sup>45</sup> She never remarried after her husband's early passing and managed her vast estate herself, becoming a

<sup>40</sup> "NL0360-PO-124095" (1425, Culemborg), in: WZIS, <https://www.wasserzeichen-online.de/wzis/struktur.php?ref=NL0360-PO-124095> (accessed 21/04/2021).

<sup>41</sup> Schultz 2018, 104.

<sup>42</sup> Most paper stocks were used within one to four years after their production, though. Haidinger 2004; Gerardy 1964; Piccard 1956.

<sup>43</sup> Orning 2018, 95, 97; Einar Bjarnason 1964; *Íslandske annaler*, 276, 284, 356.

<sup>44</sup> Björn Þorsteinsson 1970, 38; Einar Bjarnason 1964, 80.

<sup>45</sup> *ÍÆ*, vol. 5, 254.

“powerful matriarch who owned and managed extensive property” both in Iceland and in Norway.<sup>46</sup> Margrét was the owner, and in several cases also the patron, of a number of extant manuscripts.<sup>47</sup> Through her manuscripts, Margrét created an image of her family as Icelandic aristocracy with close connections to Norwegian royalty.<sup>48</sup> Both she and her late husband made generous donations to several monasteries and churches.<sup>49</sup> Some of these donations include paper objects.

When the church at Margrét Vigfúsdóttir’s farm Kaupangur in Eyjafjörður, North Iceland, burnt down, Margrét paid for its rebuilding and donated several objects to the new church building, as an inventory from 1473 specifies. Among the donations were a “*tabulum med pappir. iij pappirs blod*” (altarpiece with/made of paper, three paper leaves).<sup>50</sup> Since neither the altarpiece nor the paper leaves have survived, we can only hypothesise about them, based on contemporaneous developments and other extant objects in continental Europe. The paper leaves were almost certainly works of religious art,<sup>51</sup> perhaps devotional images or *Andachtsbilder*. Devotional images originated in German mysticism and are strongly connected to monasterial and female devotion.<sup>52</sup> From the 15th century such images were often painted on paper, and by the late 15th century printed images on paper were also common, although prints were usually hand-coloured until the mid-16th century.<sup>53</sup> They were often inserted into prayer books and other devotional books, but they were also hung up on walls and were frequently recycled and put to various different uses.<sup>54</sup> The mass production of such devotional images was in the hands of professional letter painters, or *Briefmaler*, and scribes, though monasteries produced and sold them, too.<sup>55</sup> The commission of 50 000 Veronicas (i. e., the Veil of Veronica, the image of Christ on Veronica’s sweat-cloth) printed on parchment in Seville in September 1493 vividly illustrates the popularity of such devotional images.<sup>56</sup> Most devotional images depicted the Passion of Christ, biblical stories and saints, particularly the Virgin Mary, or patron saints and titular saints.<sup>57</sup> Sharing and extending the power of the saints,<sup>58</sup> they were “instruments

46 Jóhanna Katrín Friðriksdóttir 2018, 282. Cf. Agnes S. Arnórsdóttir 2010, 392.

47 Stefán Karlsson 1999, 142, 152–154; Sanders 2000, 41–52; Jóhanna Katrín Friðriksdóttir 2018, 286–287; Guðbjörg Kristjánsdóttir 2013, 56.

48 Sanders 2000, 52; Jóhanna Katrín Friðriksdóttir 2018, 289.

49 DI, vol. 4, 307–308 at 308, no. XLIV, 674–677, no. 720; vol. 5, 302, no. XLII, 307–308 at 308, no. XLIV, 309–310, no. XLV.

50 NAI, Bps B II 4 (formerly AM 274 4to *Rauðskinna*), f. 37r; DI, vol. 5, 302, no. XLII.

51 Wallem 1909, 40; Cormack 1994, 28, fn. 11.

52 Spamer 1930, 8.

53 Hamburger 1997, 21; Spamer 1930, 8.

54 Palmer 2009, 104, 106; Palmer 2005, 4; Schmidt 2003, 14.

55 Spamer 1930, 27, 35.

56 Eisermann 2017, 91. Such a high print run should, however, not be taken as yardstick of average print runs of devotional images, as Eisermann 2017, 112–113 emphasises.

57 Spamer 1930, 42.

58 Areford 2009, 121.

of affective piety” and “served as aids to, and commentaries on, the act of devotion”.<sup>59</sup> Based on this, we can assume that the three paper sheets donated to the church at Kaupangur were either paintings or woodcut images and that some, if not all three, were hung on the church wall.

The evidence does not allow us to establish what the paper sheets might have depicted. The church at Kaupangur was not dedicated to a specific saint, though some sources mention St. Mary and St. Olav as its patron saints.<sup>60</sup> Margrét Vigfúsdóttir donated statues of these two saints to the church, both of which were set in shrines and the latter of which was made of alabaster.<sup>61</sup> St. Mary was the most popular saint by far in pre-Reformation Iceland, as she was in the rest of the Christian sphere, while St. Olav, King of Norway, was venerated in both North and West Europe; he was also the patron saint of the Hanseatic Bergenfarers.<sup>62</sup> Other popular saints in Iceland include St. Martin, St. Þorlákur, St. Nicholas, the Apostle Peter, John the Baptist and John the Evangelist.<sup>63</sup> The paper sheets could have been paintings of Christ or one of these saints, and they could have been produced in Germany or the Low Countries and traded by English or Hanseatic merchants until they reached their final destination at Kaupangur.<sup>64</sup> Margrét and her family purchased food, expensive textiles and decorative objects from English merchants<sup>65</sup> and presumably also from German merchants. Perhaps Margrét ordered some of the merchants to obtain suitable images for the church, or perhaps they were offered to her as part of the merchants’ stock. Despite a lack of evidence, it is highly probable that other churches in Iceland had similar wall decorations depicting saints,<sup>66</sup> just as churches on the European continent at this time.

The “*tabulum*” that Margrét Vigfúsdóttir donated was presumably an altarpiece. In church inventories we find the terms *brík* and *tabula*. *Brík* often denotes an altarpiece: an image, sculpture or relief behind or at the back of an altar. *Tabula* frequently denotes an antependium or altar frontal, which is the lower front of an altar. However, in many cases the distinction between the two is not clear.<sup>67</sup> Most Icelandic churches had altarpieces.<sup>68</sup> We can assume that the Kaupangur *tabulum* was an altarpiece rather

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<sup>59</sup> Hamburger 1997, 177, 181.

<sup>60</sup> DI, vol. 5, 302, no. XLII; “Kaupangskirkja”, in: <https://nat.is/kaupangur-church/> (accessed 31/10/2022).

<sup>61</sup> DI, vol. 5, 302, no. XLII.

<sup>62</sup> Jiroušková 2012; Cormack 2011, 9–12; Cormack 1994, 29; Haase 1979, 174.

<sup>63</sup> Cormack 2011, 9–12; Cormack 1994, 29.

<sup>64</sup> Nilsén 2003, 542, 544; Reynolds 2003, 30; Appuhn 1973, 47.

<sup>65</sup> Jóhanna Katrín Friðriksdóttir 2018, 289.

<sup>66</sup> Wallem 1909, 14, 40–43; Guðbjörg Kristjánsdóttir 2000, 194.

<sup>67</sup> Wallem 1909, 52–53. Among the most famous altarpieces is the Verdun Altar at the Klosterneuburg Monastery, Austria. A comparatively large number of Norwegian altar frontals have survived, among them the Norwegian-made altar frontal of Möðruvellir, North Iceland, now Reykjavík, National Museum of Iceland, Þjms 6430/1913-5.

<sup>68</sup> Cormack 2017, 245; Guðbjörg Kristjánsdóttir 2000, 194.

than an altar frontal. Wallem assumes that it was a wooden board with paper or parchment on it but does not specify where on the altar he believes it to have been.<sup>69</sup> The altarpiece of the Kaupangur church may have been a larger devotional image printed or painted on paper, similar to the three paper sheets mentioned above, or perhaps it was reinforced with pasteboard at the back.<sup>70</sup> It seems equally probable, though, that it was a small altarpiece made of papier-mâché. Although papier-mâché altarpieces are rare today, they were once fairly common. Papier-mâché, or Cartapesta, has been used in Italy for hollow forms since the 14th century; it had spread to Germany, the Low Countries and Spain by the late Middle Ages.<sup>71</sup> Beaten or ground paper is mixed with water, and sometimes additives for additional strength, and then boiled. The pulp is modelled or pressed into a model and dried or fired, taken out of the model and—in the case of reliefs—fastened onto wooden boards, after which colour and even lustre or gilding can be applied.<sup>72</sup> Common motifs of pre-Reformation papier-mâché reliefs are found in salvation history, Christ on the Cross and the Pietà (the Virgin Mary holding the body of Christ in her arms).<sup>73</sup> Despite their thinness—measuring between one and four millimetres—and the small number of extant reliefs, papier-mâché objects are quite sturdy and robust.<sup>74</sup> Many surviving papier-mâché reliefs are rectangular and measure between c. 20–40 cm in height and width, and a large number are still in their original frame. Given their religious subjects, they were presumably used in devotion. They may have been put into niches of house altars.<sup>75</sup> The complex technological and artistic transfer processes involved in creating models, as well as the individual colouring and gilding, speak to the aesthetic value and artistic merits of papier-mâché objects.<sup>76</sup> Presumably only a few reliefs were made per model, and they must have been rather expensive.<sup>77</sup> Most of the owners of such reliefs are found among the aristocracy and clergy.<sup>78</sup>

Based on this information, we can deduce that the altarpiece that Margrét Vigfúsdóttir donated to the church at Kaupangur was either a painting or woodcut print on paper or was made of papier-mâché.<sup>79</sup> If it was the former, it may have been similar

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**69** Wallem 1909, 53.

**70** Paper was used to create pasteboard in Iran from the 11th century (Bloom 2001, 62) and by the mid-15th century in Italy, from where it spread to the rest of Europe (“Paste-Laminate Board” and “Adhesive-Laminate Board”, in: *Language of Bindings*, <http://w3id.org/lob/concept/1492>; <http://w3id.org/lob/concept/1192> (accessed 16/04/2021)).

**71** Schnütgen 1910, col. 33.

**72** Rieger 2012, 90; Lichte 32; Wilhelm 2004, 78–79; Schnütgen 1910, col. 33.

**73** Lichte 2007; Bierbrodt 1997, 48–63; Demmler 1930; Schnütgen 1910.

**74** Decker 2011, 15, 28, fn. 26; Wilhelm 2004, 29, 41, 55.

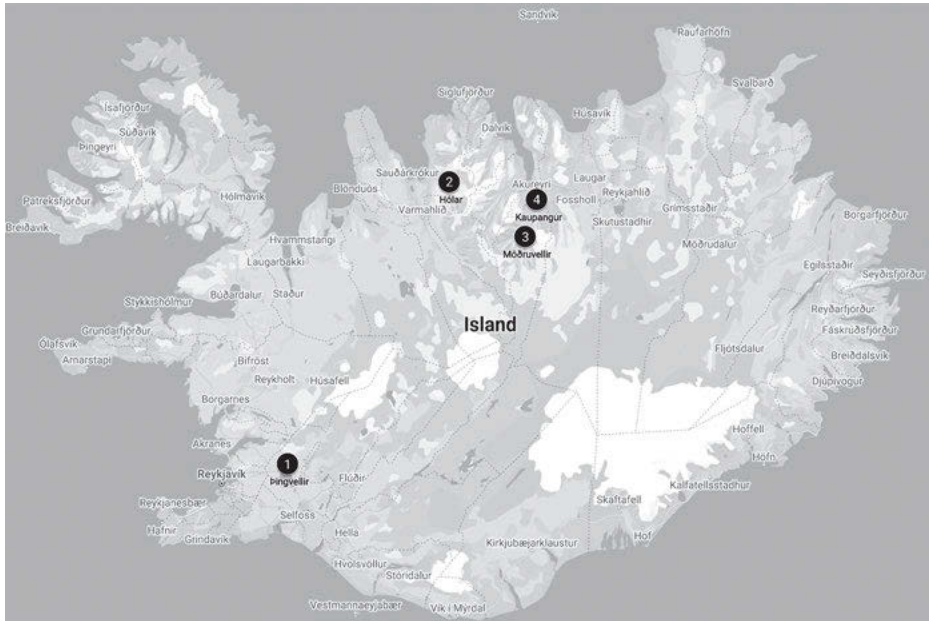
**75** Descheemaeker 2010, 24–25.

**76** Rieger 2012, 90–95; Decker 2011, 17; Wilhelm 2004, 81.

**77** Rieger 2012, 90; Decker 2011, 15.

**78** Decker 2011, 15.

**79** An argument in favour of a papier-mâché relief may be the monetary value of the donations Margrét Vigfúsdóttir made to the churches of three of her farms. She donated objects worth more than 12



**Fig. 3:** Map of Iceland, showing the locations of paper references in 15th-century Iceland: 1 Pingvellir, 2 Hólar, 3 Möðruvellir, 4 Kaupangur.

to the three paper leaves described above. If it was the latter, it was presumably small and rectangular, coloured and perhaps also gilded, though the inventory does not state so, and it could have depicted a scene such as Christ on the Cross or the Pietà. Like the three paper sheets at the Kaupangur church, the altarpiece was perhaps purchased through Hanseatic merchants. In this case it seems likely that the patron, Margrét Vigfúsdóttir, placed an order for the altarpiece.

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hundreds to Möðruvellir (one hundred in this context being equivalent to the value of one cow, or six sheep; see the article by Gunnar Marel Hinriksson in this volume for information on prices and monetary value), objects worth 7 hundreds to the church of Hólar in Eyjafjörður and objects worth 5.5 hundreds to Kaupangur. DI, vol. 5, 302, no. XLII (Kaupangur); 307–308 at 308, no. XLIV (Hólar); 309–310 at 309, no. XLV (Möðruvellir). Comparing the list of objects and their value, it seems that a simple painting on paper as an altarpiece would not justify the worth of the donations to Kaupangur church.

### 3 Paper for Documents, Manuscripts and Books: The 16th Century

Decades pass before we again find references to paper in Icelandic sources, which brings us into the 16th century. Even then, evidence of paper usage is scarce until the 1540s.<sup>80</sup> Several of the references pertain to Bishop Ögmundur Pálsson (c. 1465–1541), bishop of the southern diocese of Skálholt. The *bréfabók* (book of correspondence) that Bishop Ögmundur kept from 1519 until 1540 was made of paper, as copies of the book from the mid-17th century testify.<sup>81</sup> On 3 April 1528, Bishop Ögmundur sent a letter to his colleague, Bishop Jón Arason of Hólar, about an inheritance case.<sup>82</sup> This letter survives, and the watermark in the letter is a small coat of arms with a rearing lion.<sup>83</sup> A few years later, on 13 August 1536, a receipt was issued at Álftamýri in Arnarfjörður in the Westfjords; it was presumably Bishop Ögmundur himself who penned the receipt during his visitation.<sup>84</sup> The statement of two witnesses of a theft were taken at Úlfjótuvatn on 1 September 1539. Among the stolen goods was money from Bishop Ögmundur that one of the witnesses, Jón Loftsson at Eyrarbakki, kept for the bishop.<sup>85</sup> Perhaps an official supplied the paper and penned the document.<sup>86</sup> Jón Loftsson, of whom nothing more is known and who may have been the bishop's retainer or a merchant, perhaps supplied the paper, or the bishop might even have supplied the paper himself.

Bishop Ögmundur studied in England and the Netherlands before he was ordained as a priest in Skálholt in 1499; he was elected as bishop in 1519. In 1520–1522 he stayed abroad in connection with his ordination in Niðarós (Trondheim) in Norway, and he served as bishop of Skálholt until he elected his successor, Gissur Einarsson in 1539; Ögmundur passed away in 1541.<sup>87</sup> From 1499 until at least 1508, he was also captain of the seafaring vessel of the Skálholt diocese,<sup>88</sup> and he was the bishop's agent abroad.<sup>89</sup>

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**80** R-AMI, AM Dipl. Isl. Apogr. 692, an apograph of a charter from 07/01/1508, was copied for Árni Magnússon who explains in a note that the apograph is a copy of an old paper document, however, it is unclear if that paper document was the original charter from 1508. It is likely that the original charter was written on parchment, not paper (Arna Björk Stefánsdóttir 2013, 228). Árni Magnússon, who was specific in his notes, did not mention that the copy was made from the original, and it seems more likely that the apograph was a copy of a (paper) copy.

**81** DI, vol. 8, 701–711 at 702, no. 540.

**82** NAI, AM Dipl. Isl. Fasc. XLVII,13; DI, vol. 9, 446–447, no. 269.

**83** “IS4000-AM-DIF-XLVII\_13”, in: WZIS, [https://www.wasserzeichen-online.de/?ref=IS4000-AM-DIF-XLVII\\_13](https://www.wasserzeichen-online.de/?ref=IS4000-AM-DIF-XLVII_13) (accessed 15/04/2021).

**84** London, British Library, MS Add. 11 099; DI, vol. 10, 81–82, no. 56; Arna Björk Stefánsdóttir 2013, 229.

**85** Copenhagen, Danish National Archives, Island 13; DI, vol. 10, 470–471, no. 196.

**86** Arna Björk Stefánsdóttir 2013, 229.

**87** “Ögmundur Pálsson”, in: *Íslendingabók* (s. d.), [www.islendingabok.is](http://www.islendingabok.is) (accessed 15/04/2021); ÍÆ, vol. 5, 261–262. Cf. Páll Eggert Ólason 1919–1926, vol. 2, 118–348.

**88** ÍÆ, vol. 5, 261.

**89** Páll Eggert Ólason 1919–1926, vol. 2, 122.



Ögmundur would have become acquainted with paper during his studies abroad and in his dealings with foreign merchants, and he had certainly ample opportunity to purchase paper as captain and the bishop's agent, as well during his time abroad as bishop. He surely also had a professional network that would allow him to acquire paper.

We know of only two paper documents from before the 1540s that do not involve Bishop Ögmundur Pálsson. The witness statement of the sale of the farm of Svalbarð in North Iceland on 29 April 1527 was apparently written on paper.<sup>90</sup> On 16 September 1532, the boundaries of the land Engihlíð in North Iceland were confirmed, and this document was also written on paper.<sup>91</sup> The originals unfortunately do not survive, but both instances involved officials who might have been responsible for the penning of the documents,<sup>92</sup> and these officials and other involved parties were rich and powerful. The sale of Svalbarð took place between Þorsteinn Finnbogason (c. 1470–1555), a wealthy *sýslumaður* (sheriff), and Jón *ríki* Magnússon (the Wealthy, 1480–1564), a *lögrettumaður* (member of the public court of law).<sup>93</sup> The document concerning Engihlíð involved Bishop Jón Arason of Hólar and Abbess Sólveig Rafnsdóttir (c. 1470–1562) of the Reynistaðir nunnery, to which Engihlíð belonged. All these individuals must have had the means and opportunity to purchase paper.

Between 1540 and 1570, there was a noticeable rise in paper use for documents and charters. According to the historian Arna Björk Stefánsdóttir, 19 % of all charters were written on paper in the 1540s and 29 % in the 1550s, followed by an inexplicable drop to 12 % in the 1570s; 12 % of all charters from 1500 until 1570 were written on paper.<sup>94</sup> She interprets the drop in the 1570s as a sign that paper had not yet become a common writing material in Iceland.<sup>95</sup> But this dip may be statistically irrelevant, given that the last quarter of the 16th century evidently saw another increase in paper charters. Many paper copies of charters, witness statements, letters and other documents were apparently made in the late 16th and early 17th centuries.

Between the end of the 17th century and 1730, a large number of apographs were made for or by Árne Magnússon (1663–1730), the famous Icelandic manuscript collector, and in several cases he states that the exemplars were made from “old paper”. In one case, the exemplar was presumably the manuscript R-AMI, AM 238 4to, known as *Bessastaðabók*, which was written in c. 1570.<sup>96</sup> In another case Árne states that his exemplar was written in c. 1600.<sup>97</sup> There are furthermore a number of paper manu-

<sup>90</sup> DI, vol. 9, 405–406, no. 333.

<sup>91</sup> R-AMI, AM Dipl. Isl. Fasc. LXXIV, 2; DI, vol. 9, 627–628, no. 519.

<sup>92</sup> Arna Björk Stefánsdóttir 2013, 228–229.

<sup>93</sup> Einar Laxness 1974–1977, vol. 2, 58–59.

<sup>94</sup> Arna Björk Stefánsdóttir 2013, 230–231. Her statistics are based on the edited charters in DI, an edition that only includes documents written in or before 1570.

<sup>95</sup> Arna Björk Stefánsdóttir 2013, 230.

<sup>96</sup> DI, vol. 9, 50.

<sup>97</sup> R-AMI, AM Dipl. Isl. Apogr. 761; DI, vol. 4, 539–530 at 539, no. 575; 548–549 at 548, no. 584.

scripts that contain copies of legal texts, for example Reykjavík, National and University Library of Iceland, ÍB 60 8vo, written around 1600 by Guðmundur Illugason (c. 1550–1617), who was then living at Múli and was a *lögréttumaður*.<sup>98</sup> Such copies were important when legal disputes arose.<sup>99</sup> Surviving copies or references to lost copies are often from the two bishoprics, Hólar and Skálholt. R-AMI, AM Dipl. Isl. Apogr. 2140, containing a church inventory, for example, was copied after a paper document from 1597, which itself was copied from an inventory found in Skálholt.<sup>100</sup>

The rise of paper charters and other documents in Iceland in the 1540s seems to start with Bishop Gissur Einarsson (c. 1512–1548). Gissur came from a poor family, though his aunt was the abbess of Kirkjubæjarklaustur, the nunnery at Kirkjubær; his grandfather was a servant of Ólöf Loftsdóttir (c. 1410–1479), daughter of the above-mentioned Loftur *riki* Guttormsson.<sup>101</sup> At an early age, Gissur became a servant of Bishop Ögmundur, who paid for his schooling in Hamburg for three or four years; Gissur then studied for three years in Wittenberg, where he became a supporter of Lutheranism.<sup>102</sup> Ögmundur sent him on business to Norway in 1536–1537, and afterwards he was ordained as a Catholic priest in Iceland, notwithstanding his Lutheran convictions, and eventually elected as Ögmundur's successor in 1539.<sup>103</sup> Gissur went via Hamburg to Copenhagen, Denmark, where King Christian III confirmed his election; Gissur returned to Iceland in 1540. Two years later he went again to Copenhagen, and this time he was consecrated as the first Lutheran bishop of Skálholt (and Iceland's first Lutheran bishop). He returned to Iceland in 1543.<sup>104</sup> Gissur is known to have translated parts of the Bible into Icelandic before he died in 1548.<sup>105</sup> It is also said that he wrote down everything he heard.<sup>106</sup>

Gissur presumably became acquainted with paper during his time as a young servant of Bishop Ögmundur. During his years in Hamburg and Wittenberg in Germany, where paper had long been a staple of written communication, it must have been his main writing material. And it is presumably in Germany where we find the earliest evidence of his paper purchases. During his stay in Hamburg and Copenhagen between October 1539 and April 1540, he started a notebook in which he kept writing

**98** Páll Eggert Ólason 1918–1937, vol. 3, 14.

**99** Cf. Agnes S. Arnórsdóttir 2010, 428.

**100** DI, vol. 2, 690–692 at 690, no. 434. The inventory was copied into two manuscripts, R-AMI, AM 263 fol. from 1598 and Reykjavík, National and University Library of Iceland, Lbs 268 4to from 1601.

**101** Jón Halldórsson/Jón Þorkelsson/Hannes Þorsteinsson 1903–1915, vol. 1, 7–10; Vilborg Auður Ísleifsdóttir-Bickel 1996, 138–139.

**102** Jón Halldórsson/Jón Þorkelsson/Hannes Þorsteinsson 1903–1915, vol. 1, 10–11; Vilborg Auður Ísleifsdóttir-Bickel 1996, 139.

**103** Jón Halldórsson/Jón Þorkelsson/Hannes Þorsteinsson 1903–1915, vol. 1, 11–13; Vilborg Auður Ísleifsdóttir-Bickel 1996, 140–141.

**104** Páll Eggert Ólason 1919–1926, vol. 2, 358–368; Vilborg Auður Ísleifsdóttir-Bickel 1996, 138, 141–142.

**105** ÍÆ, vol. 2, 86–87; Vilborg Auður Ísleifsdóttir-Bickel 1996, 142.

**106** Páll Eggert Ólason 1919–1926, vol. 2, 281; Vilborg Auður Ísleifsdóttir-Bickel 1996, 143.



9 June 1541.<sup>111</sup> Presumably Huitfeldt supplied Bishop Gissur with paper for that letter.<sup>112</sup> There are also references to a larger number of now lost documents, all on paper. On 17 January 1544, Bishop Gissur agreed to an exchange of property.<sup>113</sup> On 28 June 1545, Bishop Gissur was at Skálholt and confirmed Guðmundur Guðmundsson's final accounts of the church at Álfartunga in Mýrar.<sup>114</sup> Two days later, on 30 June 1545, the bishop proclaimed his absolution of Daði Guðmundsson for adultery.<sup>115</sup> On 1 July 1546, the bishop proclaimed his absolution of Björn Hannesson for fathering a child outside of marriage.<sup>116</sup> On 4 September 1546, the bishop confirmed the Reverend Ari Steinólfsson's account of the church at Laugardalur in Tálknafjörður.<sup>117</sup> On 15 September 1546, at Snóksdalur, the bishop issued a receipt of the provosts' tithe that Daði Guðmundsson had paid.<sup>118</sup> The inventory of Skálholt that was drawn up after Bishop Gissur's death was also apparently written on one side of a large sheet of paper.<sup>119</sup> The inventory of books in the bishop's living quarters include a booklet made of paper, and presumably several paper books printed abroad (see below). Some of the documents that Bishop Gissur drew up were perhaps written on paper supplied by somebody else, but we can assume that for his administrative duties he used paper from his own paper stock, including the paper purchased during his journeys to Hamburg and Copenhagen. Perhaps he also purchased paper from or through his friend and brother-in-law Eggert Hannesson (c. 1516–c. 1583).

Eggert Hannesson wrote the second-oldest surviving paper manuscript, R-AMI, AM 264 fol., shortly after the death of Bishop Gissur Einarsson. Eggert, the brother of Gissur's wife Katrín, was the son of Hannes Eggertsson *hirðstjóri* (governor), a wealthy and powerful magnate originally from Norway.<sup>120</sup> Eggert spent some years of his childhood in Altona, Germany, and he later worked for Bishop Ögmundur, who sent him to Germany and Norway on business; Eggert joined the service of his friend Gissur Einarsson when the latter became bishop.<sup>121</sup> At various points in his life, he held positions as *sýslumaður* (sheriff), *fógeti* (magistrate), *hirðstjóri* (governor) and *lögmaður* (one of two heads of the public court of law)<sup>122</sup> and became extraordinarily affluent.

111 Copenhagen, Danish National Archives, Island 22; DI, vol. 10, 619–620, no. 326.

112 Páll Eggert Ólason 1919–1926, vol. 2, 344.

113 DI, vol. 11, 286–287, no. 252.

114 DI, vol. 11, 418–419, no. 363.

115 DI, vol. 11, 428–429, no. 368.

116 DI, vol. 11, 476–477, no. 415.

117 DI, vol. 11, 494–495, no. 434.

118 DI, vol. 11, 500–501, no. 438.

119 DI, vol. 11, 651–657 at 651, no. 573.

120 ÍÆ, vol. 2, 307; Jón Halldórsson/Jón Þorkelsson/Hannes Þorsteinsson 1903–1915, vol. 1, 47; Vilborg Auður Ísleifsdóttir-Bickel 1996, 148. It was Eggert's mother, Guðrún Björnsdóttir, who disbursed the tithe to Bishop Ögmundur on 13 August 1536, which he confirmed in a receipt written on paper at Álfamýri, see above.

121 ÍÆ, vol. 1, 319; Vilborg Auður Ísleifsdóttir-Bickel 1996, 148–149.

122 Einar Laxness 1974–1977, vol. 2, 53–55; Vilborg Auður Ísleifsdóttir-Bickel 1996, 150–151.

He moved to Hamburg in 1580 and died shortly afterwards.<sup>123</sup> Eggert and his father were heavily involved with trade between Iceland and Hamburg; Eggert held the trade monopoly for two harbours in the Westfjords for some years, and he travelled several times abroad.<sup>124</sup> He met his future brother-in-law Bishop Gissur in Hamburg in 1540, for example, and accompanied him to Copenhagen for his consecration.<sup>125</sup> Eggert's trade involvement and close ties with Hamburg must have made it rather easy for him to acquire paper. AM 264 fol. is a manuscript in five parts, the first of which is also the oldest, dating from 1548–1550 and containing administrative information for the royal property and former monastery at Viðey on 115 leaves. Parts II–III and V contain administrative information for the years 1551–1553, and part IV is a record of Eggert Hannesson's collected revenues and expenses for the years 1551–1553 on 48 leaves.<sup>126</sup> Among his expenses for the year 1552, he lists six quires of paper bought from a certain Hermann Fomme.<sup>127</sup> In AM 264 V fol., we find a reference to a letter written on paper by Eggert, no later than 1553.<sup>128</sup> Parts II–V of this manuscript contain several watermarks. A crown with a bracket and a trefoil appears in parts II and III, a coat of arms with a rooster appears in parts II and IV, a hand with a crown above the fingertips appears in parts II and V, two watermarks with a jug appear in parts II and IV and a hand with a star above the fingertips appears in part V only. This mix of paper may have been the result of an official distributing paper to other officials or to the scribes, and given the variety of watermarks, the various parts may have been assembled from leftover paper stocks. Ff. 2 and 5 of part II comprise a conjoint leaf only half as wide as the rest with the coat of arms watermark that also appears in part IV and may be a later addition.

The crown with a bracket and a trefoil was a common watermark in the 16th century, it seems. This watermark type, with trefoils and five prongs in the crown and a cross with a star on the bracket, appears between c. 1475 and 1573, but most often between c. 1525 and 1565.<sup>129</sup> The coat of arms with a rooster—or hen—banderole (reading perhaps SWVELLE) and a quatrefoil is rather rare, and it might be a variant of a watermark used in Utrecht in 1546.<sup>130</sup> This type of watermark appears in documents used close to the North Sea in Northeast France, the Netherlands, Belgium and Ger-

**123** ÍÆ, vol. 1, 319–320; Vilborg Auður Ísleifsdóttir-Bickel 1996, 153; Bárá Baldursdóttir 1997.

**124** Bárá Baldursdóttir 1997.

**125** Páll Eggert Ólason 1919–1926, vol. 2, 314–315, 358, 366–367; ÍÆ, vol. 1, 319. Koch 1995, 47 and Bárá Baldursdóttir 1997, 34 state that this journey happened in 1542.

**126** Kålund 1889–1894, vol. 1, 239–240; DI, vol. 14, 416–434, no. 222.

**127** AM 264 IV fol.; DI, vol. 14, 416–434 at 434, no. 222.

**128** AM 264 V fol.; DI, vol. 12, 592–598 at 595, no. 324.

**129** “Symbols/insignia—crown—arch consisting in two lines—detached, with additional motif—star (single-contour) over the crown—without further additional motif—star without pearl at foot of shaft—bow with pearl and cross (double-contour)/imperial orb—bow with pearls on outside—rim with pearls and five points”, in: WZIS, <https://www.wasserzeichen-online.de> (accessed 21/04/2021).

**130** Briquet 1907, vol. 2, 273, no. 4485.

many between 1546 and 1558.<sup>131</sup> The hand—or glove—with a crown appears rather often. However, a crowned hand with a three-piece cuff is rather rare and appears in only few documents between 1475 and 1552, though mostly in the 1530s and 1540s.<sup>132</sup> The two watermarks with a jug with one handle form a pair and are the watermarks most often found in this manuscript. Jugs are common watermarks, and this type with a simple lid and one handle appears most often around 1500.<sup>133</sup> Although watermarks with a hand or glove are rather common, watermarks with a hand or glove with a star or flower and a one-piece cuff are rare; several of them appear in the second quarter of the 16th century.<sup>134</sup> Based on this watermark analysis of AM 264 fol., it seems that this manuscript was assembled reasonably soon after the paper was produced, perhaps from various paper stocks and including leftover paper.

It is also possible to identify a number of extant paper documents and references to lost paper documents connected to Eggert Hannesson, not least due to his administrative duties. In 1545, he was a witness of a land purchase contract; the witness statement was written on paper.<sup>135</sup> On 26 August 1553, he confirmed receiving a payment, and the receipts for both parties were written on paper.<sup>136</sup> On 7 October 1558, Eggert wrote a report of a legal case, evidently using a whole sheet of paper, folded once, with text on the first page only and the rest blank; the bottom edge was folded twice and the seal was appended from this plica.<sup>137</sup> R-AMI, AM 267 II 4to is a manuscript preserving Eggert's administrative records for the years 1563–1564.<sup>138</sup> In 1576, Eggert Hannesson wrote a transcript on paper of Bishop Gissur's confirmation of accounts with regard to Bishop Ögmundur.<sup>139</sup>

Bishop Gissur Einarsson's colleague from the northern diocese of Hólar, Bishop Jón Arason (1484–1550), is connected to the introduction of paper to Iceland, too. He

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**131** Briquet 1907, vol. 2, 273, no. 4485.

**132** “Figures, anthropomorphic—hand/glove—with additional motif—crown—without further additional motif—three-piece cuff”, in: WZIS, <https://www.wasserzeichen-online.de> (accessed 21/04/2021).

**133** “Artefacts—drinking vessel—jug—with simple lid—one handle—cross (consisting in one line)—without further additional motif—handle consisting in one line—bulge with lines”, in: WZIS, <https://www.wasserzeichen-online.de> (accessed 21/04/2021).

**134** “Figures, anthropomorphic—hand/glove—with additional motif—flower/leaf/star—five-petalled—without further additional motif—leaves/rays pointed—with circle in blossom/rays—without rod—one-piece cuff”, in: WZIS, <https://www.wasserzeichen-online.de> (accessed 21/04/2021).

**135** DI, vol. 12, 96–98 at 97, no. 66. The second witness was Gísli Jónsson (c. 1515–1587), who was in the service of Bishop Ögmundur and who was one of the driving forces of the Reformation at Skálholt, later bishop of Skálholt and, together with Bishop Gissur Einarsson and Oddur Gottskálksson, a translator of large parts of the Bible (Páll Eggert Ólason 1919–1926, vol. 2, 273–274). Gísli Jónsson had two notebooks made of paper (DI, vol. 1, 253).

**136** DI, vol. 12, 609–611, no. 336.

**137** DI, vol. 13, 339–441, no. 254. Perhaps Eggert folded the sheet horizontally, since the document is described as having a landscape format.

**138** Kålund 1889–1894, vol. 1, 523–524.

**139** DI, vol. 12, 87–88, no. 56.

came from a humble background, although he belonged to a learned family, and was educated at the monastery at Munkaþverá, where his maternal uncle was abbot. He was ordained as priest in 1507, became provost the following year and steward of Hólar in 1514; he also worked for Bishop Gottskálk Nikulásson, who sent him to Norway twice.<sup>140</sup> He was elected as *officialis* (official, bishop's proxy and judicial authority) of Hólar after the death of Bishop Gottskálk in 1520 and was consecrated as bishop in 1524. Jón's career as bishop was marked by controversy and even violence. The newly consecrated Catholic bishop of Skálholt, Ögmundur Pálsson, strongly opposed Jón's election as bishop. Disputes between the wealthy magnate and *lögmaður* Teitur Þorleifsson (d. 1537) and Jón were destructive and protracted, and although he behaved cautiously during Bishop Gissur Einarsson's lifetime, he tried to gain control over Skálholt after Gissur's death.<sup>141</sup> Jón Arason strongly and violently opposed the Reformation, had Gissur's successor taken hostage and tried to oust all leading Lutherans before being finally taken prisoner and executed in 1550.<sup>142</sup> During his lifetime, Bishop Jón Arason made good use of paper for both official and administrative uses, even though few paper documents (or evidence of them) have survived from his episcopacy.<sup>143</sup> In c. 1534, he gave a statement about his dealings with Páll Vigfússon, which was apparently written on paper.<sup>144</sup> The bishop was among the officials who sent a letter to King Christian III on 30 June 1540; the Low German translation was written on paper and bears the bishop's seal.<sup>145</sup> The bishop sent a surviving paper letter to Christoffer Huitfeldt on 27 June 1541, excusing himself from participating in the Alþingi, the national assembly.<sup>146</sup> On 23 May 1542, the bishop confirmed that he had sold a farm, and the confirmation was written on paper and kept in a chest at Hólar.<sup>147</sup> On 30 July 1542, Bishop Jón sent another letter to the king.<sup>148</sup> The bishop also certainly bought books printed on paper, as some of the church inventories of the 16th century prove, see below.

A large part of Bishop Jón Arason's paper stock must have been reserved for his printing press, which was the first printing press in Iceland. It was presumably at the instigation of the bishop that the Swedish priest and printer Jón Matthíasson came with a small printing press to Iceland around the year 1530.<sup>149</sup> The first work ever

**140** ÍÆ, vol. 3, 41; Páll Eggert Ólason 1919–1926, vol. 1, 18–30; Vilborg Auður Ísleifsdóttir-Bickel 1996, 93.

**141** ÍÆ, vol. 3, 41; Páll Eggert Ólason 1919–1926, vol. 1, 48–94, 135–187, 252–337; Vilborg Auður Ísleifsdóttir-Bickel 1996, 89–90, 93–104. In spring 1525, Bishop Jón returned to Iceland via Hamburg. Sigurður Líndal 1974–2016, vol. 6, 4, 39.

**142** ÍÆ, vol. 3, 41; Páll Eggert Ólason 1919–1926, vol. 1, 337–393; Vilborg Auður Ísleifsdóttir-Bickel 1996.

**143** DI, vol. 11, 155–156, no. 147.

**144** DI, vol. 9, 570–572 at 571, no. 471 B.

**145** Copenhagen, Danish National Archive, Island, Færøe og Grönland 18; DI, vol. 10, 536–542, no. 248.

**146** Copenhagen, Danish National Archive, Island 27; DI, vol. 10, 624–626, no. 331.

**147** DI, vol. 11, 122–123 at 122, no. 119.

**148** Copenhagen, Danish National Archives, Island 27; DI, vol. 11, 155–156, no. 147.

**149** Halldór Hermannsson 1916, i.

to be printed was apparently a breviary, the *Breviarium Holense* from 1534, of which only two fragmentary leaves in octavo preserved in a binding in the National Library of Sweden in Stockholm are extant.<sup>150</sup> The two extant fragments bear text from the *sanctorale* (texts for fixed feasts) and the foliation “Ilij” and “Iliij”, respectively. The breviary is said to have closely followed the *Breviarium Nidrosiense*, the breviary of the Niðarós (Trondheim) diocese in Norway, which was printed in Paris in 1519, and although the Icelandic breviary may not have contained all parts of the Norwegian exemplar, it presumably contained the Psalms and a calendar,<sup>151</sup> in addition to the *sanctorale*.<sup>152</sup> These three parts fill 493 pages in octavo in the Norwegian breviary,<sup>153</sup> for which more than 30 sheets of paper would have been needed, perhaps 31 if we include a title page and a short preface. The foliation of the two Icelandic fragments reveals that there were at least 33 quires or sheets.

In the mid-15th century, there were 109 main churches in the Hólar diocese and 220 in the larger Skálholt diocese, with a total of 400–450 ordained priests.<sup>154</sup> Depending on the intended users that Bishop Jón wanted to supply with a printed copy of the breviary (only the main churches of his see, all churches in Iceland or all priests in Iceland), he would have needed somewhere between 3 300 and 14 850 sheets of printing paper. It would be logical for the Icelandic breviary to also contain the *temporale* (texts for movable feasts), which comprised 324 pages in the Norwegian breviary. Together, the *temporale* and *sanctorale* cover the liturgical year of the Roman Catholic church.<sup>155</sup>

For the *temporale*, Bishop Jón would have needed an extra of at least 20 sheets per copy, or between approx. 2 000 and 9 000 additional sheets for the whole edition. If the Hólar breviary contained all the same texts as its Norwegian exemplar, which comprised 898 pages (more than 56 sheets), between approx. 5 600 and 25 000 sheets in total would have been needed. These are certainly high numbers, particularly for a small island in the middle of the North Atlantic that had to import all paper from abroad. Perhaps the difficulty of obtaining sufficient paper stocks was one of the reasons why perhaps only one other book was printed during Bishop Jón’s time: the Gospels translated into Icelandic.<sup>156</sup> An entry in one of the 16th-century church inventories may refer to this translation, see below. Or perhaps the bishop preferred weapons of steel to weapons of paper and ink.

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**150** Halldór Hermannsson 1916, i–ii, 1–2.

**151** Halldór Hermannsson 1916, 1–2.

**152** Collijn 1914.

**153** “Breviarium Nidrosiense”, in: *Store norske leksikon*, [https://snl.no/Breviarium\\_Nidrosiense](https://snl.no/Breviarium_Nidrosiense) (accessed 21/04/2021).

**154** Gunnar F. Guðmundsson 2000, 181. Priests performed rites of the holy sacraments in main churches and read the office every Sunday, and the tithe was paid to main churches. In smaller churches or chapels the office was read less frequently.

**155** “Sanctuale”, in: *Oxford English Dictionary*, <https://www.oed.com> (accessed 21/04/2021).

**156** Björn S. Stefánsson 1990. It must be noted, though, that very little is known about the printing press in Iceland until the 1570s.



While paper usage for documents rose between 1540 and 1570, the printing press was barely used by Bishop Jón Arason's successor, Ólafur Hjaltason. His colleagues from the southern diocese of Skálholt had books printed abroad.<sup>157</sup> This changed when Bishop Guðbrandur Þorláksson (1541–1627) was consecrated as bishop of Hólar in 1571 and took over the printing press. Guðbrandur was related to well-known people; he attended the Latin school in Hólar between 1553 and 1559 and was the school's assistant teacher for one year, after which he went abroad to study at the University of Copenhagen in 1560.<sup>158</sup> He graduated in 1564 and returned to Iceland to become headmaster of the Latin school in Skálholt; three years later he was appointed minister of Breiðabólstaður in Vesturhóp in Northwest Iceland but spent the winter of 1568–1569 in Copenhagen on family business.<sup>159</sup> Upon his return he became the headmaster at the school in Hólar. He was ordained as bishop in 1571 and married the following year; in 1624 he suffered from a stroke and passed away three years later.<sup>160</sup>

Bishop Guðbrandur was one of the most important and influential figures of early modern Iceland. He “played a dominant role in the affairs of the whole country through his incessant work for the promotion of the Lutheran church and humanism, leaving, for example, a significant impression on education and book-printing”.<sup>161</sup> It is perhaps through printing that his influence is felt most strongly today. During his time as bishop, one hundred books were printed that the bishop wrote, added prefaces to, translated and/or published; 79 of them are extant.<sup>162</sup> Although almost all books are of a religious-liturgical nature, he also published a small number of other books, such as the Icelandic lawbook *Jónsbók*.<sup>163</sup> His most important work was the Bible, printed for the first time in its entirety in Icelandic in 1584 and commonly known as *Guðbrandsbiblíá*; it is a masterpiece of Icelandic printing.<sup>164</sup> By 1600, he had printed 41 books and booklets, including the Bible: 6 in the second half of the 1570s, 8 in the 1580s and 27 in the 1590s, including 1600.<sup>165</sup>

It is notoriously difficult to ascertain print runs of early books.<sup>166</sup> The print run of only two of these books is known: 500 copies of the Bible and 375 of the 1589 hymnal.<sup>167</sup>

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157 Halldór Hermannsson 1916, 2–17.

158 ÍÆ, vol. 2, 114; Páll Eggert Ólason 1919–1926, vol. 3, 425–445.

159 ÍÆ, vol. 2, 114; Páll Eggert Ólason 1919–1926, vol. 3, 464–479.

160 ÍÆ, vol. 2, 114; Páll Eggert Ólason 1919–1926, vol. 3, 464, 494–497, 749.

161 Sigurður Pétursson 2019, 215.

162 Einar G. Pétursson 2006, 583–585.

163 Einar G. Pétursson 2006, 579–587. The only other books that were not printed for the use of the clergy or lay audiences in a religious context are the *Morðbréfabæklingar* 1592–1608 about a court case in which Bishop Guðbrandur was entangled and *Anatome Blefkeniana*, a learned work by Arngrímur Jónsson trying to eradicate misconceptions foreign scholars held about Iceland.

164 Guðrún Kvaran 1997, 147.

165 Halldór Hermannsson 1916, 17–68.

166 Eisermann 2017.

167 Einar G. Pétursson 2006, 581; Jón Þorkelsson 1912, 19.

For other titles, it is perhaps safest to assume a print run of 100 copies (i. e., one copy for each church in the Hólar diocese) at minimum. With these estimated and known print runs—and ignoring possible or known copies printed on parchment—Bishop Guðbrandur would have needed more than 230 000 sheets of paper, or more than 46 bales of paper, for all 41 books printed in and before 1600.<sup>168</sup> For the hymnal, printed on 12+233+6 pages in octavo, he would have needed more than 31 sheets per copy, and 11 672 sheets—more than two bales of printing paper—for the whole print run. For the Bible, printed on 1250 pages in folio, at least 313 sheets of paper were needed for each copy: 313 reams of paper, or more than 31 bales, for the whole print run.

It comes as no surprise that the bishop faced difficulties in his quest for paper. In 1573, before he embarked on his printing endeavours, he asked his friend and mentor Poul Madsen (1527–1590), a professor at the University of Copenhagen and Bishop of Sjælland, for paper: “12 fasciculi tum in vsum scolę tum etiam ad inprimendvm aliquot libellos scolę et ecclesię huic vtiles” (twelve reams to be used at school and to print books to be used at school and church).<sup>169</sup> Watermark analysis allows us to establish where some of the paper used for the Bible came from. Besides paper without watermark, we find paper with three watermarks, including pairs and variants, in seven copies in Icelandic repositories, one of which was identified: a large crowned ligature of the initials VE. It appears in paper used between 1578 and 1601 in Finland, Dorpat (Tartu), Hamburg, Rostock, Schwerin, Güstrow, Grabow and Neukloster.<sup>170</sup> Several of the towns were members of the Hanseatic league and geographically close to each other. Based on this geographical distribution and the shape of the crown—a ducal hat—it seems likely that the paper was produced in one of the duchies in North-east Germany, perhaps in Schleswig-Holstein, and that Hanseatic merchants distributed it.

Bishop Guðbrandur Þorláksson needed a much smaller yet no less important supply of paper for his official and administrative duties. He had to supply needy pupils of the Latin school with necessities, including paper, as was stated in the decree for Latin schools in Iceland from 1552.<sup>171</sup> Furthermore, four of his manuscripts are extant: R-AMI, AM 241 a and b 4to, AM 242 4to and Reykjavík, National Archives of Iceland

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**168** 25 sheets of printing paper (or 24 sheets of writing paper) comprise one quire, 20 quires comprise one ream and 10 reams comprise one bale. Papers of different quality were commonly mixed in one ream. Schultz 2018, 167–169.

**169** Guðbrandur Þorláksson 1919–1942, 40–41, at 40, no. 44. The meaning of “fasciculi” as used by Guðbrandur in his letter is not entirely clear: 12 quires would seem too small, hence the translation as reams. A translation of bales would be unlikely yet possible: 12 bales would have covered the printing of his books (assuming an estimated print run of 100) from 1575 until 1584, with enough paper to print parts of the Bible.

**170** Lindberg 1998, A 122, A 192, no. 617; Briquet 1907, vol. 3, 509, no. 9718; Wasserzeichen Informationssystem, <https://www.wasserzeichen-online.de> (accessed 21 April 2021).

**171** DI, vol. 12, 363–369 at 366, 369, no. 203.

(henceforth NAI), Bps B VIII 2.<sup>172</sup> AM 241 a 4to is a book of correspondence for the years 1571–1576, written on 83 leaves.<sup>173</sup> The manuscript contains two watermarks, a fragmentary coat of arms with the initials IA or AI below and a crowned coat of arms with the letter B inside. Neither watermark has been identified yet, although watermarks similar to the coat of arms with the letter B are found in paper used in today's France, Belgium and Netherlands (and in a few instances in Germany) between 1556 and 1581, though mostly in the 1560s and 1570s; such paper is believed to have been produced in France.<sup>174</sup> AM 241 b 4to is a book of correspondence for the years 1576–1584 on 88 leaves. Variants and pairs of the coat of arms with the letter B are found in this manuscript, too, suggesting that it was made with the same paper as AM 241 a 4to, apart from an inserted slip of parchment and several paper leaves in smaller sizes. These smaller leaves and slips of paper must stem from a different paper stock, since the material properties are different, such as the distance between chainlines or, where visible, watermarks. Perhaps they were some leftover sheets of paper or parts of paper sheets. In some cases, these smaller slips are recycled letters and notes, indicating that Bishop Guðbrandur used paper sparingly and economically. AM 242 4to is a notebook for the years 1568–1589, written over the course of many years with different inks and in different hands. It comprises 130 leaves, most of which are in 4to and which bear three different watermarks. The watermarks found in ff. 3–82 are a crowned and split coat of arms with an eagle and diagonal beams (the coat of arms of Nuremberg, Germany); a small unidentified coat of arms; and a third coat of arms that may be the countermark of the second. However, as these two watermarks are only faintly visible it has been impossible to identify them. Folios 158–161 are inserted and still conjoint leaves in octavo, comprising one half-sheet of paper. The distances between chainlines of these leaves are the same as in ff. 52–55 in AM 241 b 4to, suggesting that Bishop Guðbrandur used two halves of one sheet of paper for inserted leaves and placed them in two different manuscripts. Bps B VIII 2, a notebook, comprises 166 leaves in various formats in 23 irregular quires. Several quires contain watermarks, mostly coats of arms that are fragmentary and remain therefore unidentified. The manuscript's first quire, which is in agenda quarto, and its last three quires, which are in quarto, contain two different watermarks of a coat of arms with a rhombic wreath and horizontal dashes, presumably the coat of Saxony; the paper was thus most likely produced in the Electorate of Saxony. The majority of the quires contain a watermark with the coat of arms of Nuremberg, though different versions of the ones found in AM 242 4to.

Unfortunately, it has proved impossible to find a precise dating or localisation of these watermarks or the paper mills that produced them. We can, however, calculate how much paper Bishop Guðbrandur needed for his manuscripts. For the 83 leaves

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172 AM 241 a and b 4to and AM 242 4to are edited in Guðbrandur Þorláksson 1919–1942; an edition of Bps B VIII 2 is in preparation (Gunnar Örn Hannesson, personal communication 01/10/2021).

173 Kålund 1889–1894, vol. 1, 508–509.

174 Briquet 1907, vol. 3, 433, 436, no. 8069–8071.

of AM 241 a 4to, he must have used approx.  $18\frac{3}{4}$  sheets of paper. For the 88 leaves of AM 241 b 4to, he used a maximum of 22 sheets of paper (and perhaps as little as  $15\frac{1}{2}$  sheets, plus parts of sheets that amount to  $3\frac{1}{2}$  sheets plus leftovers or recycled paper). For the 130 leaves of AM 242 4to, he used a maximum of 32 sheets of paper. Finally, for the 166 leaves in octavo, quarto and agenda quarto of Bps B VIII 2, he used no more than 38 sheets. This gives a maximum total of  $110\frac{3}{4}$  sheets of paper. Given the quire structures with numerous singletons and various formats of leaves and inserted slips of paper in these four manuscripts, this number is only an estimate. The bishop obviously utilised some leftover paper for his manuscripts, as well as recycled paper, and he may thus have needed fewer sheets of paper. It becomes clear that the bishop prepared his manuscripts both carefully and thriftily; he apparently had access to a stack of paper but also made good use of leftovers and recycled paper.

The rise of paper manuscripts came considerably later than the rise of paper charters. It seems that there were only few manuscripts written on paper in the 16th century, and only two of the surviving paper manuscripts are from the first half of the 16th century: the aforementioned AM 232 8vo and AM 264 fol. The earliest known paper manuscripts were manuscripts with administrative contents, as well as notebooks and books of correspondence of bishops, who also made use of paper for letters and documents, for example bishops Ögmundur Pálsson and Gissur Einarsson. Even so, between one fourth and one third of all manuscripts from the second half of the 16th century were written on paper, and it seems that paper was increasingly used for manuscripts in the last two decades of the century.<sup>175</sup> The rise of paper manuscripts is concurrent with the increased use of the printing press in the late 16th century.<sup>176</sup> However, the increased use of the printing press is not the only reason behind the increase of paper manuscripts. The introduction of the new writing material happened ‘top-to-bottom’, and we can clearly see that those who first used paper were affluent and well-educated people who usually spent time abroad for their studies or on business and had opportunities as well as means to purchase paper.

Another factor behind the rise of paper manuscripts may be generic conventions (see Tab. 1 with the distribution of paper manuscripts among different textual genres). The analysis of paper manuscripts according to textual genre may be biased due to the loss of manuscripts and difficulties in ascribing one textual genre to multi-text manuscripts. There are nevertheless some clear tendencies. Very few manuscripts containing literature were written on paper. Among non-literary manuscripts, administration, rhetorics and history are the most common genres of paper manuscripts. Although legal paper manuscripts are high in absolute numbers, they only account for approx. one third of all legal manuscripts. The number of paper manuscripts with religious or devotional contents (c. one fifth) are even lower. Only one computistic manuscript

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<sup>175</sup> Arna Björk Stefánsdóttir 2013, 231–232. Her statistics differ slightly from mine, although the overall tendencies are the same.

<sup>176</sup> Arna Björk Stefánsdóttir 2013, 232–234.

**Tab. 1:** Percentage of paper manuscripts in 16th-century manuscripts, according to textual genre.

Textual Genre	Total	Parchment	Paper	% Paper
Prose Literature	38	36	2	5 %
Poetry	15	15	0	0 %
Education	6	5	1	20 %
History	8	3	5	63 %
Law	108	76	32	30 %
Computistics	13	12	1	8 %
Science, Medicine	5	3	2	40 %
Religion/Devotion	43	34	9	21 %
Rhetorics	3	0	3	100 %
Administration	17	2	15	88 %
Other	4	1	3	75 %
Total	260	187	73	28 %

was written on paper. Perhaps these were the most conservative textual genres. It is striking, though, that these were the textual genres that were the first to be printed in Iceland. The scribes of the parchment manuscripts were perhaps not able to purchase paper, or perhaps they simply preferred the ‘traditional’ material of parchment for the ‘traditional’ method of handwriting. Among the administrative paper manuscripts, we find many church inventories and information on royal property, and many of them were written by the wealthiest and most influential Icelanders. There is thus a clear connection between paper usage and the top level of Icelandic society.

A small number of references in church inventories pertain to paper books, most of which are, of course, missals. No distinction is made between printed or handwritten books. In some cases, the books are described as new. A “messobok nyia med pappir fyrir iiic” (a new missal, made of paper, worth 3 hundreds) was donated to the church at Ás in Kelduhverfi in Northeast Iceland no later than September 1553.<sup>177</sup> Other books were presumably used, or second-hand, for example a missal listed among the objects of the church at Reykir in Tungusveit, North Iceland. The church had received a missal including the canon, described as new, as well as a “messobok med kana. per anni circulum sett uerk med pappír” (a missal including the canon, for the whole church year, made of paper) between 1523 and 1537.<sup>178</sup> The paper missal must have

<sup>177</sup> DI, vol. 12, 614–615 at 614, no. 339. One hundred was the equivalent of one cow, or six sheep.

<sup>178</sup> DI, vol. 10, 115–116, no. 93.

been second-hand. Most inventories of churches list only one paper book, apart from the churches at the episcopal sees of Hólar and Skálholt. In various buildings at Hólar, for which we have several inventories from the 16th century, we find a number of paper books: a missal, a passion, an English breviary, seventeen Icelandic breviaries (presumably copies of the breviary printed by Bishop Jón Arason in 1534), the Gospels in Icelandic (perhaps a copy of the Gospels printed by Bishop Jón Arason), a booklet with several texts (including the legend of the Virgin Mary) and some tattered old books.<sup>179</sup>

Apart from these paper books, the inventories certainly listed books without stating that they were made of paper. At the Latin school in Hólar we find, for example, a “*musica Nichulai Listeni*”, a printed book on music by the German composer Nikolaus Listenius (b. c. 1510) that was first published in 1537.<sup>180</sup> The Skálholt diocese must have had a number of paper books, too, even though only one is mentioned. A paper booklet containing Jesus Syrach and Proverbs in Icelandic was found in the *biskupsstofa*, the living room of Bishop Gissur Einarsson, in 1548.<sup>181</sup> Those contained perhaps his own translations; he is said to have translated these two books of the Bible.<sup>182</sup> But surely several of the thirty Latin and German books and the two Danish postils that the Bishop owned were made of paper, too.<sup>183</sup> Perhaps the author of this inventory thought it only noteworthy that the Icelandic booklet was written on paper, but not the (presumably printed) Latin, German and Danish books. If so, then perhaps paper per se was no longer a novelty in the mid-16th century but Icelandic paper books were still unusual and out of the ordinary.

## 4 Summary and Conclusions

The introduction of paper in Iceland in the 15th and 16th centuries is intriguing and multifaceted. It happened at a fairly late date, when paper had already been established for writing, wrapping and other purposes in most of Europe. Parallel to contemporaneous continental use, paper was first used in Iceland not only as a writing material but also for devotional objects—the altarpiece and three paper leaves at the church in Kaupangur in North Iceland—and other, more practical uses such as paper seals. The first users of paper in Iceland belonged to the absolute uppermost echelons of society: a bishop (and perhaps the bishop’s retinue), the wealthiest and most influential citizens and perhaps also the governor. It is also striking that the earliest users include leading members of one particular family, that of Loftur Guttormsson from

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**179** DI, vol. 9, 293–334 at 298, no. 266–278; vol. 11, 848–880 at 852–853, no. 688, 852, fn. 3; vol 15, 212–231 at 213, 214, no. 161.

**180** DI, vol 15, 212–231 at 215, no. 161.

**181** DI, vol. 11, 651–657 at 653, no. 573.

**182** Jón Halldórsson/Jón Þorkelsson/Hannes Þorsteinsson 1903–1915, vol. 1, 58.

**183** DI, vol. 11, 651–657 at 652, no. 573.

Möðruvellir. He and his family most certainly had both the means and the opportunities to become acquainted with and acquire paper on their journeys abroad, through contact with foreign merchants or through personal networks abroad. Initially, paper was not used for original charters but for copies and for witness statements. Although the slow speed with which paper came to supplant parchment and wax tablets as writing material is similar to that observed in other countries,<sup>184</sup> it comes perhaps as a surprise how few and perfunctory references to and evidence of paper are: there is one extant and one lost use of paper in the early 1420s, an extant use in 1437 and some lost uses around 1470, followed by a gap of 50 years or longer that brings us well into the 16th century. Presumably, paper did continue to be used during this period. Much must have perished in the turmoil of the Reformation and in the inhospitable Icelandic housing conditions of the past, but the lack of evidence is nevertheless surprising for this highly literate society with such a large written heritage. Around the mid-16th century, the use of paper for charters and documents rose. Nevertheless, original charters seem to have been seldom written on paper. Instead, it was material such as letters, receipts, description of legal cases, witness statements and similar documents that was penned on paper. In addition, the last quarter of the 16th century saw a rise in paper copies of older legal documents. Similar tendencies can be observed for paper manuscripts. It was particularly administrative material that was first written down on paper, such as notebooks, books of correspondence, church inventories and accounts—in short, mostly notes or copies.

During the last quarter of the 16th century, Bishop Guðbrandur Þorláksson began to use the printing press for increasingly ambitious publication projects. He was rather vocal about the difficulties he encountered, including the scarcity of paper available to him. Nonetheless, he managed to produce a multitude of books, mostly for liturgy and private devotion, among which his printing of the complete Bible in Icelandic stands out, not least because of the vast amount of paper required.

This survey has shown that people who used paper in Iceland before 1600 used it for all kinds of writing: printed books, handwritten manuscripts, charters and documents, and particularly often for notes and copies, even though there was a slight chronological lag between the rise of paper charters starting in the 1540s, the rise of paper manuscripts in the second half of the 16th century and the rise of print in the last quarter of the 16th century.

It comes perhaps as no surprise that most of the evidence of early paper use in Iceland pertains to Iceland's most influential people. After all, they were the leading people of the country and had the means and opportunity to acquire paper, something that a common farmhand most certainly was not able to do. The social status of paper users underlines that paper in 15th- and 16th-century Iceland was a luxury, a scarce import that was available to only few and therefore specifically mentioned when it was used.

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<sup>184</sup> Hufnagel 2020.

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Paul M. Dover

# The Impacts of Paper's Abundance, 1450–1650

An Episode in Coevolution

## 1 Paper Stories and Coevolution

The 'paper stories' that comprise this volume depict a widening and deepening relationship between Europeans and their paper, whether between the covers of their books, accumulating on their desks or filed away in bags, cabinets and archives. Paper became a vital medium of transactions, the storehouse of personal, familial and institutional memory, an essential vector of communication, the foundational material of bureaucracies and both the facilitator and end product of learning. Whether or not Europeans desired these developments or anticipated and approved of their repercussions, paper impressed with ink found itself at the centre of their lives.

The 'paper story' I offer here is a novel way of looking at the story of paper. I will suggest that the analytical approaches of evolutionary biologists can be fruitfully applied to the European history of paper and that European culture and its paper instruments changed in tandem in a complimentary historical relationship. Europeans deepened and diversified their relationship with paper, and the contours of this relationship ended up moulding attitudes, assumptions, routines, institutional cultures and even epistemologies. At the same time, the political, social and cultural practices that came to prevail shaped the forms that paper assumed, the social niches in which it could be found and (most profoundly) the sheer volume in which it was employed. Thus, the conduct of commerce, the exercise of political power, the pursuit of knowledge and the means of communication all coevolved with the morphology, distribution and abundance of paper in European society.

Borrowing methodologies and analytical frameworks from other disciplines has a long lineage among historians, and recently there has been widespread interest in the application of evolutionary modes of thought. Below I will discuss some of the proposals made, by historians and scientists alike, to apply evolutionary science to analysis of the human past. Then I will suggest some specific ways that an approach informed by evolution might be applied to the emergence of an early modern European culture of paper. I reframe it as an episode of what evolutionary biologists call 'coevolution'. Coevolution is now considered a fundamental feature in the history of life on earth, with evolutionary partners, often as part of a larger mosaic of organisms, undergoing changes as a result of their interactions. While I will resist the more totalising applications of evolution to human culture, I nonetheless believe that seeing the story of early modern paper through the lens of coevolution can help us to explain how and why large parts of Europe became a culture of paper.

The story of European paper is one of adoption, rather than invention. Although it had been present and available for centuries, its use proliferated in the late Middle Ages as a response to a set of perceived needs; it took root when the fit was right. In the early modern period, the European embrace of paper widened and deepened in a plethora of ways both intentional and unforeseen. As this happened, the quotidian use of paper, in ways profound and subtle, impacted the political, social and cultural practices employing this material substrate. At the same time, these shifting practices determined the sorts of paper instruments that were devised and used, the variety of places where such instruments could be found in use, the ends to which they were directed and the sheer volume in which they appeared. The sectors of early modern society where this dynamic played out were manifold. The conduct of statecraft, the pursuit of profit, the search for knowledge and the nature of interpersonal communication all changed in substantial ways with the recourse to paper as the essential mediatory medium. Paper was an essential change agent in a culture increasingly concerned with modes and methods of information production, dispersal and management. Paper met a growing array of existing political, social and cultural needs and was deployed for an expanding list of purposes, creating new cultural assumptions and corresponding practices. It did so in a diverse array of medial forms, manuscript, print and hybrid.

To assume these forms, of course, paper must be acted upon by its human partners—it only has power within a constellation of social relations and cultural practices. We have become accustomed to regarding paper as a blank space, an accepting receptacle for ink and ideas; indeed, the vacant, receptive whiteness of paper was a common trope in early modern Europe. But also remarked upon was the great flexibility of paper, and this allowed it to be a participant in the very changes that it helped bring about. The English Baptist minister Christopher Blackwood, writing in 1654, paralleled the act of writing on blank paper with God writing on the will of a Christian convert: “We will when we will, but God makes us for to will [...] As my paper whereon I write, receives the ink passively, and brings nothing of its own to the writing”. But Blackwood then proceeded to qualify that passivity: “being written upon, it becomes an instrument with my writing; and as I write more and more, so it still cooperates with me, though in itself there be no natural beginning of the writing”.<sup>1</sup>

As an inscribable surface that offered a variety of mechanisms of conveyance and storage, paper was the essential co-participant in the many changes in information processing and management that transpired in early modern Europe. Paper is not an organism, but a material (and thus without inheritable traits), but as Christopher Hall has written, “[m]aterials are materials because inventive people find ingenious things to do with them”.<sup>2</sup> Among other things, the early modern period saw the invention of ‘paperwork’, of the ‘paper state’, of keeping one’s ‘papers’, of an industry of print diverse in output and clientele and of a culture of correspondence that I have else-

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1 Smith 2017, 6.

2 Hall 2014, xiii.

where called the 'letterocracy'.<sup>3</sup> None of these would have been conceivable without abundant paper.

Paper was a disruptor, a major change agent of cultural practices and expectations. As it had been introduced by humans, it was also an anthropogenic disruptor, one of many that have driven cultural adaptation in the human past. Human society has been forced to adapt in manifold ways to the introduction of agriculture, writing, the internal combustion engine and now global warming, all of which came about due to human choices and actions. The broadest-scale 'paper story' of early modern Europe is one of paper assuming novel and expanded roles, occupying new niches and assuming a great diversity of forms that medieval Europeans would scarcely have thought of. Were it an organism, its proliferation would represent an evolutionary triumph. In many ways, Europeans and their paper coevolved in early modern Europe, and neither European society nor the paper that it used looked the same at the end of this extended period of coevolution.

## 1.1 Evolutionary History

Modern evolutionary theory seeks to explain change, also an essential remit of historians. Like history, it tends to emphasise the importance of contingency, accident and random occurrence and is suspicious of narratives of seamless progress. The Harvard evolutionary biologist Stephen Jay Gould pointed out that the story told by evolution is "not the conventional tale of steadily increasing excellence, complexity, and diversity".<sup>4</sup> Sensitivity to variability and interdependence are also essential features of evolutionary science. The resonances with the history of human societies, which, after all, are complex, living, natural and changing systems, are manifest.

Many of the essential questions of evolutionary biology also apply to historical inquiry. Does historical change have a preferred direction? What are the motors of historical change—does it come about chiefly because of organic and sociocultural pressures from the outside (externalism) or from internal dynamics that exist within the systems themselves (internalism)? And what is the tempo and pattern of historical change—is it gradual or saltational? That the methodologies and sensitivities of the sciences offer models and opportunities for historians has been emphasised by scientists and historians alike. Gould, especially later in his career, was a tireless advocate for what his colleague E. O. Wilson called 'consilience' between humanities and the sciences (and particularly evolutionary biology).<sup>5</sup> Both Wilson and Gould saw their reconciliation as one of the chief intellectual projects of the 21st century. Gould wrote:

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<sup>3</sup> On the 'letterocracy', see Dover 2021, 106–132.

<sup>4</sup> Gould 1989, 25.

<sup>5</sup> Wilson 1998. For a critique of consilience as essentially a take-over of the humanities by science, see Fernández-Armesto 2015, 166.



“what a power we could forge together if we could all pledge to honor both our truly different and equally necessary ways, and then join them in full respect, in the service of a common goal as expressed in Plato’s definition of art as intelligent human modification and wondrous ornamentation, based on true veneration of nature’s reality”.<sup>6</sup> Gould regarded the questions that he asked about change in past life forms as historical questions, answerable with recourse to unearthed facts but given meaning only through the narrative methods used chiefly by historians.

The evolutionary theorist and shell biologist Geerat Vermeij has echoed Gould’s call to embrace the synergies between evolution and the humanities, although Vermeij’s emphasis is on selling evolution to those outside of the discipline, rather than the humanities to fellow scientists, as Gould did. “Quite simply”, Vermeij writes, “evolution has outgrown its original home in biology and geology. It is the foundation of a worldview in which environments, genes, organic architecture, physiology, chance, the economic struggle for life, and historical narrative come together to illuminate how we live in the world”.<sup>7</sup> Vermeij sees numerous parallels between episodes of adaptation in nature and the history of human societies—for example, empires that fail to adapt are bound to fall. “In short, the standards an organism or a society must meet in order to survive and prosper evolve. If adaptations do not change to meet the new standards, their bearers must find places where the criteria for success are commensurate”.<sup>8</sup> Human culture and society have adapted and evolved in comparable ways. For example, just as in human history agriculture appeared independently in different locales at different times and with different partners for domestication, so too did adaptive breakthroughs like photosynthesis and warm-blooded physiology emerge through multiple pathways in divergent organisms.

Historians too have identified such synergies. One of the more elegantly expressed treatments is John Lewis Gaddis’ *The Landscape of History*, based on a series of lectures on historical method that Gaddis delivered while the visiting Eastman Professor of History at Oxford.<sup>9</sup> Gaddis desires to bridge the methodological and epistemic gaps between the humanities and sciences, especially the sciences whose chief concerns are events that transpired in the past. Gaddis finds kindred spirits in the historical sciences, such as geology, palaeontology and evolutionary biology. Like historians, practitioners in these disciplines map the past based on what the extant evidence yields to them, while acknowledging the contingent and interdependent nature of historical change.

Norman Macleod regards the efforts to incorporate the methods of evolutionary biology into history as in keeping with the spirit of the historian and theorist E. H. Carr,

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<sup>6</sup> Gould 2003, 8. This book is Gould’s most complete plea for consilience between humanities and the sciences, and within it he himself engages in exegesis of a range of premodern texts.

<sup>7</sup> Vermeij 2010, xiii.

<sup>8</sup> Vermeij 2010, 224.

<sup>9</sup> Gaddis 2004.

who regarded history as a dynamic discipline with an expansive appetite for lessons from adjacent fields of study. The practice of history “means engaging in an unending dialogue with the past in order to understand the present and make reasoned choices about future courses of action”, while biology “means engaging in an unending dialogue with nature, part of which is located in the present but a far larger part of which is located in the past, for the same purpose”.<sup>10</sup> Practitioners of both disciplines seek, through the acquisition of evidence, first to determine what happened in the past and then to construct a narrative by which a chain of causality can be established.

Over the past decade or so, the systematic application of the principles of evolutionary science to human history has seen select scholars seek to give shape to a new branch of historical studies, evolutionary history. The most comprehensive and systematic vision of this hybrid discipline has been offered by Edmund Russell.<sup>11</sup> Russell in particular emphasises the importance of anthropogenic evolution, which he sees as regularly shaping the planet and the evolution of its non-human inhabitants, but also acting as a change agent within human communities. Evolutionary biology offers explanations for how and why organisms change over time, while history analyses the complex mix of interdependent social variables that help drive that change. Some historians of technology, drawing on evolutionary concepts, have offered insights into why, when and how humans have introduced certain technologies and then sought in turn to track and explain how those technologies have changed human society.<sup>12</sup> Humans and nature, and humans and the technologies they produce, have been moulding each other for the entire length of *homo sapiens*' existence. Evolutionary history, as Russell envisions it, actively encourages historians to look for the evidence of such give and take and to understand human communities and culture amid a broader array of actors, living and non-living. Humans “have enormous behavioral plasticity, and some combination of individual choice and social variables interact to shape behavior”.<sup>13</sup>

That last point is an important one and perhaps a limiting one for the application of traditional Darwinian evolution to the history of human societies. Cultural evolution is thus often regarded as Lamarckian, rather than Darwinian.<sup>14</sup> Changes in individual human behaviour and in collective culture generally transpire more quickly

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**10** Macleod 2014, 1611.

**11** See especially Russell 2011.

**12** See, for example, Basalla 1988.

**13** Russell 2004, 12.

**14** Lamarckian evolution, named for the French naturalist Jean-Baptiste Lamarck (1744–1829), proposes that the changes that transpire in organisms during their lifespan (known as acquired characteristics) can be transmitted directly to their offspring. Unlike Darwinian evolution, it suggests that evolution can be purposeful, driven by the needs and adaptive habits of species within individual lifetimes. Lamarck pointed to examples such as the giraffe, whose long neck he attributed to stretching for higher branches to feed over long periods of time, and the emergence of horns in certain ruminants resulting from their proclivity to butt heads in combat.

than they do in organisms in nature. As Richard Francis describes it: “Lamarckian dynamics are quite different in that the environment can include variants (innovations) that have a much-higher-than-random probability of surviving in that environment, of being adaptive. In this sense, Lamarckian evolution is directed, or guided. The progressive increase in cultural capital (knowledge) in any culture is Lamarckian”.<sup>15</sup> Lamarckian transformations, which involve anthropogenic interventions, do not need the deep sinks of time that most evolutionary processes require. The physiological, morphological and behavioural changes that have accompanied the domestication of animals—from the wild aurochs to the Holstein cow, from the wild mouflon to the Merino sheep, and from the wolf to the great diversity of dog breeds—have transpired in time frames that are graspable by the human mind. The rate of change is even more detectable when the evolution is cultural. Unlike genes, cultural outlooks and practices need not be passed biologically from one generation to the next. Cultural innovations can be translated vertically across generations, but also from non-parents to the next generation and horizontally between individuals of varying ages. The multimodal nature of this transmission is an essential feature in the rapidity of changes in human cultural practices, institutions and social assumptions. Recognising these similarities between cultural change and Lamarckian evolution does not mean one has to accept the segmentation of culture into discreet, inheritable units, or *memes*, as they have been coined by Richard Dawkins.<sup>16</sup> Dawkins’ vision of memes as replicable entities (akin to genetic phenotypes) ignores the interdependent nature of cultural development and, by insisting that they act like genes and are dependent on random mutation, Dawkins discounts the importance of human agency in effecting change.<sup>17</sup>

One recent application of the methods and paradigms of evolutionary theory to early modern history is Clifford Rogers’ reassessment of the Military Revolution, a historiographical construct developed by Michael Roberts and Geoffrey Parker, focusing on the transformative impact of gunpowder on the conduct of European warfare and hence on European society more broadly.<sup>18</sup> A medievalist, Rogers has recast this revolution as a series of episodic changes, starting with the move to predominantly infantry armies in the fourteenth century, the emergence of the gunpowder-enabled capital ship in the fifteenth century, the proliferation of the *trace italienne* artillery fortresses in the years after 1500, the growth in the size of armies in the second half of the sixteenth century, the emerging dominance of gunpowder weapons on land and at sea in the decades around 1600 and an additional leap in the size of armies at the end of the seventeenth century. Seen this way, the story of change appears more stadian than it does sudden, taking place over a far more extended period of time than originally

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<sup>15</sup> Francis 2015, 307–308.

<sup>16</sup> Dawkins 1976. See also Richerson/Boyd 2005.

<sup>17</sup> I am sympathetic with the critiques of Dawkins’ vision offered by Fernández-Armesto 2015, 90–93.

<sup>18</sup> Roberts 1967; Parker 1996.

envisioned.<sup>19</sup> In explaining such stadial change, Rogers borrowed the ‘punctuated equilibrium’ approach pioneered by Stephen Jay Gould and Niles Eldredge. Darwinian evolution had been predicated on slow, incremental and imperceptible change taking place across vast expanses of time. Eldredge, working at the American Museum of Natural History, noticed that trilobite fossils from North America remained unchanged for millions of years and then, suddenly, in the geological blink of an eye (perhaps as little as a few thousand years), evolved rapidly. Gould and Eldredge, noting the enormous and sudden profusion and diversification of life forms in the so-called Cambrian explosion (beginning approximately 541 million years ago), of which Eldredge’s trilobites were only one manifestation, proposed that much evolutionary change occurs in rapid bursts, interspersed among longer periods of accommodation and slow change.<sup>20</sup> These bouts of quick change redressed the disequilibria brought about by the previous one. Similarly, Rogers perceived a series of mini-military revolutions, each made possible by the previous punctuation. Taken together, they explained the basket of transformations associated with Military Revolution.<sup>21</sup>

## 1.2 Coevolution

One of the most promising ideas from evolutionary science for application to human history is coevolution.<sup>22</sup> It is this bidirectional view that I am suggesting might be applied to the advent of the age of paper. Culture will respond to external changes and to the availability of material substrates (like paper) with new learned shared behaviour and hence with new institutions, assumptions and praxes. This, I believe, is what happened in early modern Europe.

The origins of coevolutionary biology can be traced back to the work in the 1960s of Paul Ehrlich and Paul Raven on the symbiotic speciation of plants and butterflies, which demonstrated how botanical architecture and insect physiology developed in tandem.<sup>23</sup> What makes coevolution different from everyday evolution is that it involves reciprocity. As John Gowdy, writing on coevolutionary economics, has suggested, “[C]oevolutionary systems not only adapt to change in external circumstances, they have the ability (within limits) to shape the evolutionary environment within which they operate”.<sup>24</sup> Scientists are now aware that coevolution is common in nature. For example, it is now evident that virtually all species of trees have cooperative biological

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<sup>19</sup> Rogers 1995, 57, 77.

<sup>20</sup> The original formulation of this theory is in Eldredge/Gould 1972. Gould considered the broader implications of the findings in Gould 1982. The debate that ensued is covered in Somit/Peterson 1992.

<sup>21</sup> Parker 1995, 340 himself described it as “elegant and convincing”.

<sup>22</sup> Russell 2014.

<sup>23</sup> Ehrlich/Raven 1964.

<sup>24</sup> Gowdy 1994, 150.

relationships with fungi living underground; they have evolved to become dependent on the services that each provides to the other. Unable to photosynthesise, mycorrhizal fungi rely on the trees to provide carbohydrates that they have manufactured from water and sun, while the fungi, in colonising the root systems of trees, allow trees to exchange nutrients and information with each other. The flourishing of the trees in the forest—and indeed of the entire sylvan ‘society’ (as we must call it, given the amount of communication taking place) is utterly dependent on these partnerships, the sum of millions of years of coevolution.<sup>25</sup> Coevolution can also be antagonistic, as in the famous example of monarch butterflies and the toxic milkweed plants on which they feed. This has forced us to understand coevolution, and evolutionary processes more broadly, in terms of trade-offs for the organisms involved.<sup>26</sup>

In his *Evolutionary History*, Edmund Russell focuses on coevolution between human and other living species, pointing out that “people changed other species, and those changes circled back to shape human experience”.<sup>27</sup> He describes a human-initiated feedback loop and provides a promising tool for understanding emergent historical practices, behaviours and institutions. In his textbook introduction to coevolution, Scott Nuismer writes that “My guess is that without coevolution, we would live in a much simpler world, with fewer and less diverse species, fewer and more intense interactions among species, and communities with greatly reduced species richness”.<sup>28</sup> Similarly, in the context of human culture, we have a recipe for the great diversity of human social practices.

Some of the more high-profile episodes of coevolution in the human story are familiar ones—among them the domestication of Einkorn wheat in the Agricultural Revolution and the relationship between humans and wolves (resulting in the dog, or *canis familiaris*). In both cases, the non-human partner saw changes in its physiology and behaviour (if a plant can be said to ‘behave’) as a result of its extended interaction and cohabitation with human beings. The physiological changes in wheat occurring in the Agricultural Revolution were paralleled by significant changes in human communities and even in human physiology. As John Perkins has written: “Wheat and people *coevolved* in ways that left neither much ability to prosper without the other”.<sup>29</sup> The two partners became dependent on one another. Agriculture radically altered the life pathways of plants and animals that were domesticated, but it also represented an evolutionary milestone for humans, ultimately making possible civilisation, kingship, systems of writing, the artillery fortress, the Federal Reserve Bank, the laptop computer and every other feature of modern society. Agriculture embedded into the human experience epidemic and pandemic disorder, periodic famine, social

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<sup>25</sup> Recent popular work on this subject includes Simard 2021 and Wohlleben 2016.

<sup>26</sup> Agrawal 2017, 227–228.

<sup>27</sup> Russell 2011, 101.

<sup>28</sup> Nuismer 2017, 2.

<sup>29</sup> Perkins 1997.

and economic inequality, endemic war and environmental degradation. Considering the number and nature of these trade-offs, Yuval Noah Harari has labelled the Agricultural Revolution “history’s biggest fraud” and a “trap”. It was an evolutionary success in that it kept more people and hence replicable DNA alive, but one with many costs, to which those who paid them might never have agreed.<sup>30</sup> Harari’s formulation has recently been criticised as overly simplified and teleological, ignoring or disregarding significant evidence that there were communities that practiced agriculture only seasonally and even those that moved away from agriculture after having experimented with it.<sup>31</sup>

The most recent research depicts the emerging relationship between *canis lupis* and *homo sapiens* not as an instance of domestication of one species by the other, but of complementarity and cultural coevolution. Both pursued the same prey by preying in groups; both formed complex social communities rooted in cooperation and friendship; both exhibited cognitive and emotional intelligence. They ended up impacting each other’s behaviour, in what has been called a ‘symbiotic ecological relationship’.<sup>32</sup> It has even been suggested that the partnership of dogs was a definitive factor in the lineage of *homo sapiens* surviving, at the expense of Neanderthals and Denisovans.<sup>33</sup> For many generations, the coevolutionary adaptations were overwhelmingly behavioural, with little change in the physiology of wolves. It was only when collaborative predation stopped and wolves went from being partners to being threats that the physical appearance of domesticated dogs began to change in meaningful ways, as they assumed different tasks under a regime of domestication.<sup>34</sup>

## 2 People, Paper and Practice

In the introduction to his memorable *The Botany of Desire*, Michael Pollan describes a realisation he had one afternoon while planting potatoes in his garden. Bending over, doing the hard work of preparing the soil for his plants, he found himself asking the question: “Did I choose to plant these potatoes, or did the potato make me do it?” Pol-

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<sup>30</sup> Harari 2015, 77–83. What was lost with the advent of agriculture is also discussed in Scott 2017, 87–115.

<sup>31</sup> Graeber/Wengrow 2021, 230–231. I should note here that these authors are also very resistant to the idea that human beings can be domesticated by a non-sentient partner such as wheat, and thus would likely also resist my application of coevolution to human history.

<sup>32</sup> This is the terminology used in the provocative and fascinating Pierotti/Fogg 2017. Fogg and Pierotti’s book is itself a good example of bringing together the tools of the scientist and the humanist, as they make highly effective use of evidence from native American memory and story-telling in conjunction with the scientific data. A good summary of the case for coevolution between dogs and humans as a process of ‘mutual domestication’ is Safina 2015, 229–239.

<sup>33</sup> This is the suggestion of Shipman 2015.

<sup>34</sup> This is a point made by Pierotti/Fogg 2017, 180.

Ian answered yes to both questions. To label something like a potato a ‘domesticated species’, Pollan suggested, “leaves the erroneous impression that we are in charge. We automatically think of domestication as something we do to other species, but it makes just as much sense to think of it as something that certain plants and animals have done to us”.<sup>35</sup> Paper is neither plant nor animal and is not obviously subject to genetic inheritance and natural selection; the forms that it takes ultimately rely on human volition and intervention. Nonetheless, the insertion of paper into so many sectors of European life and the associated routinisation of writing can be considered a form of domestication. Paper enabled a “strange mania for inscription” among early modern people and institutions.<sup>36</sup> And in many ways, given how early modern Europeans became tied to their writing and paper instruments and how they allowed paper expectations to shape their culture, they found themselves domesticated by paper. I believe that we can profitably think of humankind and paper across the early modern period as engaging in a process of coevolution, in which the deployment of paper as a material took on modes and shapes that reflected the needs and inclinations of the users, while the availability and forms of these paper instruments also changed everyday praxes, cognitive pathways and assumptions about quotidian activities.

As I have already suggested, the use of paper in early modern Europe ‘evolved’ in three notable ways: in the variety of medial forms that it assumed, in the huge diversity of cultural niches that it came to inhabit and in the sheer volume in which it was used and deployed by early modern people. The three of these came together in the emergence of paperwork, which became an unmistakable reality of early modern life: in the everyday tempo of commercial activity, in the workings of the statecraft and the chores of representatives of the state, in the endeavours of scholars and naturalist virtuosos, in the expanding communications services and flurry of letter-writing, even in the daily rhythms of many burghers and artisans. Paperwork was perceived as an effective way of representing the reality of the world, of interacting with it and then of achieving control over it. Bruno Latour has written provocatively about the reasons for which human societies have embraced paperwork, among them that it bestowed on the information that it recorded motility, permanence and scalability, all factors that facilitated the recombination, reconstitution and then redeployment of that information.<sup>37</sup> The dimensions and complexity of paperwork expanded in the course of the early modern period, rooted in the impulse both to write and then to preserve what was written. But in parallel with this, in an episode of prolonged cultural evolution, those very same individuals and communities were changed culturally as a consequence of their embrace of paperwork. Early modern European culture was transformed by the ready and frequent recourse to inscription on paper, along with the gradual embrace of paperwork as a response to its perceived needs for information

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<sup>35</sup> Pollan 2001, xiii–xiv.

<sup>36</sup> Latour/Woolgar 1986, 48.

<sup>37</sup> Latour 1990.

management. It saw the emergence of a new 'scriptural economy', a phrase of Michel de Certeau.<sup>38</sup>

The paper-clogged European world that had emerged by the 18th century, with expansive libraries, extensive bureaucracies, a public sphere in which paper announced the latest news, the regular exchange of paper correspondence and the regular recourse to writing for myriad reasons by large sectors of the population, was not in view at the beginning of the period. Early modern Europeans adapted paper for use in multitudinous ways and settings, and in turn saw themselves adapting their own assumptions about information, their own expectations about what was important and necessary and even their own perceptions of reality. Paper inserted itself into a great array of familiar niches—between the bindings of books, in the accounts of merchants and in the archives of governments—but also inhabited altogether new ones. Paper was deployed for purposes large and small, lasting and ephemeral. Having paper on hand facilitated and encouraged the taking of notes, on loose sheets of paper, in notebooks and between the lines and in the margins of books. Note-taking was routinised and impromptu, deliberate (for example, in the pages of reading journals or commonplace books) and extemporaneous (on to a scrap of paper that happened to be lying around), undertaken for rarefied scholarship and for the mundane.<sup>39</sup> Paper hosted such everyday commonplaces as reading notes, prayers, recipes, shopping lists, transaction records, price currents, time-sensitive announcements, intimate messages and personal reminders of fleeting ideas that one did not wish to forget. Many of these inscribed spaces were doing the job hitherto reserved for human memory—Michel de Montaigne in his *Essai* "On Experience", hinted at this when he wrote of the notes he took to catalogue his various infirmities: "Lacking a natural memory I forge one on paper." He described his copious notes as being "as loose as the leaves of the Sibyls", a reminder that efforts to impose order on memory often merely resulted in the creation of further disorder.<sup>40</sup>

Paper's ubiquity imposed its own logic of use. Markus Friedrich has remarked that: "in early modern Europe, control of knowledge not only meant control of paper, but also control by paper".<sup>41</sup> Like all evolutionary episodes ultimately are, this was a story of adaptation and trade-offs, as the perceived benefits of the use of paper were soon mirrored by complaints about the burdens that it imposed. Paper conferred power, but it could make one feel powerless; paper imposed order but also generated chaotic disorder; paper conferred knowledge but equally could engender confusion; paper could clarify and refine but also cloud and distort. As with the episodes

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**38** Certeau 1984.

**39** There has been a great deal of scholarship on early modern notes and note-taking as a praxis in the past decade or so. Exemplary is Blair 2010, with an earlier article focused especially on note-taking: Blair 2004. Also representative are Soll 2010; Cowling/Bruun 2011; Daston 2004; Yeo 2014.

**40** Montaigne 1993, 397.

**41** Friedrich 2017, 165.



of coevolution that I described above, this was a relationship that resulted in ends unforeseen. It is a reminder that history rarely has appointments; it more often has chance encounters.

I am aware that the language of the preceding paragraph might appear to attribute agency to paper, an inanimate object. In her thorough and provocative *Paper in Medieval England*, Orietta Da Rold expresses her discomfort with according agency to paper in human history. She chooses instead, using terminology that she borrows from James Gibson, to emphasise paper's 'affordances': the properties that a material or object furnishes, for good or ill, for the observer and user.<sup>42</sup> Da Rold points out that "[p]aper does not actively do things, but inspires and invigorates accomplishments through how it is seen or experienced".<sup>43</sup> Paper, like other materials that offer their own affordances, has been adopted for manifold purposes within specific historical, cultural and economic environments. In medieval England, Da Rold demonstrates that the affordances specific to paper saw it appropriated in a great many applications, most of them related to the purpose of its initial creation: writing. She defines paper as a cultural product with associations within a cultural milieu, but also an instrumental material that serves to define that culture.<sup>44</sup> Perceiving paper's affordances, humans made choices about how to explore, exploit and normalise its use.

Da Rold's subtle and imaginative envisioning of paper's materiality and cultural role through its various deployments in medieval society offers a way of seeing paper and culture developing in tandem that intersects with, and potentially enriches, the model that I am offering for early modern Europe. I believe the material culture theory that guides her book and the coevolutionary model that I offer here can be profitably combined, opening new avenues for understanding historical processes.<sup>45</sup> Her work also shows that the creative association between paper and cultural practices was already well underway in the late Middle Ages. Its pace, complexity and scale, however, would increase markedly across Europe after about 1450.

The insinuation of paper into the institutions, routines and assumptions of early modern life is a vast subject and I have attempted to epitomise it elsewhere.<sup>46</sup> In the space that remains in this essay, I want to focus on two exemplary areas in which the widespread employment of paper, in new forms, towards new ends and in altogether new volumes, developed in tandem with European social and cultural praxes. First, I will look at the emerging world of print, something made possible only by the presence of paper. Second, I will consider the emergence of a politics of paper, which transformed the assumptions, institutions and instruments through which power was exercised. In both areas, I suggest, we witness a story of coevolution, and we see paper

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<sup>42</sup> Gibson 1966.

<sup>43</sup> Da Rold 2020, 26.

<sup>44</sup> Da Rold 2020, 19, 210.

<sup>45</sup> Exemplary of material culture theory is Brown 2015.

<sup>46</sup> Dover 2021.

variegated in both its morphology and applications and expand its presence exponentially; at the same time, social, political and scholarly practices come to be heavily dependent on paper use, resulting in broad-based cultural change.

## 2.1 Paper and Print

There was no 'age of print' in early modern Europe, at least as juxtaposed with a preceding 'age of manuscript', largely because the availability of paper made manuscript writing easier and more copious than ever before. The lack of such a caesura, however, does not discount the profound and diverse impacts of the printing press, which accentuated existing traditions and invented altogether new ones. The emergence of a thriving and diversified market for printed products was predicated not only on the invention of the press but on the widespread availability of paper—if there was a print revolution it was one of both print *and* paper.<sup>47</sup> A survey of early print reveals the three-fold evolution of early modern paper that I described above. First, the items that came off Europe's presses assumed a dizzying array of forms, only some of which were intended to be bound as books. Second, printed items took on an expanding range of roles in European culture, employed by many different people in many different sectors of society, reflected in a highly variegated market for printed products. Finally, there was simply an enormous abundance of printed material—one of the oft-repeated tropes of the period was the great profusion of books, a source of both wonder and vexation.

The transformation wrought by print was a gradual process, one that David d'Avry has cleverly compared to the impact of gunpowder: "Over a long period of time printing transformed communication, just as gunpowder transformed war—not immediately in either case. One would laugh at the historian of warfare who thought that all fighting was hand-to-hand before guns were invented".<sup>48</sup> Print (or more specifically the production, dissemination, sharing and exploitation of words printed on paper) would, gradually, over the course of the early modern period, alter existing intellectual communities and create altogether new ones, both actual and virtual, and it transformed access to information and knowledge, in both common and rarefied circles. It was, one might say, an evolutionary process.

The combination of print and paper meant that familiar, popular types of texts could be produced in hitherto unimaginable numbers: missals, books of hours, clerical handbooks and psalters for ecclesiastical use; Latin wordbooks, student grammars, simple books of rhetorical instruction and other texts for use in schools. Uwe Neddermayer has calculated that nearly half a million copies of 661 separate editions

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<sup>47</sup> The printing press and its impact on European culture have been the subject of a vast historiography since Eisenstein 1979. Recent works that address the varied output and impact of early modern print include McKitterick 2003; Baron/Lindquist/Shevlin 2007; Pettegree 2010; Barbier 2017.

<sup>48</sup> D'Avray 2014, 69–70.

of student grammars were produced in the Holy Roman Empire alone *before* the year 1500, almost none of which remain extant.<sup>49</sup> But print also effectuated a whole range of items that had no pre-print analogues. A dizzying array of single-page items were produced in incalculable abundance: indulgence certificates, song sheets, commodity currents, official notices and pronouncements, totems of saints, newssheets, certificates of confession, placards and posters among them. In six weeks in 1480, the Augsburg printer Jodocus Pflanzmann printed a whopping 20 000 certificates of confession (four to be cut from each sheet) for a church in Nördlingen.<sup>50</sup> In 1499–1500, the printer Johann Luschner printed 142 950 indulgences for the Benedictines at Montserrat.<sup>51</sup> Slightly more substantial were the pamphlet-length items: saints' lives, guides for pilgrims, almanacs, *Flugschriften*, summations of news, accounts of extraordinary events (such as the visitation of a comet or a major earthquake) and devotionals. Books also diversified to meet the demands of a diverse buying public whose reading habits evolved with its familiarity with print. Many categories of books were new, such as cheap handbooks, epitomes of ancient standards and how-to-manuals, all generated without a specific patron or customer in mind. With the maturation of the print market, books were printed in sizes from octavo to folio, in cheap and deluxe editions, in ancient languages and in the vernacular, for the common and for the discerning, for audiences wide and narrow, in chapbooks and massive reference works. The world of print coevolved with the size, profile and composition of the reading public. Akin to a zoological or botanical phylum, printed paper diversified into a huge variety of species, with distinctive morphologies and habitats.

The presence of printed items became commonplace across European society. This was both the cause, and the result of, novel uses of words on paper, as well as the creation of new actual and virtual intellectual communities. The range of applications to which the printing press was directed proliferated as it became part of Europe's informational infrastructure. In the political realm, for example, English monarchs justified their actions with printed proclamations and pronouncements. The posting of printed proclamations from the crown on to doors in public places is well attested in 16th-century England.<sup>52</sup> Peter Burke has labelled the early modern period "an age of questionnaires", given the range of institutions that used printed forms to gather information. State authority, especially, recognised the utility of print for information gathering. The Venetian government in the 17th century devised printed forms (known as *facciate*), divided into columns and rows, for its officials to use when gathering information, and before long, states across Europe mobilised the capacity of the printing press to generate such information-gathering tools.<sup>53</sup> After 1577, the questionnaires of the Spanish

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<sup>49</sup> Neddermeyer 1998, vol. 2, 794.

<sup>50</sup> Flood 2001, 173.

<sup>51</sup> Stallybrass 2008, 112.

<sup>52</sup> Richmond 1988.

<sup>53</sup> Burke 2015.

*relaciones geograficas* for gaining information about the crown's New World holdings were printed.<sup>54</sup> Early modern Europe invented the 'to-be-completed' bureaucratic form, a blessing and bane to organisations, accumulating in colossal quantities ever since. It is hard to imagine modern government, law or commerce without it.

One indication of the new, widespread distribution of books was the proliferation of sizable personal libraries. Some of the libraries of individual humanists, scholars and professionals came to dwarf the collections of even the largest medieval monastic repositories. One estimate suggests that private libraries increased ten-fold in size in the early modern period.<sup>55</sup> Such collections occasioned a shift in the location of scholarly communities, serving as important nodes in knowledge networks. Lawyers and doctors established personal libraries as a professional resource; humanists used them as repositories for regular reference. Others might regard them as an ornament, a means of connoting honour and refinement. Paper and print thus allowed a sizable chunk of intellectual life to transpire away from monastic and university settings.

Although there had been sizable medieval manuscript production of books in the vernacular, their numbers greatly expanded with print. This shift began early: it has been estimated that as much as one third of incunabula (printed works produced before 1501) printed in Italy were in the vernacular.<sup>56</sup> By the second half of the 17th century in many parts of Europe, print played an important role in creating a crowded media environment where the written world might be accessed in manifold formats, now including newspapers, journals and other periodical publications, most of them rendered in the vernacular.

The most obvious impact of print was the sheer volume of material in circulation. Looking at books alone, the increase was staggering. The British Library Incunabula Short Title Catalogue estimates that there were 9 million printed books in circulation before 1500. The increase in output in the 16th century was exponential—the Universal Short Title Catalogue from the University of St. Andrews suggests at least 345 000 separate editions and over 180 million printed books. One recent study provides an estimate of five million manuscripts produced in Western Europe in the 15th century, 12.56 million printed books for the period 1454–1500, 215.9 million for the 16th century and 518.64 million for the 17th century.<sup>57</sup> This was an explosion in the volume of printed material; if nothing else, this was at least a quantitative revolution. As has been the case with the deluge of digital media, an unprecedented quantity and availability of information presented possibilities and opportunities, along with challenges and frustrations.

The shape, scope and appearance of books changed in response to the reading habits and knowledge pathways of early modern Europeans. Scholars, in coping with

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<sup>54</sup> Edwards 1969.

<sup>55</sup> Blair 2007, 297.

<sup>56</sup> Schutte 1980–1981.

<sup>57</sup> Buringh/Van Zanden 2009, 417.

the abundance of resources made available in print, called upon an array of navigational tools. These took the form both of varieties of printed works and paratextual items within books. This was an age of catalogues, concordances, compendia and reference books, the composition of which depended on the accessibility to texts that print afforded. New tools also appeared inside of books. It has been estimated that in 1450, fewer than 10 % of manuscript books were foliated or paginated; by the mid-16th century, the great majority of printed books were. Although medieval monks had applied numbering to the books and chapters of the Bible, it was only in the 16th century that there was a widely accepted model of book, chapter and verse. The current numbering system was largely sketched out in Robert Etienne's concordance of 1555.<sup>58</sup> Presenting books *in capitula* became more commonplace, as did the inclusion of indices and tables of contents. The polymath Conrad Gessner, in his massive compendium *Bibliotheca universalis*, described indexing as a "divine invention" and with "life being so short", second only to print as a necessary aid to scholars.<sup>59</sup> The printed book also became an arena for experimentation with alphabetisation, which gradually overcome suspicions that its morally arbitrary hierarchy violated God's natural order. Encyclopaedias and other reference works, and (by the 17th century) dictionaries, all of which were published in large numbers, embraced alphabetisation.<sup>60</sup> The recourse to alphabetisation is indicative of how the abundance of books that print made possible abetted and encouraged non-linear reading. Many early modern readers were, it turns out, information mining, reading to extract what they needed or wanted. Michel de Certeau, in his *L'invention du quotidien*, has described the reader as a poacher, a consumer who, in his engagement with the book, selects only what he needs.<sup>61</sup> This selective and targeted method of reading is, it appears, a feature of much reading in every age, but it was one that was greatly facilitated by the advent of print. The type and shape of books, in this regard, were simultaneously a response to the prevalence of these reading practices and a factor in shaping those very practices.

## 2.2 Political Paper

The availability of paper had, over time, far-reaching effects on the way that political power was exercised in early modern Europe, driven by the widespread adoption of a 'politics of inscription', which saw the representation, institutions and agents of political power invested in the creation and exchange of paper instruments. Princes and other state authorities, seeking to achieve mastery over information about their subjects, patrimony and adversaries, increasingly relied on paper-based administra-

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<sup>58</sup> Stallybrass 2002.

<sup>59</sup> Wellisch 1981, 10.

<sup>60</sup> Blair 2007.

<sup>61</sup> Certeau 1990.

tion. They sought full representation of their power on paper as an essential step in asserting their power in practice. Carlo Capra has characterised this shift as one from a medieval judicial state to an early modern administrative one.<sup>62</sup> This administration generated and was predicated upon documents, paper inscribed with writing. Such paperwork, for that is what it was, was prevalent at every level and in every flavour of government, whether communal, republican or seignorial. The evolution of European governance, the rise of the modern state, was thus bound up in its paper manifestations. The state's consumption of paper is one of the most obvious measurables of the modern state's maturation. Sovereign rule was increasingly mediated by paper, such that Ben Kafka has written that “modern political thought was founded and confounded by its encounters with paperwork”.<sup>63</sup> Perhaps it is worth reconfiguring Charles Tilly's tautology about war and the state: the state produced paper and paper produced the state.<sup>64</sup> The resulting ‘political paper’ became essential to construction of what was deemed ‘real’ within state institutions. It constituted, in a formulation put forward by David Dery, a ‘papereality’.<sup>65</sup> In circulating their paper, political actors and institutions ended up relying on written instruments to epitomise their world, in a format that was portable, sharable, fileable and, in some cases, quantifiable.

The management of this political paper was tasked chiefly to secretaries. In Italy we see widespread evidence of what would make the early modern period in Europe an ‘age of secretaries’.<sup>66</sup> In the fundamentally notarial culture of the Middle Ages, the focus was on the writing and copying of a relatively small number of largely statutory instruments, often rendered on parchment. Its relative cheapness and local manufacture made recourse to paper in governance a feature of Italian polities. Paper facilitated the regular exchange of letters, resulting in an enormous boom in correspondence in 15th-century Italy, one that mediated the exercise of political authority between centre and periphery. Thus, once Francesco Sforza became Duke of Milan in 1450 he declared his intention to ‘rule by documents’, committing his state to systematic record-keeping and pursuing a foreign policy that relied on resident ambassadors keeping up a regular flow of letters. A diplomatic mission created a paper trail at several levels. There were the instructions sent at the outset of the mission (known as *istruzioni*), the letters sent to the ambassador in the course of the mission (the *missive*), the copies of those outgoing letters collected in registers (the *copiolettere*), the files of the letters received (the *responsive*, which also included copies of letters from other correspondents attached to the ambassador's correspondence), decrees nominating individuals to diplomatic offices and, in some locales, *relazioni*, or summa-

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<sup>62</sup> Capra 2015.

<sup>63</sup> Kafka 2012, 10.

<sup>64</sup> See especially Tilly 1992.

<sup>65</sup> Dery 1998.

<sup>66</sup> Dover 2016.

tions, on the completion of an embassy.<sup>67</sup> All of these varieties of paper devices, often in multiple copies, made their way into the Milanese archives. Thus, in Milan and in other Italian states, the conduct of diplomacy generated great stacks of paper. Evolving along with the commitment to paper-based diplomacy were the many forms and sheer volume of diplomatic documents. Between 1565 and 1613, Filippo de Vivo estimates, Venetian ambassadors sent their Senate a quarter of a million written pages, with a similar number in reply.<sup>68</sup> A generation before this, Girolamo Priuli, in his *Diarii*, having listened to letters read out loud in the Venetian Senate until half past one in the morning, lamented that “my head was all perturbed and confused”.<sup>69</sup>

This Italian prologue is indicative of how early modern European archives witnessed a massive growth in the volume of records they stored and a significant diversification in their holdings, along with expansion in the expenditure and physical space dedicated to their upkeep. After 1500, European chanceries found themselves faced with a host of challenges related to the explosive growth in documents, what Randy Head has termed the ‘challenges of accumulation’.<sup>70</sup> Chanceries developed new ways of managing the documents accumulating from current activity while also devising means to access the records from the past, along with dedicating new spaces to the storage of both.<sup>71</sup> To put it simply, in a pattern followed in other areas of European society in this period, “archives evolved from repositories of old documentary proofs into information-management institutions”.<sup>72</sup> The enormous expansion of documentary production and record keeping—and indeed, the very idea of political power resting on written devices—is unthinkable without the availability of paper. The work of the Elizabethan secretariat in England, overseeing a “staggering” amount of information, was almost entirely on paper; the use of parchment was confined to letters and to bills bearing the Great Seal.<sup>73</sup> By the 16th century, the dominant position of paper was a reality in every western European state. All manner of documents came to accumulate within early modern political archives: registers, rolls, account books and ledgers, tax records, charters, contracts, treaties, histories, transcriptions of ancient documents, privileges, reports of intendants and other agents, censuses, newssheets and printed tomes. It was letters, however, as the primary means of communication, that made up the largest share of the documentary volume. They were so ubiquitous that they were “at the heart of the work of central government”.<sup>74</sup>

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<sup>67</sup> Dover 2007, 299. See also Senatore 1998.

<sup>68</sup> Vivo 2018, 60.

<sup>69</sup> Lazzarini 2015, 50.

<sup>70</sup> Head 2019.

<sup>71</sup> The distinction has been described as *Urkunden* (resulting from the active business of government, or ‘current’ archive) and *Akten* (the statutory record of the past, or the ‘sedimentation’ archive). See Varanini 2012, 389; Guidi 2016, 463.

<sup>72</sup> Vivo/Guidi/Silvestri 2016, 423.

<sup>73</sup> Andreani 2017.

<sup>74</sup> Bajetta/Coatelen/Gibson 2014, xx.

Evolving in tandem with this effluence of paper and the commitment to preserving the documentation of governance in archives was a secretarial culture that centred on paperwork, consisting of both the generation of written instruments and of their organisation and retrieval. In 1650, the Venetian secretary Antonio de Negri recounted that he spent “days in writing and hours in thinking [...] knowing very well that the essence of my toil is not the material collection, but rather the arrangement and distinction [of the records] which facilitate the retrieval of affairs”.<sup>75</sup> An inescapable feature of such efforts at information management and distillation was that they ended up creating yet more paperwork. Amid the rising tide of paper in their archives, European states developed inventories for their archives. These were deemed necessary to locate documents in aid of everyday governance in the face of the sheer volume of paper documents that had now accumulated in their archives. Giovanni da Prato della Valle, a fifteenth-century chancellor of the podestà of the Venetian terra firma, listed twenty types of documents for which he would establish separate notebooks (*quaterni*) in his office. Other notebooks could be started as long as they cohered with *mores et consuetudines*.<sup>76</sup> Creating collections of summaries of letters (known as *somman*), registers of documents or thematic notebooks rarely reduced the groaning load of paper, for the underlying documents remained.

The practices of information management in this period were heterogeneous, but they all rested on the deployment of a common batch of media technologies arrayed in a great variety of configurations. Almost all of these were themselves paper devices, generally as loose-leaf paper or paper bound as thematic notebooks, copybooks, inventories or registers. The paper search engines devised to navigate collections of state papers could be unwieldy in their own right. Jean le Nain (1609–1698), the president of the Parlement de Paris, filled over 200 volumes with copies of documents from the Parlement’s archives. He then created a multi-volume index to these copybooks, constructed through the use of thousands of tiny snippets of paper offering summaries of documents. He then placed them in thematic order and pinned them into 83 different notebooks, which he himself copied to create a final index. His effort to reduce the labour of finding documents, therefore, proved to be extremely laborious.<sup>77</sup> Similar efforts at formalising, arranging and speciating paper documents occurred in political institutions large and small, republican and seigniorial, municipal and communal. By around 1700, archives like those of Louis XIV’s France were complex bodies, following established protocols, employing large numbers of people trained according to a curriculum, and overseeing “a world of paper”.<sup>78</sup>

It was not only polities that generated such sprawling documentary collections. Guilds, universities, confraternities, trading companies, religious orders and individuals who maintained collections of their ‘papers’, all created archives. Nearly all of these

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<sup>75</sup> Vivo 2018, 72.

<sup>76</sup> Pagnin 1953.

<sup>77</sup> Le Grand 1907.

<sup>78</sup> Rule/Trotter 2014.



endeavours of documentary preservation were accompanied by subsequent efforts at sorting, identifying and categorising, all carried out through the production of additional paper media, mechanisms that Peter Becker and William Clark have labelled “little tools of knowledge”.<sup>79</sup> Individual and institutional ‘papers’ were a record of past observations, transactions and ideas, and the efforts to give shape to that documentary past went hand in hand with the ongoing production of documents in the present. In this fashion, the changes in political discourse and record-keeping are reflective of the emergence of a broader, shared language of politics in early modern Europe, one that was spelled out and disseminated through writing on paper. The emergence of bureaucracy (literally, ‘rule by the desk’, and a word invented in early modern France) was a notion that is inconceivable without paper—the very paper that crossed, covered and filled those desks.<sup>80</sup> Bureaucratic organisations are among the great many things to emerge in the early modern period that were paper-dependent and, as a matter of course, helped to shape the culture. The much-talked-about ‘rise of the modern state’ that historians have located in this period was dependent on the emergence of an administrative apparatus predicated on the use of paper instruments. Paper was both a discursive medium for political issues and a means of exercising political power. In early modern Europe, paper changed politics and politics changed paper.

### 3 Conclusion

These new *conventions* of inscribing writing on paper consumed the time, attention and resources of early modern Europeans, ushering in attendant practices of writing and preservation, associated offices and vocations and new and expanded institutions. In sum, we can say that paper emerged as a vital participant in many sectors of life and helped shape outlooks and assumptions, as well as perceptions of reality. New uses for paper were found; new formats for paper developed; new ‘ecological’ niches for paper emerged; new classes of people embraced its use, in conjunction with their writing; new roles emerged to shepherd the paper; and the ‘population’ of paper increased inexorably. And because this evolution of paper use happened in conjunction with associated transformations in early modern European culture, it can be considered an extended episode in coevolution. Were paper a species, judging from the paper-clogged society that emerged in this period, it might be deemed an evolutionary success story, inextricably bound up with the lives of the humans who had introduced it. While beyond the scope of this essay, it is likely that similar things might be said about other materials that offered their own range of affordances, such as sugar, silk and petroleum.

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<sup>79</sup> Becker/Clark 2001.

<sup>80</sup> The first use of the word *bureaucratie* in print was in 1764 in Melchior von Grimm’s serial *Correspondance littéraire*.

This, of course, is to judge success purely on the terms employed to assess biological evolution, shorn of any moral or ethical considerations. The waxing cultural presence and power of paper in specific historical circumstances, of course, were not neutral in this regard. I have already mentioned the confusion, distortion and disorder that an abundance of paper could cause. Paper, as I outlined above, also became an essential mechanism of political control and oppression. While the global travels of paper fall outside of the scope of this chapter, it is worth noting that 'rule by paper' was one of the exports of Europe to the rest of the world. The imperial project and the administration of empires were intimately wrapped up in their representation on paper. Bhavani Raman, for example, has located the origins of India's so-called 'Document Raj' in the obsessive paper regime of the East India Company.<sup>81</sup> The Company sought to encapsulate its operations and ultimately India itself on paper. John Stuart Mill in 1852 remarked that "the whole Government of India is carried on in writing [...] no other [government] probably has a system of recordation so complete".<sup>82</sup> This 'Indian Ink' (as Miles Ogborn has termed it), was thus an essential tool of imperialism.<sup>83</sup> Seen through the evolutionary lens applied in these pages, this constitutes a paper 'success'; whether the Empire's Indian subjects perceived such documentary rule as success is a very different proposition. This serves as a reminder that no matter how enlightening the application of evolutionary approaches might be to understanding the past, good history cannot lose sight of fundamental questions of agency, power, ethics and morality: these are, after all, the stuff of human history.

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<sup>81</sup> Raman 2012. See also Hull 2012 for a similar argument.

<sup>82</sup> Moir 1996, 185.

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Xu Xiaojie

# Regional Characteristics of 16th- and 17th-Century European Printing Paper

## 1 Introduction

Throughout the history of humanity, the materials used for written records have continuously changed and evolved. Stone, bone, bamboo, leaves and the skin of animals, such as cows and sheep, have played a role in the progress of writing. The invention of paper allowed greater access to books for a larger number of people. Moreover, after Gutenberg's invention of letterpress printing, books could be printed at such a vast scale that book-reading spread on a global scale. Paper was indispensable in modernising the recording and sharing of information, and books printed on paper were undoubtedly the driving force in the modernisation of science and culture.

However, with the dawn of e-books, books and book-reading are once again undergoing major changes. As in the case of oracle bones, bamboo strips and parchment manuscripts, printed paper books will eventually no longer be relevant for book-reading but will become an object of study, not only for textual information but also for its material properties. In fact, the study of the material properties of printed paper books has already been expanding from a bibliographic perspective. From a historical point of view, the quality of the paper used is a direct reflection of its historical, social and economic context. For instance, economic prosperity in times of social stability guarantees fine paper. When reading was not as general as it is now, the quality of paper in books would vary for different strata of readers. There is a growing need for research on how to best discern the historical information contained in paper and how to preserve the material information contained in paper in addition to its textual information.

After Gutenberg invented the letterpress printing technology, European publication culture progressed rapidly with the publication of a vast range of books. With the formation of national languages across Europe and the development of the publishing industry, the 17th century represented a turning point when both the cost and content of books popularised them with the general public.<sup>1</sup> The demand for printing paper increased dramatically and became a major problem for publishers. The difference in paper production capacity in each region has a direct impact on the supply and demand for paper, whether locally manufactured paper or paper imported from

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<sup>1</sup> Examining the publishing industry in London from the 15th century to the year 1800, there were 12 980 printed publications in London from 1501–1600, 101 105 from 1601–1700 and 204 210 from 1701–1800 (Yukishima Waseda 2011).

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another region, which inevitably causes a difference in the paper used in each region. The regional differences observed in the paper provide an important thread in unravelling the issues concerning papermaking and the greater paper trade.

Papermaking technology was introduced to Europe from China through Arabia in the mid-10th century.<sup>2</sup> In the 12th century, European papermakers began to use rags as raw materials. However, following Gutenberg's invention, could these local European papermakers supply the entirety of the great demand for paper in Europe? What are the details of the manufacturing, distribution and sale of paper used in pre-modern Europe? As a first step in clarifying some of these issues, this preliminary study focuses on a fibre analysis of paper used in some European printed books in the 16th and 17th centuries, with the objective of gaining more information on the raw materials used for the production of European printing paper. It is furthermore hoped that this study will connect paper historians and paper conservators and that it will spark interest in and development of non-destructive material research.

## 2 A Non-Destructive Method of Paper Analysis

One of the traditional methodologies for examining the raw materials of paper involves taking a sample from the paper in a book or collecting crumbs of paper that may have become detached due to deterioration. The paper samples are then dyed with chemical reagents that change the colour of the fibres so that their material compositions can be identified. An advantage of this destructive method is that it improves the accuracy of identifying these fibres, but it also has disadvantages, such as risking damage to the printed paper books and not being able to fully inspect all the raw materials.

The examination of watermarks is also a well-known method for dating and determining the provenance of European papers. However, watermarks are absent from many sheets of various manuscripts, books, prints and drawings. Therefore, a non-destructive method for analysing the material of fibres and historical information in printed paper books is advisable.

I used the Keyence VHX-7000 ultra-high precision digital microscope<sup>3</sup> to observe the surface of the paper, which allowed us to safely examine the raw materials used in the paper of precious classical books. With this method, as shown in Fig. 1, it is not necessary to cut out samples of the paper from the books as only the surface of the paper is observed. Thus, it becomes possible to examine every page or material element in the entire book or paper in a non-destructive way.<sup>4</sup>

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<sup>2</sup> Hunter 1947; Bloom 2001.

<sup>3</sup> Keyence Corporation (s. d.), [https://www.keyence.co.uk/products/microscope/digital-microscope/vhx-7000/index\\_pr.jsp](https://www.keyence.co.uk/products/microscope/digital-microscope/vhx-7000/index_pr.jsp) (accessed 01/05/2021).

<sup>4</sup> This approach was initiated by the Digital Archives Research Center at Ryukoku University in Japan, cf. Enami 2010 and Shouji/Yoshihiro 2015. Additionally, Toyo Bunko organised the symposium "The



Fig. 1: Observing the surface of paper. For a colour image, see Appendix, p. 432 of the print version.

There are two main points to focus on while observing the surface of the paper.

1) Plant fragments:

The raw materials for rags used for paper are mainly fibres extracted from the bark of plants. However, in the process of extracting the fibres, materials other than fibres are sometimes unintentionally mixed in. By identifying these items, we can obtain information about the plants from which the fibres were extracted.

2) Morphology of the paper fibres: striation, fibre cell walls and width.

The microscope used for this preliminary study delivered high-resolution observations at magnifications of  $20\times$ – $1000\times$ .<sup>5</sup> The surface of the paper was observed mainly using a  $20\times$ – $500\times$  lens. The orientation of the fibres in the paper morphology can be ascertained using a low-magnification objective lens. At lower magnifications ( $20\times$ – $200\times$ ), we can effectively detect the arrangement of the fibres (for example, the flow of fibres in Japanese paper is in the same direction), the density and the number of plant fragments and threads to determine the quality of the paper. In contrast to the independent plant fibres seen in East Asian paper made directly from plants, rags are sometimes not completely broken down during the pulping process, thus causing clumps of thread and yarn fibre bundles to remain in the papers. Despite a few limitations, certain features of the fibres can be better visualised using a  $500\times$  lens. When it is not possible to focus the lens because of the unevenness of the paper surface, one can obtain a clear depth composite image by using the depth composite technique to take fully focused images of

Objective and Significance of Paper Research. New Aspect of Codicology. Scientific Study of Paper, Printing, and Publication” in 2016. The papers have been published as *Toyo Bunko (The Oriental Library)* 2017.

5 The illumination method is coaxial vertical light.

paper fibres and plant fragments, which allowed me to obtain a complete picture of printed paper books immediately. In addition, a 500× magnification helps to measure the width of the fibres. Fibre width measurements are an effective method of fibre identification, an analysis made possible by VHX-7000 bundled software. For the data on the morphology of the fibres, I mainly refer to Wang Juhua's *Papermaking. Raw Materials of China. An Atlas of Micrographs and the Characteristics of Fibers* (2007). This work discusses the structural characteristics of various raw paper materials and their influence on paper properties. In Wang's analysis the basic characteristics and micrographs of more than 120 types of raw fibre materials and approximately 20 types of gum fillers are listed for reference and identification of raw materials of paper.

Analysis of plant fragments can also be used to infer the raw material composition of paper. Determining whether the observed plant fragments in a printed paper book were raw material rather than accidental debris is impractical with the limited samples used in conventional methods of paper analysis. Using a non-destructive method of observing the entire surface of the paper, depending on the amounts of plant fragments, it is possible to distinguish whether the fragments are raw material or debris mixed in during the papermaking process.<sup>6</sup>

However, as fibres are transparent, it is sometimes difficult to accurately identify the kind of raw materials that are used for paper because chemical staining is not possible. Therefore, this method is well suited for distinguishing between various types of paper and serves as an effective adjunct to historical and bibliographical research.

### 3 The Subject of this Study

Toyo Bunko (The Oriental Library) in Tokyo, Japan, is a library and research institute dedicated to the study of Asian history and culture. It is the largest Asian studies centre in the region and one of the five largest in the world. The collection exceeds one million books, including 300 000 works in Western languages and 400 000 in Chinese, with the remainder covered by works in other languages in the Asian region. The Morrison Collection, which is the foundation of Toyo Bunko's holdings, comprises a great collection of pre-19th-century European books.<sup>7</sup> Thus, the Toyo Bunko is not only a treasure trove of Asian studies but also one for paper studies, including European studies.

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<sup>6</sup> It is necessary to find a method to perform a statistical analysis of the plant fragment distributions throughout the paper sheet.

<sup>7</sup> Originally owned by George Ernest Morrison (1862–1920), an Australian journalist and China correspondent for *The Times* who was also a traveller, explorer and a collector of oriental books. He stayed in Beijing for 20 years from 1897. For more information on the Morrison Collection, see *Toyo Bunko (The Oriental Library)* (s. d.), <http://www.toyo-bunko.or.jp/toyobunko-e/library3/shozou/> (accessed 31/10/2022).

To compare papers published in different regions, I first conducted a study of Fernão Mendez Pinto's *Peregrinação (Pilgrimage)*, which was published throughout Europe in the 17th century. The first edition of this book was published in Lisbon in 1614, and it was later translated into many languages, beginning with Spanish. Consequently, there were multiple editions of the book. The Toyo Bunko's holdings include both first editions and the translated editions. Along with this work, I examined *The Travels of Marco Polo*, which became increasingly popular with the onset of the Age of Discovery, and other works (see Tab. 1).

In this preliminary study, I examined twenty-four European books, mostly dating from the 16th and 17th centuries, and analysed a total of 1350 digital images I had taken from these books. Three of these books were published in Amsterdam, one in Antwerp, five in Frankfurt, two in Leipzig, four in Lisbon, two in London, one in Madrid, three in Paris, one in Valencia and two in Venice. These regions have a history of being places with strong relations to paper making, printing and the paper trade.<sup>8</sup> Amsterdam and Antwerp were important players in the paper trade, and Holland was a major paper production region in the 17th century. Frankfurt and Leipzig were considered the central trading centres of the European book and paper trade, and Venice was one of the most important printing centres of Italy.

#### 4 The Three Varieties of 16th- and 17th-Century European Printing Paper

In the 12th century, Europeans began to use rags as raw material for paper. Paper was reportedly mainly made from rags in Europe until the end of the 18th century.<sup>9</sup> However, as Barrett et al. pointed out, the paper was “handmade by artisans with different skills, resources, economic pressures, and motivations”,<sup>10</sup> and these factors determine the difference and quality of the paper. In the samples that I analysed, I found that the 16th- and 17th-century European printing paper in Europe can be broadly classified into three types:

- 1) Paper made of linen rags with clumps of thread and flax fragments and fibres, commonly known as rag paper.
- 2) Paper that contains straw fragments and fibres.<sup>11</sup> It might be straw paper, and it is usually accompanied by many blue fibres.
- 3) Rag paper with both flax and straw fragments and fibres.

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<sup>8</sup> Cf. Zawrel 2017; Bellingradt 2014. Unfortunately, no information could be obtained to date about possible trade connections between printing centres and paper production centres. I attempted to choose as diverse a geographic area as possible and will continue to look for relevant information in the future.

<sup>9</sup> Hunter 1947.

<sup>10</sup> Barrett et al. 2016, 96.

<sup>11</sup> Unfortunately, using this non-destructive survey method, it is not possible to determine whether it was barley, wheat or rice straw. It is important to note that the technology for producing straw paper

The second and third types of paper appear to be of poorer quality than the first. The first type of paper is white and thick, whereas the others are thinner and tend to be yellow or tan.<sup>12</sup>

The first type was by far the most common, as shown in Tab. 1. Images of the 1628 Paris edition of the Travelogue of Fernão Mendez Pinto (*Les Voyages Advantvrevx de Fernand Mendez Pinto*) at 200× (see Fig. 2) and 1000× (see Fig. 3) magnification are presented.<sup>13</sup> Fig. 2 shows traces of linen thread that has been left behind, whereas the plant fragments that have been photographed in Fig. 3 are flax. It reveals that the paper used in the Paris edition of the text was the predominant linen rag paper. The most striking feature of rag paper, when observed with a digital microscope, is the presence of linen fibre clumps, as can be seen in Fig. 2.

The second type of paper, characterised by many straw fragments, is found primarily in books published in Amsterdam and Leipzig and is most prominent in Leipzig publications. Fig. 4 presents a micrograph at 500×,<sup>14</sup> which shows these fragments in a Leipzig publication of 1582 (*Kurtzer vnd warhafftiger Bericht/Von der Reiss aus Venedig nach Hierusalem [...]* by Johan Helffrich). It clearly shows the vascular bundle with stomata, indicating that these are straw fragments. As the vascular bundles of monocotyledons, such as rice straw and wheat, do not have a forming layer and the vascular bundles are not regularly dispersed throughout the basic tissues, vascular bundles with stomata are easily seen in the fragments of straw. This is where the fragments of straw differ from the fragments of flax or hemp. At the same time, a few flax fragments can also be seen here. As shown in Fig. 5, ten measurements of fibre width were taken: one measured 5.97 µm (micrometres) and the others between 9.04 and 14.07 µm. These latter measurements are consistent with the width of wheat straw fibre, which ranges between 9 and 16 µm.<sup>15</sup> Incidentally, although the fibre width of rice straw generally ranges from 6 µm to 16 µm, the near lack of fibres measuring less than 9 µm allows us to suggest that the raw material here might be wheat straw.

As shown in Tab. 1, the third type of paper is found in books published in Lisbon, Frankfurt and London. I found a few straw fragments in a book published in Frankfurt in 1601 (*Collectiones peregrinationum in Indiam orientalem et Indiam occidentalem, XXV partibus comprehensæ*); however, on measuring the width of the fibres therein, I discovered that the book was composed primarily of flax fibre. It suggests that

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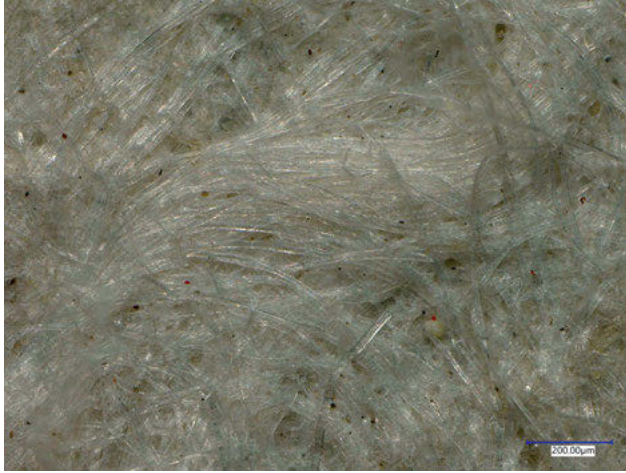
in Europe is recorded as having been developed in the second half of the 18th century, as described in Hunter 1947, 320 and van Velzen 2018, 87.

**12** Barrett et al. 2016 also notes that other fibres can be found in poor quality paper from the 14th–19th centuries but does not mention why it can be determined to be straw.

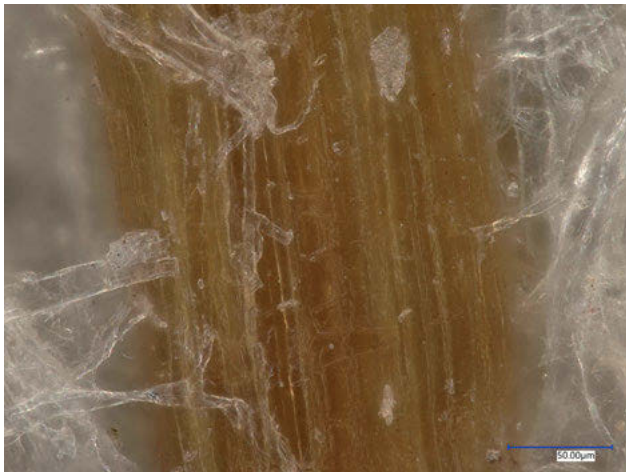
**13** The observable range at 200×: 1.52 mm (horizontal), 1.14 mm (vertical). The observable range at 1000×: 0.31 mm (horizontal), 0.23 mm (vertical).

**14** The observable range at 500×: 0.61 mm (horizontal), 0.46 mm (vertical).

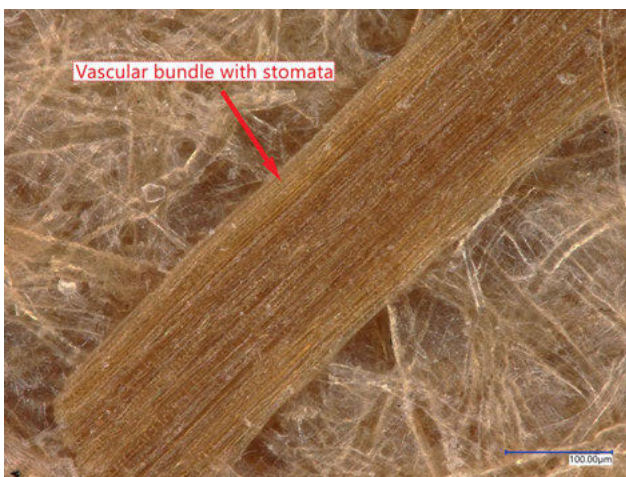
**15** The width of rice straw is generally between 6.0 and 13.0 µm, with an average width of 9.1 µm; the width of wheat straw is generally between 9.0 and 16.0 µm, with an average width of 13.0 µm (Wang 2007, 129–130).



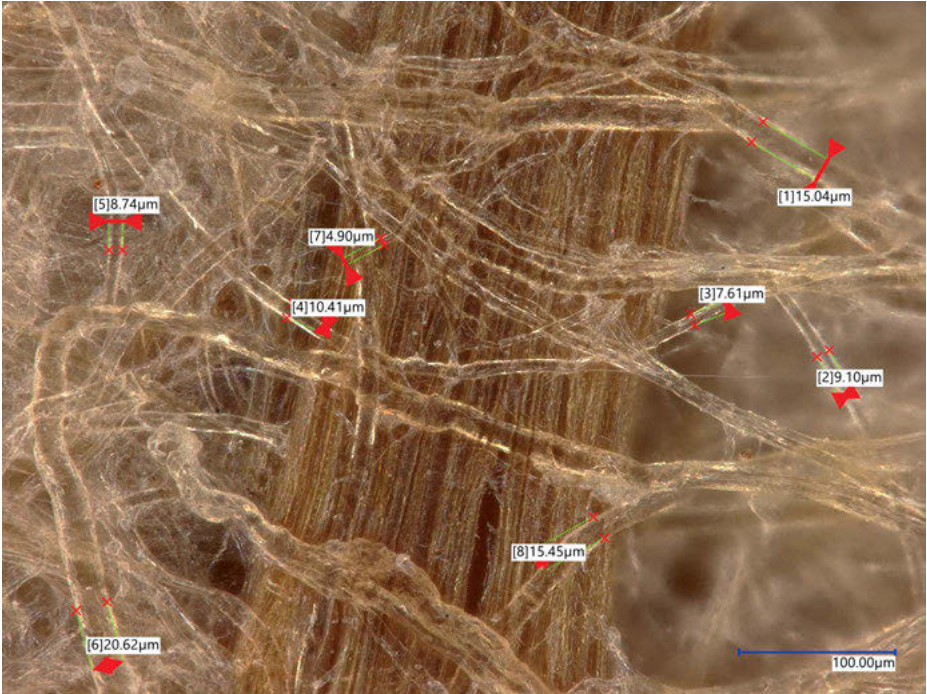
**Fig. 2:** Rag paper with a clump of linen fibres (200×). Fernão Mendez Pinto, *Les Voyages Advantvrevx de Fernand Mendez Pinto*, Paris 1628. For a colour image see Appendix, p. 432 of the print version.



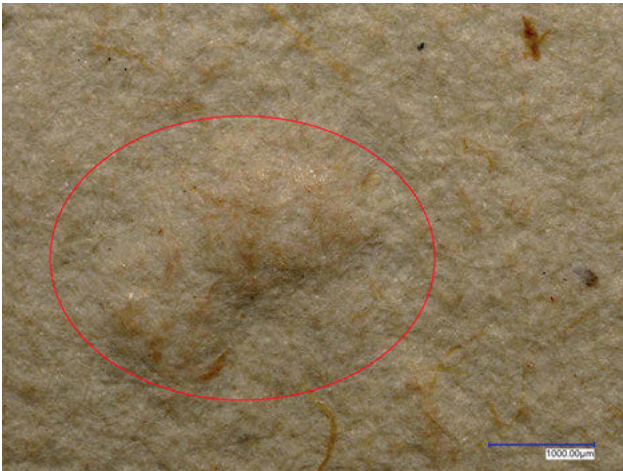
**Fig. 3:** Flax fragment (1000×). Fernão Mendez Pinto, *Les Voyages Advantvrevx de Fernand Mendez Pinto*, Paris 1628. For a colour image, see Appendix, p. 433 of the print version.



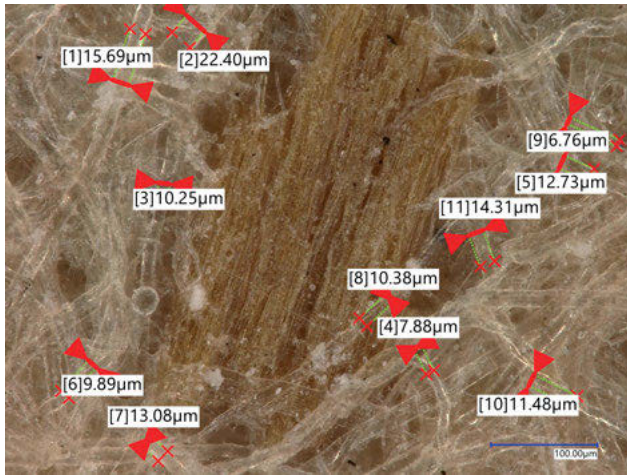
**Fig. 4:** Straw fragment (500×). Johan Helffrich, *Kurtzer vnd warhafftiger Bericht/ Von der Reiss aus Venedig nach Hierusalem [...]*, Leipzig 1582. For a colour image, see Appendix, p. 433 of the print version.



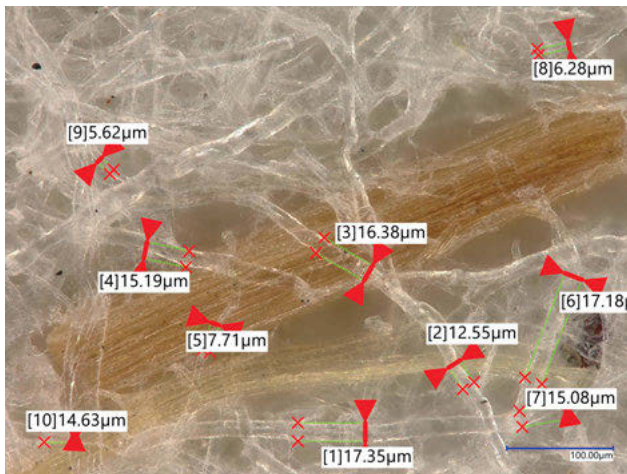
**Fig. 5:** Straw fragment (500×). Johan Helffrich, *Kurtzer vnd warhafftiger Bericht/ Von der Reiss aus Venedig nach Hierusalem [...]*, Leipzig 1582. For a colour image, see Appendix, p. 434 of the print version.



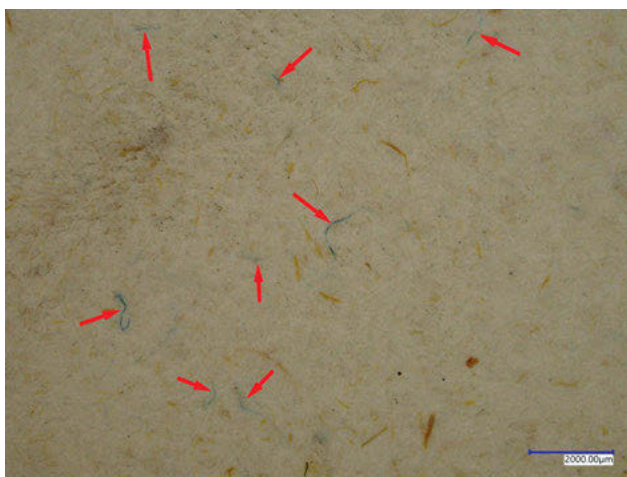
**Fig. 6:** Rag paper with a clump of thread (50×). Fernão Mendez Pinto, *The Voyages and Adventures, of Fernand Mendez Pinto*, London 1653. For a colour image, see Appendix, p. 434 of the print version.



**Fig. 7:** Rag paper with a straw fragment (500×). Fernão Mendez Pinto, *The Voyages and Adventures, of Fernand Mendez Pinto*, London 1653. For a colour image, see Appendix, p. 435 of the print version.



**Fig. 8:** Suspected rice straw fibres (500×). *La Commedia*, Venice 1491. For a colour image, see Appendix, p. 435 of the print version.



**Fig. 9:** Blue fibres (20×). *La Commedia*, Venice 1491. For a colour image, see Appendix, p. 436 of the print version.



Tab. 1: Results of this Study (\*Unconfirmed).

	Publication Place	Year	Paper	Fragment	Blue Fiber	Water-mark
Fernão Mendes Pinto	Amsterdam	1652	straw?	straw: large; linen lumps of waste thread	N	N
Fernão Mendes Pinto	Amsterdam	1653	rag	flax: many	N	*
Fernão Mendes Pinto	Amsterdam	1671	straw	straw: large	large	N
Benjamin of Tudela	Antverp	[1575]	rag	flax: many	few	*
Bry, Ioannes Theodorus & Ioannes Israel de	Frankfurt	1598	rag	almost none	N	Y
Bry, Ioannes Theodorus & Ioannes Israel de	Frankfurt	1599	rag	flax: many	few	Y
Bry, Ioannes Theodorus & Ioannes Israel de	Frankfurt	1601	rag	flax: large; straw: few	N	Y
Bry, Ioannes Theodorus & Ioannes Israel de	Frankfurt	1603	rag	flax: few	N?	Y
Bry, Ioannes Theodorus & Ioannes Israel de	Frankfurt	1604	rag	flax: large	N	*
Helffrich, Johan	Leipzig	1582	straw?	straw: large; flax or hemp?	few	N
Knox, Robert	Leipzig	1689	straw	straw: large	large	N
Fernão Mendes Pinto	Lisboa	1614	rag	flax, straw	N	Y
Camõens, Luís de	Lisboa	1613	rag	flax: few	N	N
Fernão Mendes Pinto	Lisboa	1678	rag	flax: many	few	Y
Fernão Mendes Pinto	Lisboa	1725	rag	flax: many	large	Y
Fernão Mendes Pinto	London	1653	rag	flax, straw	N	Y
Fernão Mendes Pinto	London	1663	rag	flax	N	Y
Fernão Mendes Pinto	Madrid	1620	rag	flax: many	N	Y
Fernão Mendes Pinto	Paris	1628	rag	flax	N	Y
Fernão Mendes Pinto	Paris	1645	rag	flax: large	N	N
Polo, Marco	Paris	1556	rag	flax	N	N
Fernão Mendes Pinto	Valencia	1645	rag	flax: many	large	Y
Polo, Marco	Venetia	1555	rag	flax: few	N	*
Polo, Marco	Venetia	1626	rag	flax: few	few	*

straw was unintentionally introduced as debris during the papermaking process. In the paper of the 1614 Lisbon edition (*Peregrinação de Fernam Mendez Pinto*) and in the 1653 London edition of Fernão Mendez Pinto's travelogue (*The Voyages and Adventures, of Fernand Mendez Pinto*), fragments of straw and flax and lumps of linen waste thread were found; there is also a watermark.<sup>16</sup> Fig. 6 shows a micrograph at 50× magnification,<sup>17</sup> which clearly indicates lumps of linen waste thread. In addition, as shown in Fig. 7, the fibre width measurements reveal the consistent presence of straw. It suggests that while this is certainly rag paper, it is very likely that straw was also intentionally added in small amounts as a raw material. I found both flax and straw in the incunabula, specifically in a Venetian publication of 1491 (*La Commedia*) and in a book printed in Augsburg in 1492 (*Spiegel menschlicher Behältnis*). As I measured the width of the Venice paper above (see Fig. 8), I found that most of these fibres measured over 8 µm, yet I also found fibres measuring less than 8 µm. These smaller fibres suggest that both sheets are made not only of flax but also of other plant materials. These smaller fibres measured between 5.62 µm and 7.71 µm. The measurements of these small fibres were consistent with the size of rice straw fibres.<sup>18</sup> In the same Venetian publication, many blue fibres were also observed using the low-magnification objective lens (see Fig. 9).<sup>19</sup> The issue of blue fibres is explained in more detail in the next section.

Further investigation is required, including an exploration of developments in papermaking, to determine whether the straw found in the paper of these books was intentionally mixed in as a raw material or whether a considerable amount simply ended up in the paper accidentally due to environmental circumstances.

## 5 On the Presence of Blue Fibres

In addition to the presence of straw, another finding of this study of the 16th- and 17th-century European book printing paper was the presence of blue fibres. In fact, in my past investigations, I also found blue fibres in some incunabula of Augsburg, Antwerp, Deventer and Venice (Fig. 9). For the 16th and 17th centuries, cases of paper containing blue fibres are more prominent.

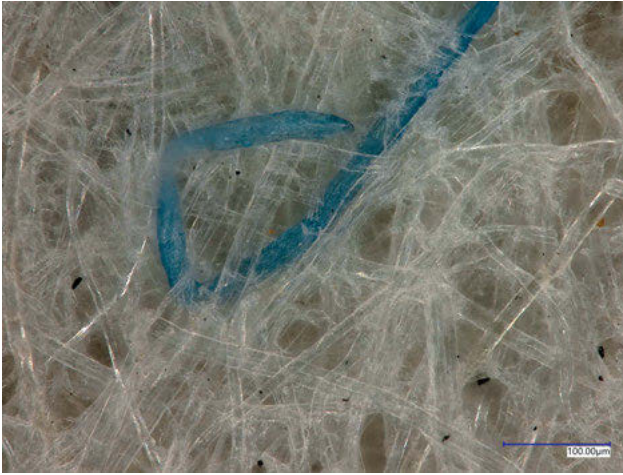
As shown in Tab. 1, in this study I discovered blue fibres in printing paper used in various regions of Europe, particularly in the publications of Amsterdam, Leipzig, Lisbon and Valencia. Fig. 10 shows a micrograph of the paper from *Peregrinação de Fernam Mendez Pinto, e por elle escrita*, which was published in Lisbon in 1678. As shown in the micrograph, the blue fibres seen in the paper of these books are probably

<sup>16</sup> Of course, in the case of the London edition, it is highly likely that imported paper from other regions of Europe was used. More data on this is needed.

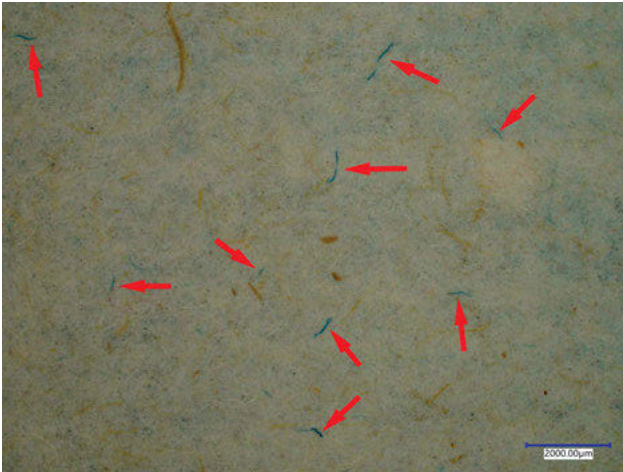
<sup>17</sup> The observable range at 50×: 6.10 mm (horizontal), 4.56 mm (vertical).

<sup>18</sup> Wang 2007, 129. See also footnote 15.

<sup>19</sup> The observable range at 20×: 15.24 mm (horizontal), 11.4 mm (vertical).



**Fig. 10:** Indigo- or woad-dyed flax or hemp fibre (500×). Fernão Mendez Pinto, *Peregrinação de Fernam Mendez Pinto, e por elle escrita*, Lisboa 1678. For a colour image, see Appendix, p. 436 of the print version.



**Fig. 11:** Indigo- or woad-dyed flax or hemp fibres (20×). Fernão Mendez Pinto, *Historia Oriental de las Peregrinaciones de Fernan Mendez Pinto*, Valencia 1645. For a colour image, see Appendix, p. 437 of the print version.

indigo- or woad-dyed flax or hemp fibres taken from blue rags. Fig. 11 (*Historia Oriental de las Peregrinaciones de Fernan Mendez Pinto*, Valencia) shows that there are many blue fibres in the paper.

By the 18th century, reading had become so common in Europe that public libraries had already made their appearance. It also meant an unprecedented demand for paper. Owing to the inability to obtain enough high-quality rags for papermaking, blue fibres were commonly mixed into the paper from this period onwards, which also made the paper look whiter. Brückle, for example, mentions that adding “small percentages of highly beaten, short blue rag fibres” to white paper pulp could make the paper look better, or brighter.<sup>20</sup> Some studies focus on the use of blue pigments in

<sup>20</sup> Brückle 1993, 26.

pre-modern paper making technology.<sup>21</sup> Van Velzen describes in detail the treatment works for various rags in the paper making process. He mentions that “blue coloured rags were used for so-called sugar paper to make sugar, which is slightly yellow, look whiter”.<sup>22</sup> Brückle notes the excellence of Dutch papermakers in the production and export of blue paper since the early 17th century.<sup>23</sup>

The results of this study confirm that there had already been a large number of blue fibres used in the manufacturing of printing paper before the 18th century. Interestingly, the presence of blue fibres is more significant in publications in Amsterdam, Leipzig, Lisbon and Valencia. The books published in these areas mostly contain straw (cf. Tab. 1). These papers were yellowish in colour and relatively rough. In addition, in contrast to type 1 paper, no watermark was found in any of these papers. Therefore, it is likely that the paper containing straw and blue fibres is a compass for judging the quality of the paper. Why were blue fibres mixed into the paper of this earlier period, and where did this technique come from? Amsterdam, Leipzig, Lisbon and Valencia were all major book publishing hubs at the time. The demand for paper had a direct impact on its quality, and poor quality paper required the addition of blue fibres to improve the colour of the paper and make it look whiter, which may have been an important factor. As was noted above, Dutch papermakers produced excellent blue paper, which explains perhaps the presence of blue fibres in the analysed Amsterdam editions; perhaps blue rags or blue paper was added to the paper pulp used to form the sheets for the Amsterdam editions.

## 6 Paper in China and Japan in the Same Era

Regarding paper containing straw and blue fibres used in 18th-century European books, Enami Kazuyuki speculated that the papers would have been imported from Asia, possibly from China.<sup>24</sup> The report focuses on the analysis and investigation of printing paper in 18th-century Europe, suggesting that papers containing straw as well as blue fibres were imported from China. However, because of the lack of confirmation in economic history literature, no conclusive judgement can be obtained.

On the contrary, Pan Jixing has used missionary records to argue that Chinese papermaking technology was again introduced in Europe in the second half of the 18th century.<sup>25</sup> Van Velzen also mentions that in the second half of the 18th century, papermakers encountered increasing difficulties in obtaining sufficient rag material, which led to a search for alternatives.<sup>26</sup> This quest coincided with the period of

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<sup>21</sup> Rischel 2017, 33; Brückle 1993.

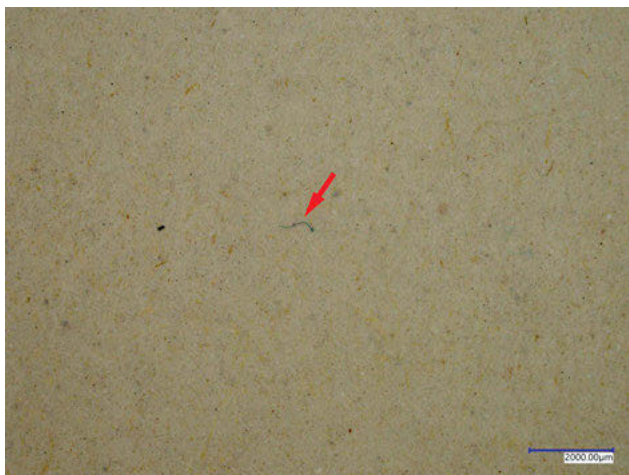
<sup>22</sup> Van Velzen 2018, 71.

<sup>23</sup> Brückle 1993, 21.

<sup>24</sup> Enami 2016, 4–26.

<sup>25</sup> Pan 2012, 523–547.

<sup>26</sup> Van Velzen 2018, 88.



**Fig. 12:** Blue fibre in Chinese paper (20×). *Yongle Encyclopedia (Yongle Dadian) 11599*, 1562. For a colour image, see Appendix, p. 437 of the print version.

missionary activity described in Pan's article. However, a problem with Pan's article is that it does not provide specific evidence on the types of papermaking materials in Europe. Moreover, if China's papermaking technology had been reintroduced to Europe, it would most likely have happened before the 18th century, according to the above analysis presented in this chapter.

One way to confirm the validity of these arguments is to try to find similarities between Chinese or Asian papers and European papers from the same era. The use of straw as a raw material for papermaking or mixing straw with other raw materials for the production of paper was already a common practice in Asia at that time. Therefore, the comparison could focus on blue fibres. Some traces of blue fibres have been found in Chinese manuscripts, for example in the Chinese mulberry paper used for the *Yongle Encyclopedia (Yongle Dadian) 11599* in 1562, where a small amount of blue fibres can be observed. It should be noted, though, that, compared to the European paper, there are very few blue fibres present (Fig. 12).

As the amount is very small, one can only say that blue fibres may have been used in Chinese paper materials. The quality of the paper used was better than that of the general books at the time because the *Yongle Encyclopedia (Yongle Dadian) 11599* was edited for the emperor. In the future we need to analyse the papers used for books read by the general public.

Another question concerns the possibility of Europe importing paper from China. At the time, China was the largest producer of paper in Asia and used straw as its raw material. However, at the time of the study, I did not find any direct primary sources on a paper trade between China and Europe.<sup>27</sup> Nevertheless, as China implemented

<sup>27</sup> There are records of Portuguese merchants bringing paper, gold-thread and rags from Macao via Japan, but no records concerning printing paper (Boxer 1959, 194). Zawrel 2017 overviews the literature and perspectives in the field of research on the paper trade in early modern Europe and argues that this

its ban on maritime intercourse with foreign countries, many Chinese goods made their way to Europe via the Japanese port of Nagasaki. By examining the record of the Dejima trading post at Nagasaki,<sup>28</sup> it was confirmed that large amounts of paper were brought from China to Japan, which seems somewhat strange since Japan was also a powerful region for paper manufacture at that time. In particular, the units of record regarding the quantity of paper was in 連 (Lian) or 包 (Bao). These terms are pronounced similarly to the units of paper trade from the Netherlands to Hamburg, i. e., *Riem* (ream) and *Ballen* (bale).<sup>29</sup> In other words, the same units may have been used to account for the amount of paper in the paper trade in East Asia and also in Europe at that time. Together with the aforementioned straw paper in European printing paper, I wonder if we can speculate that there was perhaps a channel for the East-West paper trade in the pre-modern period.<sup>30</sup>

## 7 Conclusion

This study has two primary findings:

- 1) There are differences in paper, depending on the region of publication. It can be divided into three types.
  - Pure rag paper containing clumps of thread and flax fragments and fibres but no straw fragments and fibres.
  - Rag paper containing both flax and straw fragments and fibres.
  - Straw paper containing straw fragments and fibres and usually also accompanied by many blue fibres.
- 2) Some printing paper used in Europe in the 16th and 17th centuries contain straw and a certain number of blue fibres. The results of this study establish that the quality of this type of paper is not high and there are no watermarks.

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interdisciplinary subject is still in its infancy. What is interesting is the existence of the Netherlands, Leipzig and Frankfurt as centres of paper trade. However, there is no global history point of view in the research results. Moreover, no study on the importance of paper grades and paper quality in the paper trade has been conducted.

**28** Nagazumi 1987. Dejima is a man-made island in Nagasaki, Japan, the only place in the Edo period where foreign trade and exchange could take place. From 1636 to 1639, trade with Portugal took place, and from 1641 to 1859, trade with the Netherlands took place through the Dutch East India Company. It was also a place of trade with China.

**29** Bellingradt 2014 gives a very detailed account of the unit terminology used in the paper trade between Hamburg and Amsterdam in the 18th century. *Riem* and *Ballen* are historical terms in German.

**30** Especially after the mid-18th century, the number of shipments of paper from China to Nagasaki in ream units increased. For example, in 1770 alone, a total of 16 135 reams of ordinary Chinese paper was shipped to Nagasaki (calculated from Nagazumi 1987). According to Bellingradt 2014, 124, the total number of sheets would be 80 675 000.

Regarding the second finding of this study related to blue fibres, the origin of their use in the craft of papermaking and the route by which this technique was disseminated is fascinating. At present, the digital microscopy of southern Chinese paper from the 16th and 17th centuries and of paper from Japan has not revealed a single case of a large volume of blue fibres mixed in the raw materials for papermaking. Additionally, when investigating European printing paper of the 18th century, similarly observed in books printed in the 16th and 17th centuries, I found that the books printed in Amsterdam and Leipzig used blue fibres more commonly. Holland was an important producer of blue paper in the 17th century, which might explain the presence of blue fibre in the Amsterdam editions. Interestingly, the presence of straw in paper was related to a greater probability of blue fibres being present.

It is hoped that these two discoveries will provide additional perspectives on the history of European papermaking, at the same time as they provide some pointers to future research. What are the origins of this straw paper, and from where and when? Furthermore, what is the correlation between the technique of adding blue fibres to the paper and their source? In future research, it will be necessary to increase the data volume of European paper, and for comparison, the data volume of Asian paper will also need to increase. It is also important to find more records on paper manufacturing from historical archives. At the same time, it must be acknowledged that the current stage of non-destructive survey methods for observing the paper surface does not provide accurate data on the number of fibres or debris in the paper, and the analysis of morphology must be done with caution; these shortcomings are areas for continuous improvement in the future.

This analysis is hopefully just the beginning. Zawrel points out that there has been a lack of systematic and interdisciplinary research approaches on the history of paper trade.<sup>31</sup> The Network of European Paper Trade has the potential to fill some of the research gaps, as its first publication promises.<sup>32</sup> I believe, though, that paper fibre analysis should be added to clarify the complexity of paper and paper trade. It would connect the type and quality of paper with the history of paper trade. There has been a longstanding debate on Wallerstein's theory of the 'modern world system'. However, if we examine this theory from the perspective of 'paper'—which encompasses every aspect of economy, culture and politics—we should discover an early modern world interconnected by 'paper', rather than a dispute on whether Europe or Asia was at the core.

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<sup>31</sup> Zawrel 2017, 117.

<sup>32</sup> Bellingradt/Reynolds 2021.

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Sonja Neumann

# Mechanising Handmade Paper

## Traditional and Modern Paper Production in 19th-Century Europe

Various criteria can be typical for what is called technical progress: either an equal quantity of production (output) can be produced with a lower use of labour or means of production (input), or a higher quantity can be produced with the same use of means of production and labour. Besides quantitative improvement, there are also qualitative improvements of existing products or production processes, or even the introduction of completely new products.

Over the course of the Industrial Revolution, which gained momentum in the 19th century, the development in the field of papermaking appears to be of particular importance, featuring all criteria of technical progress. Moreover, the development and establishment of the paper machine and the industrial production of paper produced striking social upheavals in the field of media and communication. But it becomes interesting when one leaves the meta-level of the progress narrative. The transition from handmade to machine-made paper does not seem so smooth in its fundamentals and results—for the origin and history of industrial paper production is in a constant state of tension with the tradition of centuries of manual papermaking.

This article is not only about the differences between handmade and machine-made paper and their production processes, but about interactions: a focus is also placed on the development of a paper machine that imitated handmade paper.

### 1 The Traditional Method of Manual Papermaking

Prior to the invention and introduction of paper machinery, all paper was handcrafted one sheet after another by specialised workers. The method of manual papermaking changed very little over time, but there was certainly a great diversity of local conditions and traditions. In general, the papermaking process involves the selection of useful fibres of raw materials into different quality categories and the making of a suspension of fibres in water. The fibre pulp consisted mostly of rags of linen, hemp, flax and cotton (and sometimes of non-fibrous additives). Rags of the finest cloth were used for making ‘fine white’ papers. Brown paper was made from the darker rags. Usually, the textile fibres made from plant material (hemp or flax) were relatively dark due to their natural state; a lot of work was necessary during textile production to obtain a light colour. The quality of the water was also decisive for the quality of the paper. Fresh water largely free of iron and debris was an important prerequisite to produce excellent paper. The preparation of the rags was a very time-consuming and complicated procedure, involving watering, washing, stamping, bucking, boiling, drying

and fermenting.<sup>1</sup> The proper consistency of the paper pulp in the vat was determined and controlled by an experienced vatman and was mainly related to the type of paper being made, because the quality of the pulp stock has the greatest influence on the final product. With the help of a mould, the paper sheet was formed. The mould consisted of a rectangular wooden frame covered with a fine brass wire mesh stabilised by narrow wooden bars.<sup>2</sup> An open wooden frame (deckle) fitted on to the mould.<sup>3</sup>

Papermaking in Europe consisted of a well-rehearsed choreography of three men: a vatman, a coucher and a layer. The pulp was lifted with a mould to the surface of the vat by the vatman, who shook the mould gently several times until the fibres had settled on the mould.<sup>4</sup> Then he took off the deckle and handed the mould to the so-called coucher. The vatman placed the deckle on the second mould to form another sheet of paper, while the coucher turned the first mould around and with one swift movement pressed the damp mat of interwoven fibres on a felt. The empty mould was immediately handed over to the vatman for the next sheet, and the coucher put another felt on the fresh damp paper. The texture of the felts used in drying can often be seen as an impression on the surface of papers.

Soon, this repeated process resulted in a stack of paper sheets and felts. If the stack was high enough, all available workers were needed to move it to the large wooden press and to operate the press squeezing out the excess water. After pressing, the layer needed to separate the individual paper sheets from the felts. For this purpose, he needed a lot of experience and care, as the sheets could easily tear. Then the paper was taken to the lofts and hung over ropes for drying. Slow drying of the paper was an important prerequisite for further processing. To make the surface of the dried paper printable and writable, it was often sized with gelatine made of a decoction of animal parts (leather scraps, sheep feet, etc.). After dipping the paper into the gelatine, further drying was needed. The paper was smoothed by hand with a soft stone, and this—like the sorting and preparation of the rags—was typically women's work. Usually the handmade papers had imperfections, such as clumps, knots and heterogeneous fibres. But they were strong and lively papers with a complex surface texture.

A skilled papermaker could produce about 3 500 sheets of standard size paper a day. No wonder that the papermakers saw themselves as artists and their craft was considered the 'white art'. Even if the process by which paper was made was similar in principle, papers made in the 14th century and 19th century differ considerably.

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1 A systematic and differentiated list of the treatment of pulps made of different fibres has been compiled by van Velzen 2018, 12–15.

2 Of course, there are numerous variants of paper moulds in Europe. Although there is a basic form, the material, type and design can differ in detail depending on the region. Loeber 1982 provides detailed information on this topic.

3 More details on sheet forming are described in Barrett 2018.

4 De La Lande describes the movements of the vatman very precisely, and one suspects that not only sensitiveness but also long experience was necessary because different complex shaking and pushing movements had to be performed (De La Lande 1761, 53–54).

The texture of the papers varies, for instance, and there are differences in opacity. The appearance of the surface also depends on the texture of the felts, moulds and fibres used.<sup>5</sup>

## 2 Machinery in Manual Papermaking

Long before the paper machine was invented, there were several manufacturing procedures in manual papermaking that were carried out by machinery. For instance, there was a crucial mechanical influence on producing the paper stock. Until the 17th century, most paper mills used traditional stamper beaters with wooden hammers for beating rags into pulp. Fibre that has been processed by wooden hammers is quite long and felts together very strongly, resulting in a tear-resistant paper. The hammers could have different surfaces, and for instance they could also be provided with metal claws. The stamper beaters were often driven by waterpower. When the so-called Hollander beater was invented in the Netherlands between 1650 and 1680, it took many decades before the old stamping mills were replaced. The Hollander did not become common in Europe before the mid-18th century, although it considerably speeded up the beating process and pulp preparation. In contrast to the stampers, the Hollander was based on a cutting process using metal blades. This resulted in a more refined pulp with much shorter, less swirly fibres and fewer clumps and therefore in a finer but weaker sheet of paper.<sup>6</sup> The fine cutting of the pulp saved time by eliminating the long fermentation process.<sup>7</sup>

There was also a machine involvement in the process of paper smoothing. Many early papers were burnished by hand using smooth stones. Agate and flint stones were often used in Europe. Usually only one side of the sheet was burnished, and the reverse side was laid against a wooden pad from which it also took on a certain amount of finish.<sup>8</sup> By rubbing with a stone, the paper warmed up in the corresponding places and through the pressure the pores of the sheet were closed.<sup>9</sup> This was very strenuous and time-consuming manual work, which called for mechanical solutions. By the mid-16th century, papermakers in Germany used waterpower to repeatedly strike the surface of the paper with big metal hammers. This machine gave the paper a more uniform surface than had been possible using the manual method.

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<sup>5</sup> On the details of manual paper making, see Barrett 2018, published as part of the research project *Paper through Time* (Institute of Museum and Librarianship Services, The University of Iowa Libraries).

<sup>6</sup> Of course, there was not only one construction type of the Hollander. Different designs of the Hollander had a great influence on the consistency of the pulp and the paper produced from it (van Velzen 2018, 83–86).

<sup>7</sup> The far-reaching importance of fermentation in papermaking is described in detail in Barrett 2018.

<sup>8</sup> Hunter 1947, 196.

<sup>9</sup> The smoothed surface of the paper was better suited for writing on with ink as it prevents ink bleeding.

The glazing hammers were brought into general use in Europe in the early 17th century.<sup>10</sup> In the 18th century came another general refinement of the papermaking process: about 1720 the hammers were replaced by wooden glazing rolls. According to Dard Hunter, these were a Dutch invention and consisted of two large rollers made from a solid trunk of a tree, between which the paper was pressed.<sup>11</sup> This created an even surface finish.

Despite the individual paper processing methods and the increasing use of machines, the 18th century papers mostly retained the typical surface texture of the chain and laid lines of the paper mould because the drying process remained unchanged. According to the research of Wootton/Munn/Wallis, this changed when “in 1795 the hydraulic press was invented. This allowed papermakers to apply tremendous pressure to squeeze moisture out of paper which hastened the drying time and produced flatter papers. This also reduced the surface texture created by the laid moulds”.<sup>12</sup>

### 3 Rise of the Machines—From Robert to Donkin

The mechanisation of the white art began early in the Industrial Revolution with the universal acceptance of the Hollander beater and the use of various chemical additives and processes. But it was not until around 1800 that serious attempts were made to produce paper by machine. Years of development, improvisations, failures and, above all, fierce disputes over patent rights had to be overcome until the profitable production of high-quality paper by machine was possible.

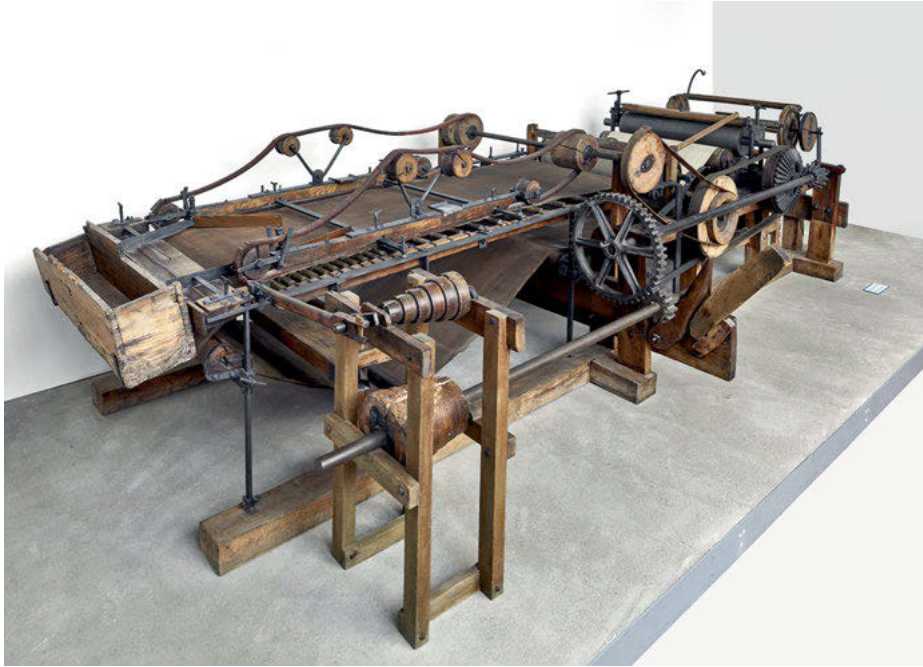
France is the country where machine papermaking started. Nicolas-Louis Robert (1761–1828) worked as a proofreader at the Didot book printing workshop in Paris and then managed the paper mill attached to the printing workshop in Essones, south of Paris. Already in the 18th century, the demand for paper had increased rapidly, not least due to the growing number of published printed works. During the revolutionary years, when there were repeated disputes with papermakers, entrepreneurs felt a great need to make themselves independent of workers through machine production, and Robert tinkered with his paper machine for years. On 19th January 1799, he was granted a patent for this apparatus, which could produce a continuous paper web. Robert’s actual innovation was an ‘endless’ wire belt that was guided and deflected over two rollers above a large vat. A hand crank drove the machine, with a paddle wheel constantly pouring pulp from the vat onto the wire. The wire was shaken side-

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<sup>10</sup> “The idea of the apparatus was borrowed by the papermakers from the bookbinders, as these craftsmen had employed this mechanism for polishing the back of the books for many years before the papermakers adopted it”. Hunter 1947, 196–197.

<sup>11</sup> Hunter 1947, 199.

<sup>12</sup> Wootton/Munn/Wallis 1996.



**Fig. 1:** This paper machine (Inv. No. 79 264) of the Deutsches Museum dates from the early experimental phase. The four-and-a-half-metre long machine is from around 1820 and is considered one of the oldest surviving paper machines. It originally came from the estate of Claude Sauvade, who owned the Moulin de la Combe Basse (Auvergne).

ways, after which the paper web passed through two press rollers that squeezed out excess water before the wet paper web was wound onto a roller.

This paper machine did not become reality. Robert lacked the means to push ahead with further development of his invention and to perfect the machine. He therefore sold his patent to the paper mill owner Saint-Léger Didot (1767–1828), which, however, led to years of disputes. Didot's brother-in-law John Gamble also got involved in the matter. Gamble took advantage of both disputants and promptly applied for a patent for Robert's design drawings in his own name in England in 1801. Gamble then sold parts of the rights to the London paper mill owner and paper wholesaler Fourdrinier. Subsequently, the brothers Henry (1766–1854) and Sealy Fourdrinier (1773–1847) developed far more efficient machines. The mechanics and engineers John Hall (1765–1836) and Bryan Donkin (1768–1855) played a decisive role in this development—the latter was to become one of the most successful and important paper machine manufacturers of the 19th century. Donkin's famous paper machine of 1807, which received its own patent, had many advanced features. These included a finely tuned roller system, an ingenious shaking mechanism and a clever combination of couching and wet presses. Donkin succeeded in optimising the drive of the machine by transferring the power directly to each of the different machine sections. Over time, other areas

of papermaking were also taken over by machine. Thanks to Thomas B. Crompton (1792–1858), machine papermaking was further accelerated a few years later with the design of a steam-heated dryer section complete with a cutter. Crompton applied a patent for it in 1820. Nevertheless, it took some time until the papermaking machines became established. It is astonishing that even in this early phase, the basic machine operations of paper production are the same as those carried out today.

In the development of the paper machine in the 19th century, a distinction is usually made between two types of construction: cylinder machines and Fourdrinier machines. In principle, both machine types are also still being manufactured today. They differ primarily in the method by which a sheet of paper is formed. The cylinder machine was developed by John Dickinson (1782–1869), who received a patent for it in 1809, although it took an additional two years before the machine was actually ready for use.<sup>13</sup> The cylinder machine consists of a cylinder covered with a fine wire cloth. The cylinder rotates in a vat full of a highly diluted mixture of pulp and water. A layer of fibrous web forms on the cylinder mould by the flow action in the vat. A couching roll located over the highest point of the cylinder transfers the (endless) sheet to the wet end of the machine. Thereby the excess water is drained and the wet felt is pressed against the sheet.

The Fourdrinier machine works differently, inasmuch as a horizontal wire-screen belt filters the pulp. The most important components and functional elements of a Fourdrinier machine are the headbox containing the paper pulp, the pulp distribution conduits, the Fourdrinier table with an ‘endless’ wire on which the pulp flows and spreads evenly into a uniform sheet of paper, the press section where the wet sheet is pressed and the dryer section where rotating, steam heated cylinders continue to dry the paper.<sup>14</sup>

## 4 Machine-Made Versus Handmade Papers

The use of paper machines was expected to increase paper production, reduce labour costs and ensure a higher degree of uniformity of the paper at lower prices, which is common for industrial products. Even as machine papermaking became established, handmade papermaking continued, and both types of production influenced each other. The quality of the machine-made paper was already praised in the early stages.

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<sup>13</sup> “By 1811, Dickinson had improved his cylinder-mould machine very considerably; he had altered the construction of the cylinder-mould so that water could more readily pass through from the outer covering of wove wire into the exhausting trough, and so out of the cylinder. Instead of drilling a series of holes, he cut a series of notches round the periphery of the brass cylinder”. Clapperton 1967, 70.

<sup>14</sup> The Fourdrinier machine was expanded in the course of time by adding a size press, which applies on the sheet surface a solution of starch, glue or other material, and a calender section for smoothing the paper before it is rolled on the reel.

But in fact, it took several decades for machine paper to catch up with handmade paper in terms of durability. Especially for high-quality graphic papers, the properties of traditional handmade paper also served as a quality standard for machine paper — and vice versa: during the first half of the 19th century consumers became accustomed to the neatness and uniformity of machine-made products, so aesthetic preferences adapted to the characteristics of the new technique of paper production. In this way, machine-made paper had also an effect on traditional manual papermaking. For the booming printing industry, very uniform smooth sheets without any knots, clumps or other imperfections were especially important. To achieve this objective, the so-called knotter came into general use around 1819 to make the pulp particularly lump-free.<sup>15</sup>

Of course, there are a lot of different aspects and production steps that determine the materiality of the paper. They are also closely linked to the general production method, for example the use and composition of raw material, the preparation of the pulp, the chemical composition and the application of bleaching agents and sizing. As with handmade paper, the quality of machine-made paper is determined by the composition of the base pulp. The hunger for paper was already enormous in 18th-century Europe. There was a desperate need for new raw materials to make up for the lack of rags. Wood was not seriously considered as a raw material for papermaking until the middle of the 19th century. Several years passed before Friedrich Gottlob Keller's discovery of groundwood pulp became generally accepted, but this revolution in paper production led to new technologies and machines. An innovative groundwood industry emerged, where the processing of groundwood pulp to semi-chemical and chemical pulp was only the beginning of further developments. The newly discovered raw material and the fabrication of cellulose had a great impact and influence on all paper production and recycling processes, which had remained almost unchanged for centuries. However, it soon became apparent that the use of wood pulp was very detrimental to the durability of the paper. Paper with a high content of lignin-containing wood pulp quickly turned brown and became brittle and fragile.

Another development in the machine paper sector caused quality losses: the chemical treatment of bleaching and sizing. As Houston points out, the reader wanted the paper to be as white as possible. The papermakers attempted to cater to this aesthetic fashion by using more and more chemicals until they over-egged the pudding, so to speak: too much chlorine was used to bleach the paper, which decomposed the cellulose that was necessary for the stability of the paper fibres. Likewise, the excessive use of aluminium sulfate with the intention of making the paper even smoother and less

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<sup>15</sup> Wootton/Munn/Wallis 1996. "The 'knotter' was first just a screen or strainer, placed directly at the spout where the paper pulp flows into the vat and was usually formed of brass, having fine slits cut in it to allow the comminuted pulp to pass through, while it retains all lumps and knots" (Herring 1855, 66). Soon improvements to the knotter were made. Common in use were round or polygonal revolving strainers (or full-drum strainers). The constant removal of knots and lumps from the strainer has since been optimised by using compressed air (Clapperton 1967, 193).



absorbent for the printing ink ultimately led to paper eating itself up. The paper turned yellow and would crumble into dust.<sup>16</sup> Given the declining quality of machine-made paper, it is not surprising that even in the 19th century some aesthetic characteristics of handmade paper came in vogue because they promised a special quality and durability. Among these characteristics were handmade paper's uneven thickness, lack of uniformity and the technical fault of not being truly square.<sup>17</sup> Two features of traditional handmade paper stand out in particular: the deckle edges and the watermark.

Paper with irregular, fibrous-thinned edges is described as having deckle edges, in contrast to cut edges. Deckle edges are caused by the liquid pulp running against the wooden deckle of the mould. The deckle of the wooden frame leaves the edges of the paper slightly feathery. Unlike the cut edges of machine-made paper, each sheet of handmade paper was often custom-made in a specific size, which depended on the size of the mould.<sup>18</sup> When it was not cut down from a larger piece of paper, it would thus feature deckle edges on all four sides.

The reputation of the deckle edge varied greatly according to time and place. Hunter notes in this context that papermakers in Asia would generally trim off all four rough edges of the sheet. In Europe, especially during the early period of book printing, deckle edges were also unlikely to survive. If they were not cut off by the papermaker, they were usually removed by the bookbinder. Obviously, the deckle edges were regarded then as imperfections. In the 17th century, however, the deckle edge took on a new meaning: book collecting had gained popularity in Europe. With trimmed paper edges, one could not be sure if it was the original binding. The book could have been rebound. The previously imperfect deckle edge now advanced to becoming a sign of the original binding. With the beginning of the machine age, deckle edges on paper began to be considered desirable and were seen as a label of respectability.<sup>19</sup> Handmade paper is also traditionally used for printing engravings. Artists or printers seldom cut the deckle edges of their paper; on the contrary, those who did not have paper with a real deckle edge would produce a similar effect by tearing the paper.

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<sup>16</sup> Houston 2016, 70.

<sup>17</sup> Hunter goes into more detail here about the requirements for printing paper: "Another characteristic of handmade paper that makes for difficulty in printing is that the sheets are not always square. The moulds upon which the paper is formed are perfectly true, as well as the wooden deckle boundary rims, but it is seldom that the finished paper dries absolutely square and even at the four corners. In folding a sheet of handmade paper in the centre for a folio, it will be noticed that the four edges do not always fall one upon another, and if the top edge of a sheet be brought in perfect alignment in folding, it is likely that the watermarked 'chainlines' will not be absolutely perpendicular". Hunter 1947, 456–457.

<sup>18</sup> Certain standards emerged at different times in different places. Even if there were individual differences, the reference size of a sheet of paper depended primarily on the manageability of the mould (Tschudin 2012, 267–274).

<sup>19</sup> Hunter 1947, 456.

Initially, it was not possible to produce paper with deckle edges with a paper machine. Paper was produced in long rolls, and the rough ends of the rolls were cut off and the individual sheets cut out from the roll. To satisfy customer demands, efforts were made to produce deckle edges by machine. This could be done after the paper has been calendered and dried with a rotating cutting device with an uneven cutting edge—a practice that continued into the 20th century. Another possibility was the creation of a predetermined breaking point during the ongoing paper production process: additional metal wires were attached to the roller to minimise the pulp at this point. By pulling gently, the paper tears apart and a false deckle edge is created.<sup>20</sup> There were also companies that dealt exclusively with the processing of the paper edges—the so-called deckling.<sup>21</sup>

Watermarks were also a typical feature of European handmade paper for centuries and can be traced back to about 1280 in Italy, although they were probably created earlier. While Asian and Arab papermakers mostly used flexible moulds that could be pulled or unrolled from the freshly couched sheets of paper, Italian wire moulds with their wooden frames were rigid. These had the great advantage that the wire could be used to attach curved wire figures, leaving marks in each sheet of paper.<sup>22</sup> When the paper is viewed through transmitted light, the pattern of the watermark can be seen due to the differences in the paper's thickness or density where the wire has left its impression. The watermark technique was fundamentally unchanged until the 19th century. No wonder that the variety of watermark design over this long period of time is so extensive and covers every conceivable shape, e. g., heraldic and religious symbols, mythological beings and nature motifs.<sup>23</sup> It is not entirely clear what purpose the watermarks were intended to serve. It is possible that they were initially used to distinguish the output of different workmen who were paid according to the number of sheets of paper they produced. However, it is likely that the watermarks also served as a trademark of the paper mill from the outset and to distinguish between different grades and qualities of paper.<sup>24</sup> Watermarks were formed when the water had drained from the mould and the wire formations were clearly visible in the paper.<sup>25</sup> Even with-

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**20** There are patents concerning deckling machines as late as the first third of the 20th century, e. g., Rivard 03/06/1930, US1761051, of 1929/1930.

**21** Hunter 1947, 456.

**22** Schmidt 2013, 43–44.

**23** Allison 2001.

**24** Allison 2001.

**25** Watermarks vary greatly in their design, realisation and visibility. There are not only the traditional watermarks, which were sewn-on wire figures that left their image in the wet paper pulp. From the middle of the 19th century, so-called shadow watermarks were increasingly used for official papers, e. g., banknotes or passports. By skilfully combining recessed and raised areas on the mould, it is even possible to create greyscale images. This could only be done during the production process of wove paper, as a very fine and even mould mesh must be used, and correspondingly the pulp has to be finer and more homogeneous.

out watermarks, the various structures of the wire mesh were visible in the paper: the pattern of the strands of the fine laid lines and the thicker chain lines, which were more widely spaced and ran across the narrower dimension of the mould, crosswise to the finer strands of wire.<sup>26</sup>

With the establishment of the watermark, their positioning on the paper sheet was also standardised. For a folio size (whole sheet, folded once in width), the watermark was often placed in the middle of one half of the sheet, so that later, when the sheet was folded and trimmed, the watermark was only visible on one half.

During the papermaking process, the moulds are subjected to constant stress. Experience has shown that around 100 000 sheets of paper could be produced with one pair of moulds. The constant use resulted in material fatigue and wire breakage. A papermaker produced about 3 500 sheets of paper in a standard format in one day, but after two to three years the moulds were often worn out to the point that they were no longer usable and had to be replaced. But the succeeding moulds were never exactly alike. Therefore, the individual mould generations can be roughly identified in terms of time. Important clues are given by the fact that paper was expensive in pre-industrial times, and therefore trade and consumers did not keep large stocks. Paper was quickly used for writing, drawing and printing. In the course of the 18th century, archivists, librarians and scholars became aware of watermarks, but it was not until the 19th century that they started to research and document them systematically. Since then, watermarks have been used for the determination of authenticity, origin and chronological classification.<sup>27</sup>

After the invention of the paper machine, industrially produced paper had to do without watermarks at the beginning of the 19th century.<sup>28</sup> Later, different processes for watermarks were developed. There are two main ways of producing watermarks for machine-made paper: with the dandy roll in a traditional Fourdrinier machine and with a corresponding preparation of the cylinder wire of a cylinder mould paper machine. In 1825, the English papermakers John and Christopher Phipps received a patent for *Improvements in Machinery for Making Paper*.<sup>29</sup> This device was known as a 'dandy roll'. The dandy roll is a cylinder covered with wire cloth, resting lightly upon

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**26** Allison 2001.

**27** Schmidt explains this process in detail and also refers to the 13th article of the Reutlingen Papermakers' Rules of 1527 (Schmidt 2013, 44–45).

**28** In this context, I would like to explicitly exclude handmade woven paper, which, although considered a very high-quality printing paper, could not entirely fulfil the traditional aesthetic characteristics of traditional handmade laid paper. Wove paper (known in Europe as *Vélin*) has a uniform surface and is not ribbed or watermarked. The papermaking moulds featured a very fine wire mesh for wove paper. In the mid-18th century James Whatman (1702–1759) created this new papermaking technique in England. With the establishment of the paper machine in the first half of the 19th century, the endless sieve with a wove wire base would become the predominant standard (Wootton/Munn/Wallis 1996).

**29** Phipps/Phipps 1825.

the surface of the paper. Its function is to facilitate dewatering, to smooth the top surface and to improve paper contouring. Depending on the texture of the dandy roll, one can produce ‘woven’ paper with a fine mesh or crosshatch pattern or ‘laid’ paper with parallel lines. Around 1826 the mould maker John Marshall made a dandy roll with attached wire figures for creating watermarks in machine-produced paper. The watermarks were made by pressing them into the freshly formed paper web, displacing the fibres. Since dandy roll watermarks are pressed onto moist pulp from above, machine-made watermarks can be created in a great variety depending on the design of the dandy roll: for example, strongly ribbed dandy rolls for the ‘laid paper look’, dandy rolls with soldered wire figures for light watermarks and with embossments for dark watermarks, combined dandy rolls for light and shade watermarks and figures on the entire dandy roll for full-surface watermarks.<sup>30</sup>

Another type of machine-made watermark is the cylinder mould watermark. In contrast to the dandy roll embossing process, the actual paper mould cylinder is equipped with wire figures. The cylinder mould watermark is generally much clearer and more detailed. Thus, the cylinder mould could produce genuine watermarks that have a special quality because they are created during sheet formation and are not pressed into the paper web shortly after it is formed like the dandy roll watermarks. This practice seems to have increased in the second half of the 19th century.<sup>31</sup> Such technical developments were praised by those active in the paper business at the time: “In recent times papermaking is supported by such facilities, when fashion has again increased the need for handmade paper, i. e. for paper which, with its rough edges and watermark, is beyond all doubt in terms of its quality”.<sup>32</sup>

So, what could be more likely than the construction of a machine that produces genuine handmade paper and is oriented towards the individual steps of traditional paper production by hand? There have apparently been some attempts in this direction: for example, the anonymous author of a small article in the *Polytechnisches Journal* in 1877 mentions several attempts to produce such a handmade paper by machine, including an apparatus by A. M. Clark (London) that was to be made for the US market, various attempts by the paper manufacturer Dumas around 1860 and a machine

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**30** Schmidt 2011, 63.

**31** Schmidt states that such methods were also used more frequently in Germany from 1860 onwards (Schmidt 2011, 62). The paper is thinner where wires have been pressed into the paper pulp, and therefore light contours appear here. If the dandy roll is embossed, more paper pulp is accumulated at these points, and dark contours appear in the paper. A combination of wire contours and embossing results in light-shade watermarks. If a dandy roll is fully watermarked, this pattern is also transferred to the entire paper web.

**32** “In jüngster Zeit, wo die Mode wieder den Bedarf an geschöpftem Papiere vergrößert hat, d. h. solchen Papiere, welches mit seinen rauhen Rändern und dem Wasserzeichen in Betreff seiner Güte über allen Zweifel gestellt ist, hilft man der Handschöpferei mit solchen Einrichtungen nach” (Anonymous 1885b, 316).

by the engineer Ermel for the Bank of France. They all failed because of the complicated construction and the high price of such machines.<sup>33</sup>

## 5 The Sembritzki Machine: Mechanising Handmade Paper

Munich boasts a long tradition of papermaking. One of the first paper mills in Germany was established in Munich-Au near today's Kegelhof-area.<sup>34</sup> In 1862, the mill was merged with a paper mill located in Dachau to form the München-Dachauer-Aktiengesellschaft für Maschinenpapierfabrikation (MD). Subsequently, the production facilities were moved step by step to Dachau.<sup>35</sup> Only the old *Schöpfungspapierfabrik* remained in Munich-Au. The owner, Gustav Medicus, gradually converted the traditional paper mill into a paper factory and equipped it with paper machines. Further modernisations were made to establish high-quality paper production.<sup>36</sup> A very special machine was purchased for this purpose in the mid-1880s, developed and patented by Max Sembritzki (1844–1919) in 1881 and built by the Escher Wyss Company.<sup>37</sup> The so-called *Paternoster-Doppelschöpfmaschine* or Paternoster double-mould machine was probably the most peculiar paper machine ever built for mechanising the making of handmade paper. This machine produced the paper sheets in the manner of handmade paper. The construction of this machine attracted some attention in professional circles.<sup>38</sup> Sembritzki himself promoted his invention in the famous *Polytechnisches Journal*.<sup>39</sup> In this publication he explains in detail the construction and procedure of the machine. He refers also to the growing demand for first-class handmade paper considering the usual low-quality machine-made paper. The new machine should produce expensive and high-quality handmade paper cheaply by machine.

The machine was constructed for the production process of handmade paper by using moulds instead of a continuous paper web. The 'twin' design of the machine allowed the simultaneous use of a mould on each side. The moulds (A/A<sup>1</sup>) were attached to a carriage (B/B<sup>1</sup>) that moved back and forth. In the distributor section (D) the mould was filled with pulp, which had been previously sieved through the knotter (K) and run

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<sup>33</sup> Anonymous 1877, 225–226.

<sup>34</sup> In 1347, Emperor Ludwig the Bavarian granted the paper manufacturer Michael von Pachner a license to operate a paper mill.

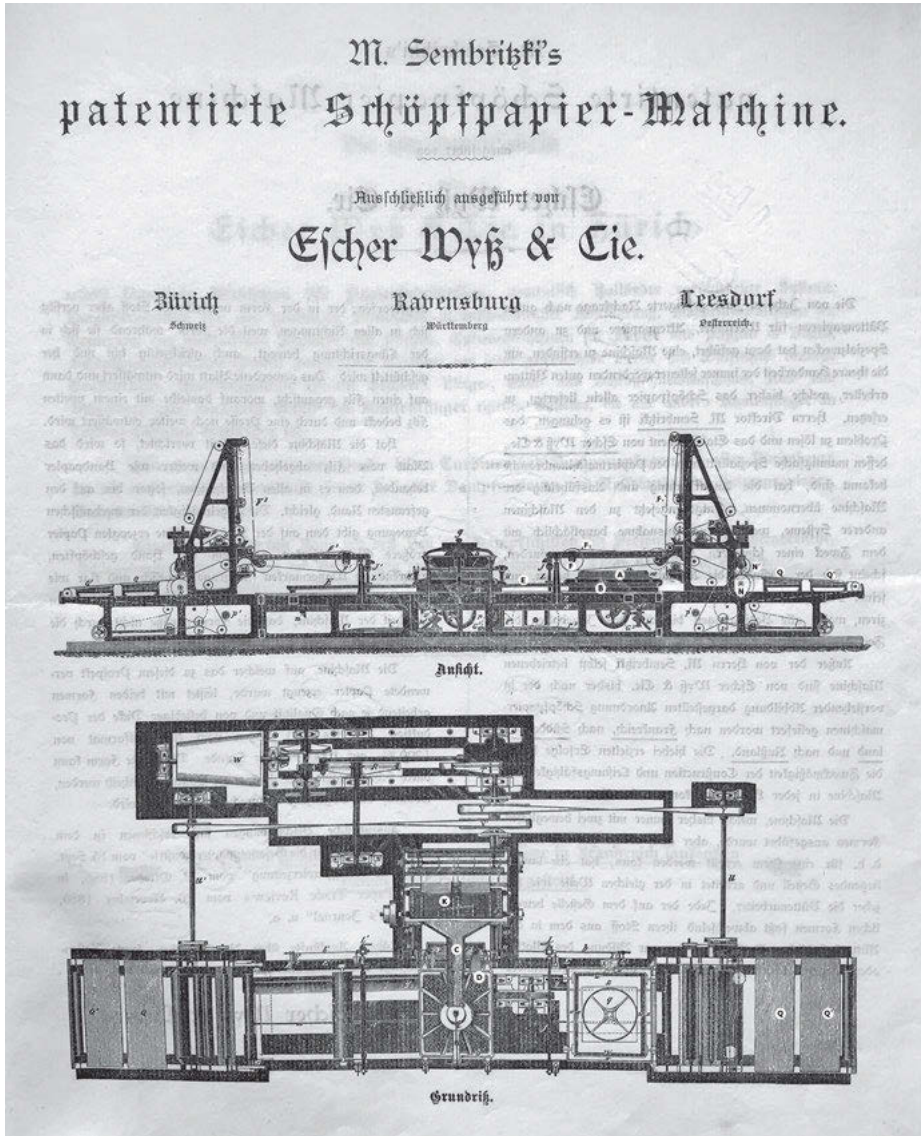
<sup>35</sup> The history of the Munich-Dachau paper mill, including the prehistory of papermaking, is described in detail in Hubrich's two-volume work (Hubrich 1997–1999).

<sup>36</sup> Hubrich 1997–1999, vol. 1, 44–45.

<sup>37</sup> Sembritzki 1881.

<sup>38</sup> Hoyer, who was also director of the Technical University of Munich, was primarily concerned with paper and textile technology. He had long criticised the poor quality of modern machine paper and saw Sembritzki's machine as an ideal way to produce high-quality paper (Hoyer 1888).

<sup>39</sup> Sembritzki 1886, 497–501.



**Fig. 2:** Technical drawings (front and top view) of Sembritzki's paper machine. The individual components of the machine are marked with letters in these plans, which are used in the description of the mode of operation. First page of a four-page advertising brochure of the Escher Wyss Company.

over the drain (C) into the box of the distributor (D), where the pulp was evenly applied to the mould by means of ten tubes. After the mould was filled, it was pushed to the side under constant shaking—making room for the other mould. In fact, the entire carriage section (E) underwent complex lateral vibrating movements that ensured that the fibres of the pulp felted.

After the excess water had flowed out of the mould, the paper sheet was prepared for couching. At the moment of the backward movement, the mould was lifted up and pressed against a cylinder (F) that couched off the sheet onto an endless felt belt.

A second endless felt belt (F<sup>2</sup>/F<sup>3</sup>) was then laid on top of this. This meant that the damp sheet of paper was guided between two felt belts through the rubber press cylinders (N/N<sup>1</sup>). Subsequently, the pressed sheets were treated as handmade paper and lifted off the tables at the ends (Q/Q<sup>1</sup>) of the machine by workmen and taken for air-drying. The carriage including the mould was cleaned by machine with water and then moved back under the pulp distributor. The drive was very complicated because two moulds had to be coordinated under the pulp distributor. In addition, another stop of the whole movement had to be set up so that the workers could lift the sheets off the felts.<sup>40</sup>

According to a four-page brochure of the Escher Wyss Company, the machine could produce 240–480 paper sheets per hour depending on the desired thickness of the maximum sheet size (120 × 100 cm).<sup>41</sup> Machines are said to have been set up at Morel, Berciour et Masure in Arches (France); at Turner, Symons & Co and Tuckenhall (England); and in St. Petersburg for the manufacturing of rouble banknotes.<sup>42</sup> However, there were also Sembritzki's own machine in Schlöglmühl near Gloggnitz, Austria,<sup>43</sup> and the Munich machine of the Schöpppapierfabrik Au. There were thus a total of five Sembritzki machines.

In the 1880s, the double machine cost around 25 600 marks. It was supposed to achieve the same output as eight vats with twenty-four workmen and thus a wage saving of 80 % for the employer.<sup>44</sup> The installation of a machine in Munich has been documented by Egbert Hoyer and Walter Sembritzki, although no further technical documentation of the Au paper mill has yet been found.<sup>45</sup>

The explanations about the machine makes one curious about the result of this construction. After all, there exists a four-page advertising brochure, mentioned above, which was printed on a paper made on the Sembritzki machine running in France. The exceptional fine paper is trimmed, relatively thin with a very even laid texture. The wires are clearly visible and regularly arranged. The watermark *Escher Wyss & Cie Zurich* is also very well-proportioned with distinct indentations and runs diagonally across the page.

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<sup>40</sup> Sembritzki mentions that two boys or girls are needed to lift off the sheets of paper at each end of the machine (Sembritzki 1931, 923).

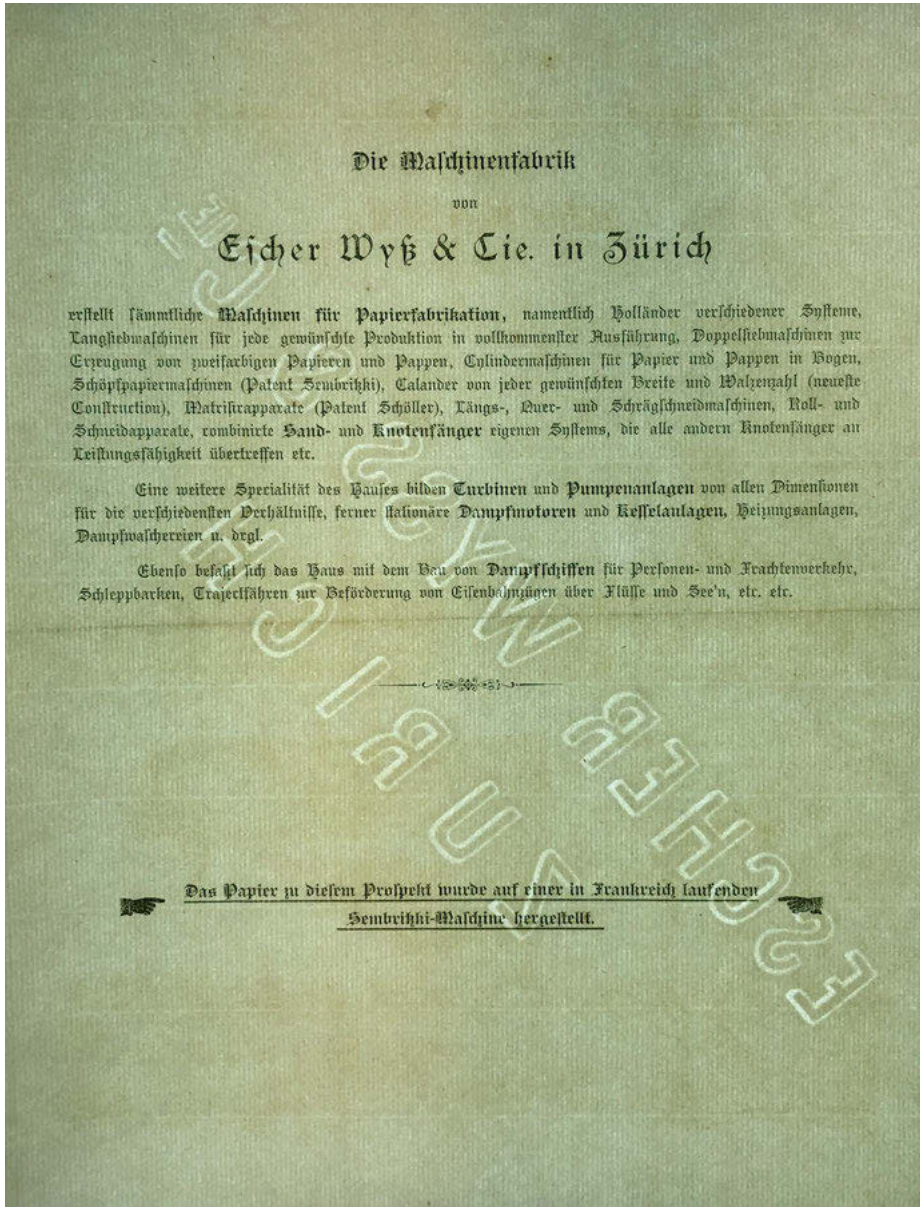
<sup>41</sup> Anonymous c. 1886.

<sup>42</sup> Sembritzki 1931, 922.

<sup>43</sup> Anonymous 1885a.

<sup>44</sup> Sembritzki 1931, 922.

<sup>45</sup> Egbert Hoyer, *Über eine neue Maschine zur Erzeugung von Handpapier*, lecture held on 25/11/1889 at the Polytechnischer Verein in Munich (Hubrich 1997–1999, vol. 1, 44–45).



**Fig. 3:** Third page (24.5 × 29 cm) of a four-page advertising brochure of the Escher Wyss Company featuring the laid paper texture and the watermark.



Another sheet of paper, made by a Sembritzki machine, has been found in the Dachau archive. It was printed with the following text (excerpt, here translated into English) in 2007:

This paper sheet was produced on a Paternoster double-mould machine in the ‘Schöpfungpapierfabrik München-Au’. The Au was once one of the oldest paper mills in Germany and from 1862 belonged to the München-Dachau Actien Gesellschaft für Maschinenpapier-Fabrikation, whose founder, Gustav Medicus, lived in this house from 1853 to 1866. The first double-mould machine, of which only three were built,<sup>46</sup> was installed in 1884,<sup>47</sup> as good quality paper was needed for documents and official documents, and as machine-made paper had major quality deficiencies. In 1892, the paper factory in the Au was sold, and the remaining stocks of this paper came to Dachau. Gustav Kittelberger, the factory director of the two Dachau factories at the time, used this paper to supply Ludwig Thoma, who wrote his Christmas legend *Holy Night* on it.<sup>48</sup> A few sheets have been preserved until today [...].<sup>49</sup>

The paper of the MD collection (the archival fund of the München-Dachauer-Aktien-gesellschaft für Maschinenpapierfabrikation), which according to a note in the files is said to have been made around 1900, is in very good shape. No brittleness of the paper, which is 120 years old, can be observed. Compared to the paper used in Escher’s advertising brochure, the Munich paper is much thicker and comes much closer to the look and feel of traditional handmade paper.<sup>50</sup> There are no wavy cut or torn edges but

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**46** Here, von der Heyde and Hubrich are mistaken, since not three but five machines existed.

**47** Again, the numbers are incorrect: the Sembritzki machine was built in 1886, but it was not put into operation in Munich until 1889.

**48** *Holy Night* is the title of a verse epic by the Bavarian writer Ludwig Thoma (1867–1921), published in 1917. It tells the Christmas story in Bavarian dialect. Obviously, the precious paper made by the Sembritzki machine was just good enough for the literary work of the renowned writer. Thoma’s literary estate is housed in the Monacensia, Munich’s municipal literary archive: *Heilige Nacht*, Urschrift, Monacensia L 1604. However, when sifting through Thoma’s literary estate in the Monacensia literary archive, no paper from the Sembritzki machine could be found.

**49** This sheet of paper was made by Helmut von der Heyde (former Managing Director MD-Papier, great-great-grandson of Gustav Medicus) and Eugen Hubrich (former MD Paper plant director, Dachau plant) in the year 2007: “Dieser Papierbogen wurde auf einer Paternoster Doppelschöpf-Maschine in der ‘Schöpfungpapierfabrik München-Au’ hergestellt. Die Au zählte einst zu den ältesten Papiermühlen Deutschlands und gehörte ab 1862 zu der München-Dachauer Actien Gesellschaft für Maschinenpapier-Fabrikation deren Gründer Gustav Medicus von 1853 bis 1866 dieses Haus bewohnte. Die erste Doppelschöpfmaschine, von der insgesamt nur drei gebaut wurden, kam 1884 zur Aufstellung, da man für Dokumente und amtliche Schreiben ein qualitativ gutes Papier brauchte und da maschinell gefertigte Papier noch große Qualitätsmängel aufwies. 1892 wurde die Schöpfungpapierfabrik in der Au verkauft und die Restbestände dieser Papier kamen nach Dachau. Damalige(r) Werksdirektor der beiden Dachauer Fabriken, Gustav Kittelberger, versorgte in der papierarmen Zeit mit diesem Schöpfungpapier Ludwig Thoma, der seine Weihnachtslegende ‘Heilige Nacht’ darauf schrieb [...]” (Dachau, Stadtarchiv Dachau, Bestand MD-Papier 107).

**50** Obviously, not only different moulds were used in the production of these two papers, but also a different consistency of the paper pulp.



**Fig. 4:** The watermark, ribbed paper texture and deckle edges of the Munich Sembritzki paper sheet on the light table.



**Fig. 5:** Details of the structure of the sewn-on watermark letters in the paper.

real deckle edges on all four sides that are extremely feathery and are very clearly visible. The watermark ‘München-Dachau’ stretches across the entire sheet (35,5 × 44 cm). The individual letters are very clearly visible against the light. The real watermark with its distinct indentation can be identified. The wire mesh of the mould is also clearly visible. The paper has a strongly ribbed texture, but it is obvious that this is not the typical laid paper of the Fourdrinier paper machines. The slightly irregular ribbed wires are the same as those found on the old vatman’s moulds.

The very fine sewing wires stand out on the individual letters of the watermark, especially where they are attached to a chain wire. The paper fibres are very strongly felted together and create a thick sheet of paper with a smooth surface texture that is very delicately sized. The composition of the paper pulp appears quite homogeneous; few other fibres or contaminants can be identified by visual inspection. Certainly, this paper could not easily be identified as machine-made. Perhaps only the very even surface texture is a somewhat unusual for handmade paper. It is obvious that the result of this production method was a type of paper with great strength and durability and with similar formation of sheet, deckle edges and watermark structure as handmade paper. One could agree with Sembritzki, who claimed that “the described machine

continuously delivers truly dipped sheets of paper of such quality and regularity that even the best handmade paper workers are not able to create. Raised and deepened patterns of the moulds emerge in the finished papers with sharpness and clarity”.<sup>51</sup>

## 6 Conclusion

Technical progress is not always easy to identify. Although the introduction of paper machines in the first third of the 19th century is celebrated as a major milestone in the history of paper technology, it actually took many decades before machine-based paper production was established almost everywhere—while the old paper mills were still active. The quality of machine-made paper left much to be desired—above all, the inadequate chemical preparation of the paper pulp meant that the machine made paper was not particularly durable. This was no problem for newsprint, but other qualitative standards applied to books and important documents. Sembritzki wanted to fill this market niche by offering machine-made paper that had all the characteristics of handmade paper. This was not only a question of quality, but also of aesthetic preferences and fashions. In the last third of the 19th century, old paper mills in which traditional papermaking had taken place were rarely in operation any longer. Sembritzki’s machine was now supposed to produce paper that looked handmade but could be produced more quickly. The *Doppelschöpfmaschine* was able to fulfil these specifications, including the desired aesthetic and qualitative features. However, the output was probably not high enough to compensate for the considerable acquisition costs of such a machine. In the end, only a few machines were built, and they were apparently not in operation for very long.<sup>52</sup> In this respect, Sembritzki’s attempt failed, presumably also because by that time the conventional paper machines produced better paper, the chemical preparation of the pulp had greatly improved and, moreover, the output was much higher.

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<sup>51</sup> Sembritzki 1886, 501.

<sup>52</sup> Unfortunately, there is no evidence that such a machine still exists.

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- Fig. 1: Paper machine. Photo: Konrad Rainer, Deutsches Museum Munich.
- Fig. 2: Advertising brochure, Escher Wyss Company, c. 1886, 1, technical drawings.
- Fig. 3: Advertising brochure, Escher Wyss Company, c. 1886, 3.
- Fig. 4: Stadtarchiv Dachau, MD-Papier 107.
- Fig. 5: Stadtarchiv Dachau, MD-Papier 107.

Ermenegilda Müller

# Describing and Representing Watermarks

From Paper Catalogues to Online Databases

## Introduction

Watermarks are depressions in the surface of historical paper that were intentionally created and represent a figurative or abstract motif. They are used for dating, tracing the provenance and reconstructing the production context of a wide variety of historical documents—musical notation, manuscripts, printed books, artworks on paper, and so on. However, the dating and contextualisation of watermarks and that of the documents themselves are interdependent. As Peter Rückert writes, “A prerequisite for dating by means of watermarks is [...] a large number of dated watermarks”.<sup>1</sup> In other words, to know where and when a given watermarked paper was used, one must know where and when some of the documents that contain this paper were produced. One must also distinguish watermarks from watermark motifs or designs, since different individual watermarks can represent the same object (for instance, there are many different watermarks that represent a fool’s cap). The wire-figure that was attached to the paper mould and produced the watermark would also go through damages and repairs, resulting in variations in the shape of the watermark. Last but not least, watermarks are difficult to observe and reproduce, especially when the surface of the paper sheet is partially covered in ink or any other dark or opaque substance. As a consequence, individual records of watermarks often contain incomplete information. Their identification relies therefore on the analysis of large bodies of data. In order to be studied with quantitative methods, watermark information must meet some basic requirements. It must be traceable, accessible and represented consistently.

Records of watermarks must include information that makes it possible to locate them in documents and collections. They must also be easily searchable and readable both for humans and machines. Last but not least, they must accurately represent watermarks and other material features of paper that participate in their identification. For these reasons, paper scholars have developed guidelines and tools to ensure that watermark information is gathered and represented according to best practice.

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<sup>1</sup> Rückert 2009a, 9.

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Digital databases greatly improve the accessibility of watermark information and facilitate its analysis. There are now several large watermark databases, some of which include the entirety of major printed or unpublished watermark collections. Most of them are now linked in the Bernstein Portal.<sup>2</sup> Digital databases are major assets for the storage and quantitative analysis of watermark information. However, their interoperability can be compromised by the wide variety of reproduction techniques and description procedures that were used to produce their contents. Variations in the quality, dimensions and visual aspect (colour, etc.) of images, but also the different terminologies and levels of detail adopted in descriptions, make it challenging to compare and analyse watermark data.

The present article reviews the different methods used to represent and describe watermarks and discusses how they impact the accessibility and use of watermark information. After a brief overview of the features of paper that are recorded in watermark studies, it surveys reproduction techniques and description procedures. It goes on to discuss how watermarks are represented in specialised databases, and how they can be represented in non-specialised databases that contain records of paper documents. Finally, it illustrates this last point with the example of watermark description in the TEI (Text Encoding Initiative) XML standard, and discusses the advantages, challenges and implications of a custom TEI module developed by the author for watermark description.

## 1 Features of Watermarks and Laid Paper

### 1.1 Historical Context

Paper was produced in medieval Europe as early as 1150, but it did not become an important commodity there before certain technological innovations that made paper less perishable and more suitable for Western handwriting methods and its production more economically viable. These innovations most likely took place in northern Italy in the mid-13th century and were to determine the characteristics of laid paper, which was used in the West until the middle of the 18th century.<sup>3</sup> Among others, the flexible sieve used in the making of Arab paper was replaced with a rigid mould made out of copper or brass wire. This transformation of the paper production process caused the appearance of characteristic marks on the surface of the sheet that provide us with precious clues about the origin and production context of paper.<sup>4</sup>

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<sup>2</sup> *Bernstein* (s. d.).

<sup>3</sup> Wove paper can also contain watermarks. However, for the sake of brevity, the present article focuses on the characteristics of laid paper.

<sup>4</sup> More thorough overviews of the history and characteristics of laid watermarked paper can be found in Tschudin 2002, 91–100; Clemens/Graham 2007, 6–7; Kämmerer 2009, 12–14; Mariani/Pellegrini 2009, 14–16; Harris 2017, 14–22, 103–107.

Scholars make a distinction between paper marks that are deliberately created to convey information about the origin and/or qualities of paper, i. e., the main watermarks, and those that are incidentally created by the mechanical process of paper production.<sup>5</sup> Both types of marks are important sources of information, as they enable the reconstitution of the mould used to produce the sheet. The rest of this section briefly surveys them and their significance in paper studies.

## 1.2 Mould Wire

As mentioned above, paper moulds are made out of a frame with metal wires stretched across it to form a mesh. The wires that run parallel to the short edges of the mould leave characteristic depressions in the paper called chain lines. The wires that run perpendicular to the short edges of the mould also imprint marks, which are called laid or wire lines. A bent wire figure, which is sewn onto the mould, forms the watermark. Not only the shape and dimensions of the latter, but also its position relative to the chain lines and the marks left by the stitches make it unique.<sup>6</sup> In some cases, deliberate secondary marks such as countermarks—initials or names of papermakers that appear opposite to the main watermark on the other half of the bifolium—were added.<sup>7</sup> With the help of these features, it is possible to identify the paper sheets that come from the same mould. To do so, paper scholars record and compare the following: the distance between the chain lines, the density of the laid lines, the distance between the watermark and the chain lines, the dimensions of the watermark itself, the marks of the stitches that attached the watermark to the mould and the same parameters for secondary marks if present. They also note if this information was recorded on the felt or on the mould side of the paper.

It would not be sufficient to only reproduce and record the dimensions of the main watermark for the following reasons. Firstly, watermarks are altered throughout the lifetime of the moulds on which they are attached, the repeated use of which would damage the wire figure and sometimes make it come loose, leading to repairs.<sup>8</sup> Secondly, paper moulds were used in pairs in order to maximise time-efficiency during production. There were therefore two moulds bearing quasi-similar watermarks, called twins.<sup>9</sup> In late medieval and early modern paper, one twin usually appears on the left half of the sheet, while the other is on the right half. This makes it possible to easily differentiate twins with asymmetrical motifs, but even then, watermark motifs

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<sup>5</sup> See Piccard 1954 and 1960; Kämmerer 2009, 13; Harris 2017, 32.

<sup>6</sup> Kämmerer 2009, 12; Harris 2017, 17, 21–22, 120–121.

<sup>7</sup> For countermarks, see for instance Harris 2017, 51–53. There also exist secondary marks that serve a decorative purpose.

<sup>8</sup> Gerardy 1964; Haidinger 2004; Stiegler 2009, 37–38.

<sup>9</sup> See especially Stevenson 1952.



are often symmetrical.<sup>10</sup> It is therefore necessary to look at the position of the watermark relative to the wire and how it is attached to it to differentiate twin watermarks. Finally, watermarks representing the same motif often look very similar. Nevertheless, watermark motifs in themselves are also a source of information.

### 1.3 Watermarks and Motifs

According to the earliest literary and legal sources that mention them, watermarks were the distinctive trademarks of papermakers.<sup>11</sup> However, watermarks using the same motif quickly proliferated. Because they were associated with paper mills with more or less high production standards, they came to be associated with quality, with two consequences. The watermark was copied to counterfeit more expensive paper, but motifs also became labels for papers of different qualities. Since watermarks were attached to moulds, motifs also came to be associated with certain historical standard dimensions for paper.<sup>12</sup> Finally, motifs could convey information not about the paper's origin, but about a target market in a geographic area. For instance, Italian papers with moon crescent motifs were exported to the Islamic world,<sup>13</sup> and the early 17th-century French and Genoese papers with the arms of Amsterdam were produced for the Dutch market.<sup>14</sup> These examples show that there is a semantic dimension to watermark motifs, but it is far from straightforward. For this reason, scholars created classifications that allow not only for easier detection of small differences between similar-looking motifs but also for assessment of the usual meaning—origin, standard dimensions, etc.—of a motif.

### 1.4 Use of these Features

Studying paper marks enables the hypothetical reconstruction of the pair of moulds that was used to produce a given paper stock. In association with information about the documents produced using this paper and their origin, they make it possible to locate and date the use of the stock. The dating and production context of other documents can then be inferred from this information. Paper marks are best represented by a real-size, high-quality image, but it is not always possible to produce one. The metric parameters of paper marks are therefore often rendered in descriptions. The combination of descriptions and images is thus essential for representing watermarked paper comprehensively.

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<sup>10</sup> Harris 2017, 48–51.

<sup>11</sup> Briquet 1907, 4–5; Rückert 2009b, 29; Lackner 2009; Harris 2017, 23, 52.

<sup>12</sup> Tanselle 1971; Needham 1994; Ornato 2013.

<sup>13</sup> Andreev/Velkov 1983; Walz 1985.

<sup>14</sup> Churchill 1935, 6.

## 2 Recording Data for Watermark Studies

### 2.1 Features Used in Watermark Studies: Summary List

The features of watermarks described above determine the parameters that have to be recorded for their identification:

- The motif of the main watermark.
- The main watermark's position.
- The pairing of twin watermarks.
- The marks of the stitches that attached it to the mould.
- The chain lines and the distance between them.
- The laid lines and their density.
- The distinction between the felt and mould sides of sheets.
- Countermarks and other secondary deliberate marks.
- The dimensions of the paper in the document.

Other aspects pertain to the documents that contain the paper and their context. Recording them is nevertheless fundamental. They inform us about the use of paper in the production of documents and the location of watermarked paper in current repositories. These aspects are:

- The repository.
- The identifier of the document, such as a shelf-mark.
- The location of the paper sheets that contain the watermarks in the document.
- The origin and provenance of the document.

### 2.2 Representing these Features: Image or Description?

Images and descriptions of watermarked paper are interdependent. Alone, neither can represent watermark information adequately. When it comes to features that pertain to the document and the use of paper in it, but not the paper per se, descriptive representations are the most practical option. On the other hand, features of the sheet itself can be rendered with as little mediation as possible in images. The visual differences between watermark designs allow their differentiation and classification. Images can be superposed to compare the shape and dimensions of watermarks. However, obtaining good quality images of watermarks is not easy. Indeed, reproductions do not necessarily enable a faithful rendition of their shape and dimensions. Moreover, artworks, inscriptions or print on the sheet can cover the watermark, which is an obstacle to backlighting or transmitted light, the most common method to make watermarks visible. Finally, in any other format than folio, the watermark will be located in the sheet's inner or outer margin. It will therefore be either in the folding of the sheet, or cut. Part of it may have been lost when the document was trimmed.

Accurately representing all of the marks on a sheet with an image would entail obtaining a whole, real-size image of it. This would be ideal for research, but it is in most cases difficult and inconvenient. Not only is it often impossible to do without dismantling the document. It is also highly impractical both in physical and digital catalogues. Having real-size reproductions of whole sheets would create problems of format in physical catalogues—imagine A2-catalogues of several thousands of watermarked sheets—and volume in digital catalogues. It is therefore often easier to represent the position and dimensions of paper marks on the sheet with numerical data. Nevertheless, descriptions of paper marks cannot convey as much detail as an accurate visual reproduction. Some features, especially the main watermark, must therefore be represented by an image.

### 2.3 Prerequisites for Visual Representation

In order to be usable, watermark images must represent the whole mark. As we have seen, such an image is difficult to obtain with a sheet that is written, drawn or printed on. Consequently, one has to either derive the image from a sheet where the watermark is not covered in ink or use a reproduction technique that does not capture the ink. Including the chain lines in the image is also extremely useful, since the distance between them and to the watermark helps identify the paper.

The fidelity of the image in terms of dimensions impacts the use that can be made of it. Keeping the original dimensions guarantees maximum accuracy and makes digital images fit for machine analysis. Images in paper catalogues do not always live up to these standards, but they are essential for navigating watermark designs. The information that they cannot convey must nevertheless be supplied in a description.

### 2.4 Prerequisites for Descriptive Representation

How precise a watermark description must be depends on how one intends to use it in research. The information that guarantees traceability is inalienable, while the level of detail in the description of the paper marks depends on how much information can be collected with certainty. For instance, when paired with images, very minimal descriptions of watermarks in catalogue entries of other documents are already useful because they allow scholars to locate watermarks that are potentially interesting for their research. On the other hand, it is considered best practice to record only the information that can be assessed with certainty in order to minimise inaccuracies.<sup>15</sup> This information might not be sufficient for watermark identification, but it is

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<sup>15</sup> See for instance IPH, 2.

useful to collect it for quantitative research, and it cannot be excluded that it can be completed later on by other means—external supporting evidence, technologies that enable a better reproduction of the paper marks, etc.

In order to make sure that their entry descriptions contain consistent information, watermark catalogues and databases use description standards. These ensure not only that they meet requirements of accuracy and comprehensiveness, but also that they use a terminology that is understandable by the whole research community. Standards address what information is recorded, how it is collected and how it is expressed. They cover not only features of sheets, watermarks and the documents that contain them, but also the classification of watermark motifs. A few different standards exist, but those that are still in use agree on the same minimum requirements.

### 3 Visual Representation of Watermarks

Analysing watermarks, as well as reproducing them, presents many difficulties. Some of the methods that are used for these purposes are invasive, while others lack accuracy. Still others are efficient but costly and/or reliant on technologies that are hardly accessible nowadays. In recent years, digital methods have proven very useful for making watermark images more readable, and this field is evolving relatively fast. This section gives a brief overview of the different techniques that have been used to make watermarks visible and reproduce them, discussing their advantages and their shortcomings. It first describes the different methods used to produce images of watermarks before reviewing the different methods to digitally enhance these images.

#### 3.1 Producing Watermark Images

##### 3.1.1 Earliest Analogue Methods: Tracing and Rubbing

The most common method for making watermarks visible is the use of transmitted light, i. e., putting a source of light behind the sheet. It has been employed since the early days of the discipline. In the introduction of his foundational catalogue *Les filigranes*, Charles-Moïse Briquet explained how he used this method. Briquet would place loose sheets against a windowpane or slide a glass plate exposed to daylight underneath the sheets in bound documents. He would then trace the backlit watermark on a thinner paper.<sup>16</sup>

This method was somewhat efficient, but it would not be authorised in most repositories nowadays due to its invasive nature. It presents two other major issues. First of all, transmitted light does not go through the ink on the sheet, which obscures

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<sup>16</sup> Briquet 1907, xvii–xviii.

parts of the paper marks. In addition, tracings made by hand are never fully accurate. This makes them unfit for machine extraction of dimensions. Despite the method's shortcomings, *Les filigranes* is nevertheless still an efficient tool for watermark studies. Other early watermark scholars, such as Aurelio Zonghi and later Gerhard Piccard, would also use transmitted daylight and tracing.<sup>17</sup>

Another early method for reproducing watermarks was rubbing. Unlike most other methods, rubbing relies not on the transparency of the paper, but on its difference in thickness. A thin sheet is placed over the one containing the watermark, and a pencil is rubbed over it. More graphite would deposit on the areas that were not directly over the watermark. Rubbings were extensively used by Paul Needham and for the Watermarks in Incunabula printed in the Low Countries (WILC) project.<sup>18</sup> They are slightly more accurate than tracings and are not compromised by the presence of ink on the paper, but they are still difficult to analyse with machines.<sup>19</sup> They also present issues of invasiveness.

Tracing and rubbing are cheap, fast and easy to perform. They were virtually the only methods of capturing watermarks at the time when the most prolific watermark cataloguers, Briquet and Piccard, were active. They consequently represent the bulk of watermark reproductions in paper catalogues and digital databases. However, they are no longer allowed in most repositories.

### 3.1.2 Radiography

Radiography has the advantage of reproducing the structure of the paper without showing the ink on the surface. Beta-radiography, which was first applied to watermark studies by Dmitry P. Erastov,<sup>20</sup> was used to produce watermark images in a large number of studies between the 1960s and 2000.<sup>21</sup> However, it is no longer used in other fields, and the hardware employed for it has become inaccessible as a consequence. It also presents significant health risks for users. Two other types of radiography have been used for watermark reproduction so far. The first one, electron radiography, was used in the WILC project.<sup>22</sup> The second, soft X-ray radiography, was applied to the paper used in Rembrandt's etchings.<sup>23</sup> A subtype of soft X-ray radiography, Grenz radiography, was also optimised for watermark reproduction.<sup>24</sup> Comparative studies

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**17** Zonghi 1881 and 1884; Likhachev 1899; Piccard 1961–1997. For contextual information on these authors, see Haidinger 2009, 79, 81; Rückert 2009c. For the accuracy of Piccard's tracings, see Haltrich 2009, 70–73.

**18** See for instance Needham 2000; WILC 2021.

**19** Pereira Pardo/Bergel 2020.

**20** Erastov 1958; see Stiegler/Wenger 2009, 99.

**21** For a list of these studies, see Harris 2017, 129–130.

**22** WILC 2021; Harris 2017, 56, 130.

**23** Laurentius et al. 1992.

**24** Van Aken 2003.

have shown that radiography remains the most efficient technology for visualising and reproducing watermarks without digital enhancing.<sup>25</sup> However, it presents problems of accessibility and health hazards no matter which type of radiography is used.

### 3.1.3 Dylux

Dylux 503-1B proofing paper enjoyed some popularity among watermark scholars between the 1970s and the early 2000s. Commercialised in 1969 by E. I. du Pont de Nemours & Co., it was initially used for proofing lithographic negatives. Dylux paper is coated with colourless dyes and photo-oxidants that oxidise the dyes when exposed to ultraviolet light. The remaining active dyes are then neutralised with blue daylight. The American filigranologist Thomas L. Gravell optimised the use of Dylux for watermark reproduction. Gravell was originally interested in using Dylux for watermarks on stamps, which were at the time rendered visible by dipping the stamp in benzene.<sup>26</sup> He then used it to reproduce watermarks in documents in the Library of Congress and promoted his method among his colleagues.<sup>27</sup> The Dylux method was praised for the high quality of the images it produced, but it presents major disadvantages. First of all, it captures both the ink and the watermark. Second, it is not completely safe for users because some components of the paper's coating release an off-gas. Third, Dylux paper is no longer manufactured, and its shelf life was only three years in the best conditions.<sup>28</sup>

### 3.1.4 Phosphorescence and Thermography

Phosphorescence watermark imaging also makes use of ultraviolet light by shining it on a plate coated in phosphorescent pigment. The watermarked sheet is then placed over it and the sheet and plate are exposed to both infrared and ultraviolet light simultaneously. Ultraviolet light stimulates the phosphorescent properties of the pigment, while infrared light cancels these effects. The plate thus turns dark in the areas that are underneath more transparent parts of the paper like the watermark. This technique is time- and cost-efficient but does not produce good quality images, not least because ink is still visible and interferes with the visibility of the watermark.<sup>29</sup> Most types of ink are indeed still visible in the near-infrared spectrum (780–2500 nm): while plant inks disappear under infrared light of ca. 750 nm, iron-gall ink becomes invisible only above ca. 1400 nm, and carbon inks remain opaque under infrared light.<sup>30</sup>

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<sup>25</sup> Werner/Wallner-Holle 2004; Meinschmidt/Märgner 2009.

<sup>26</sup> See Dessauer 2000, 185. Benzene was indeed used to enhance the visibility of watermarks and not only on stamps. See La Rue 2001, 315, who considered benzene to be safe for manuscripts but admitted that “few curators will permit such an experiment”.

<sup>27</sup> See Gravell 1973.

<sup>28</sup> For Dylux, see Alison 1999; Dessauer 2000; Gants 2005.

<sup>29</sup> Small 2000; see also Sweet 2005; Hiary 2008, 23.

<sup>30</sup> Rabin 2021.

Thermography or thermal photography, on the other hand, uses infrared light and thermal radiation. A source of heat (35–40 °C) is placed behind the paper sheet and the image is obtained with an infrared camera. The ink on the paper is not captured in the image. This method is efficient, but exposing the document to heat can compromise its preservation. It has to be performed very fast (under one second) and at a distance from the source of heat (more than one cm).<sup>31</sup>

### 3.1.5 Photography

The Ilkley method involves placing a high-speed photographic film under the watermarked paper in a darkroom and exposing it to light for a few seconds. It captures also the ink, which limits the quality of the reproduction.<sup>32</sup>

Transmitted light is still the most accessible and cost-effective means of seeing watermarks. Nowadays, LED light sheets, which are part of the staple equipment of conservation workshops, make it possible to backlight watermarked paper without damaging it. Since the 1950s, backlit watermarks are more and more often photographed rather than traced.<sup>33</sup> The photographs thus obtained vary significantly in quality. The distortion of the objective can affect the proportions of the image, and ink on the sheet's surface hides part of the paper marks. For this reason, description standards recommend both giving a scale and using real-size images.<sup>34</sup> Transmitted light photographs can, however, be greatly improved with digital processing, and so can other watermark images obtained with other techniques.

## 3.2 Digitally Enhancing Watermark Images

### 3.2.1 Digital Imaging Using Software

Digital imaging of watermarked paper focuses on filtering the interferences (ink, damage) that create noise on the image and enhancing the visibility of a chosen type of paper mark (watermarks, but also chain lines and laid lines). Early examples include the 1989 study of Piero Zamperoni, which used transmitted light photographs, and that of David L. Gants from 1998, which used both transmitted light photographs and Dylux reproductions. The project La Marca d'Acqua by the firm Fotoscintifica used a combination of digital photographs taken from different angles.<sup>35</sup> Since then, many

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<sup>31</sup> Neuheuser/Märgner/Meinlschmidt 2005; see also Hiary 2008, 24.

<sup>32</sup> Schooner 1987; see also Sweet 2005; Hiary 2008, 22.

<sup>33</sup> See for instance Stevenson 1952, 71–72, who uses this technique and mentions its use in other studies.

<sup>34</sup> IPH, 8.

<sup>35</sup> See Moschini 2000.

projects have been devoted to improving these methods.<sup>36</sup> Some have used the commercial software Adobe Photoshop,<sup>37</sup> whereas others developed proprietary software for their respective projects. The Bernstein project made its image processing tools available for non-commercial use in its Paper Studies Kit.<sup>38</sup>

### 3.2.2 Multispectral Imaging

Scholars have recently started applying Multispectral Imaging Systems (MSI) to watermark imaging. MSI rely both on hardware and software and are used to produce digital images corresponding to specific wavelength ranges (spectral channels), including those that are outside of the visible colour spectrum. They are useful for visualising and reproducing elements of historical documents that are not visible to the naked eye because they are covered by an opaque layer, ink for instance. Researchers have found that processing the combination of a transmitted light image and a reflected light image of the paper with this technique allowed them to obtain watermark images where the interference of ink is significantly reduced.<sup>39</sup> Other procedures rely on the subtraction of a transmitted light image from a reflected light image.<sup>40</sup>

### 3.2.3 Advantages and Challenges of Digital Watermark Imaging

Digital imaging makes it possible to significantly improve the accuracy and readability of watermark images, but it presents accessibility issues. Some methods rely indeed on proprietary software, which entails important issues of accessibility, interoperability and perennity. For instance, the software developed for the project La Marca d'Acqua mentioned above was lost with the passing away of its creator, Daniele Broia, in 2013.<sup>41</sup> Others involve customising commercial software, which requires not only financial investment for the licence but also computer skills that are not widespread among specialists of paper and paper documents. Multispectral imaging relies on costly hardware that is also difficult to transport. Nevertheless, these obstacles do not outweigh the benefits of these methods and may be easily overcome with the democratisation and development of the technologies that they deploy in the future.

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<sup>36</sup> For a survey, see Hiary 2008, 28–44. Recent publications on the subject include Frank et al. 2018 and Ruiz et al. 2019.

<sup>37</sup> *Adobe Corporation* 2021. Adobe Photoshop was used by Gants 2000, 535 and Edge 2001.

<sup>38</sup> *Bernstein* s. d. and 2009.

<sup>39</sup> *Pereira Pardo/Bergel*, 2020.

<sup>40</sup> *Dietz/van Delft* 2009, 69. More detailed overviews of the different watermark reproduction techniques can be found in *Schooner* 1987; *Sweet* 2005; *Hiary* 2008, 18–27 (with images illustrating the different reproduction techniques as figures); *Dietz/van Delft* 2009; *Harris* 2017, 54–57.

<sup>41</sup> *Harris* 2017, 131.



### 3.3 Extracting Information from Watermark Images

Analysing watermark images and interpreting them can be challenging both for humans and machines. When reproductions are accurate enough, machines can extract numerical information from them.<sup>42</sup> They can thus also identify watermarks based on reproductions. However, at the present stage, they cannot effectively compare the different types of reproductions.<sup>43</sup> The majority of watermark images available were obtained with the most accessible, but also the most approximate methods, i. e., tracing and rubbing. Some projects endeavour to make new, higher-quality reproductions of the watermarks that were represented by tracings in paper catalogues,<sup>44</sup> but this is a colossal task that cannot be performed with all watermark tracings and rubbings. Descriptions are therefore used to supply information that cannot be extracted from the images themselves.

## 4 Paper and Watermark Descriptions

### 4.1 Early Methods for Watermark Description

The earliest watermark catalogues already provided rudimentary meta-information in the shape of indicators of provenance and an internal classification. Zonghi and Keinz represent the nearest chain lines and the laid lines over small segments in the tracings.<sup>45</sup> They represent the chain lines in the image of the watermark, a practice that one finds also in Briquet's *Les filigranes*, but do not record their dimensions in the description. Briquet states that he includes the following information in entry descriptions:

- The dimensions of the paper, with an indication when the sheet is trimmed.
- “When applicable, the specifics of the laid lines, chain lines or watermarks”.<sup>46</sup>
- The place and timeframe in which the document was produced.
- The repository of the document.
- The title of the document.
- “Identical, similar or divergent variations of the watermark, with the name of the localities [...] and the date where these varieties were noted”.<sup>47</sup>
- A bibliography of other works that reproduce the watermark.<sup>48</sup>

<sup>42</sup> See Rauber/Tschudin/Pun 1997; Gants 2000; Bernstein 2009.

<sup>43</sup> For machine identification of watermark images, see Shen Xi et al. 2019; Pereira Pardo/Bergel 2020.

<sup>44</sup> Harris/Pastrolin 2018 (Briquet Reloaded project).

<sup>45</sup> Zonghi 1881; Keinz 1897.

<sup>46</sup> “Quand il y a lieu, les particularités relatives à la vergeure, aux pontuseaux ou aux filigranes” (Briquet 1907, vii).

<sup>47</sup> “Les variétés identiques, similaires ou divergentes du filigrane, avec les noms des localités [...] et la date où ces variétés ont été notées” (Briquet 1907, vii).

<sup>48</sup> Briquet 1907, vii.

There are three points that are ambiguous in Briquet's description practice. Firstly, the definition "specifics of the laid lines, chain lines and watermarks" is vague. While the chain lines that are nearest to the watermark and sometimes also the laid lines are represented visually in the tracings, they are not accompanied with exact dimensions in the descriptions. Secondly, providing the repository and title of documents is useful but often not sufficient for locating them. Moreover, the position of the watermark itself in the document is not indicated. Finally, Briquet's concepts of "identical, similar or divergent" watermarks do not accurately account for the relationships between watermarks using the same motif, variants and twins. It has also been noted that Briquet did not record some useful information such as the felt or mould side or the position of the watermark on the sheet.<sup>49</sup> On the other hand, his classification of motifs is functional and still relatively easy to use nowadays. It has been noted that *Les filigranes* represents watermark designs rather than individual watermarks per se.<sup>50</sup> These representations are nevertheless useful since later research often confirmed Briquet's insights about the time-period in which certain watermark designs were used.<sup>51</sup>

After Briquet, scholars such as Stevenson worked on improving descriptions of watermarks, twins and variants and other paper marks.<sup>52</sup> Tanselle discusses paper description in detail, not only including paper mark information but also format, size and paper quality.<sup>53</sup> Muzerelle, Ornato and Zerdoun made a description protocol in the shape of a fill-out form to facilitate and accelerate the recording of watermarked paper information.<sup>54</sup>

## 4.2 Description Standards

In 1992, the International Association of Paper Historians (IPH) issued its first standard for registration of papers with or without watermarks.<sup>55</sup> This standard aims to cover all aspects of paper manufacture, including paper marks, as well as paper quality, historical information, repository and identifier, etc. Rauber et al. used IPH for descriptions in an online watermark database.<sup>56</sup> Several other projects followed their example. The IPH standard was updated in 2013 in order to better match the functioning of current databases.<sup>57</sup> At this point, an illustrated classification of motifs was also

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<sup>49</sup> Harris 2017, 67–70; Harris/Pastrolin 2018, 161–162.

<sup>50</sup> Harris/Pastrolin 2018, 184.

<sup>51</sup> Haidinger 2009, 81.

<sup>52</sup> Stevenson 1952.

<sup>53</sup> Tanselle 1971.

<sup>54</sup> Muzerelle/Ornato/Zerdoun 1989.

<sup>55</sup> Tschudin 2012, 265.

<sup>56</sup> Rauber et al. 1997.

<sup>57</sup> IPH.

added. In the meantime, however, several databases had grown using their own registration standards and classification. At the present stage, IPH provides:

- A list of paper data, with a code and a description for each.<sup>58</sup>
- Guidelines for establishing and structuring a paper database.<sup>59</sup>
- A classification of watermark motifs.<sup>60</sup>

The IPH standard is used at least partially in twelve of the databases linked in Bernstein. Most of them, however, include only the taxonomy of IPH as such and have their own registration systems for other descriptive information. Other projects have their own registration standards.

The Bernstein Portal enables the collective navigation and search of the majority of existing online watermark databases.<sup>61</sup> It has its own classification of motifs and standard for the registration of paper and watermark data. This standard is reflected in the project's software for the creation of watermark databases, the Paper Studies Kit, and in the web user interface of the portal.<sup>62</sup> Because the standards of IPH and Bernstein are the most comprehensive and commonly used, the present section focuses on them. There is a significant degree of overlap between them, and it is more useful to compare them than to describe them individually.

While IPH is meant for describing paper in general, Bernstein is more specifically oriented towards watermarks and their identification. Both IPH and Bernstein prioritise the registration of the following information as part of a basic description:

- Information about the database in which the paper sheet (IPH) or the watermark (Bernstein) is registered, including the entry number in the database. IPH adds the date of entry or updating and the institution operating the database, while Bernstein provides a link to the entry in the original database.
- Identifying information of the original document (repository, shelf-mark, place of the sheet in the original document according to foliation, pagination or other reference markers).
- Date and dating information of the original document. IPH adds the dating method, i. e., what type of evidence is used to date the document.
- Place of use of the paper (IPH) or watermark (Bernstein).
- Metric parameters: height and width of the watermark, distance between chain lines and laid line density over a 20 mm distance. IPH adds the smallest horizontal distance between the watermark and the nearest chain line on the left, as well as the number of the chain space (i. e., the space between two chain lines, counted from left to right) that is touched by the furthest left point of the water-

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<sup>58</sup> IPH, 4–14.

<sup>59</sup> IPH, 19–20.

<sup>60</sup> IPH, 21–84.

<sup>61</sup> *Bernstein* (s. d.).

<sup>62</sup> See *Bernstein* 2009.

mark. It also includes the metric parameters of the sheet itself (height, width and standard historical dimension with the place and time in which this dimension was in use). The Paper Studies Kit includes tools for retrieving metric parameters from watermark images.

- Motif classification. IPH requires only the use of its internal classification, while Bernstein has fields for the IPH and Briquet classifications besides its own. The Paper Studies Kit includes tools for comparing and classifying watermark motifs.

Information about the object from which the information is derived, i. e., the original document or a reproduction. In IPH, it is only mandatory to indicate if the data is derived from the original or a reproduction, and fields for describing the reproduction method are optional, while these are mandatory in the Paper Studies Kit.

The relationship between main watermarks and countermarks is the object of a mandatory field in both standards, but they register it in different manners. In IPH, there is a field for the kind of watermark (main watermark, countermark, corner mark, etc.), while Bernstein has a field for the countermark itself.

Each standard has mandatory fields that are optional in the other one. For IPH, these are:

- State of conservation of the sheet.
- Watermark production type—wire lines, embossing, etc. (IPH calls this parameter ‘Structure’).
- Paper production type (i. e., hand-made or machine-made).
- Paper production method according to the mould (i. e., laid paper, wove paper, etc.).
- Position of the mould side (described as the ‘wire side’ in the terminology of the IPH), up or down.

For Bernstein, these are:

- Twin watermark.
- Paper mill and paper maker information. In IPH, these are registered in a separate paper mould file, the creation of which is optional.
- Creator or author of the document.

Finally, both standards have optional fields that reflect their specialisations. IPH has fields for technical features of the paper, such as its production method, aspect and qualities, and specific fields for Oriental and Arab paper without watermarks. In the Paper Studies Kit, Bernstein has fields for watermarks that are related or that were compared to the registered watermark for identification, the repertory used for comparison, and variants.<sup>63</sup>

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**63** Bernstein 2009, 6–7, 13–18; IPH, 4–14.

### 4.3 Classifications of Watermark Motifs

In the early 2000s, several projects compared the classifications of motifs in their respective databases. The first to be compared were Piccard-Online and WZMA (Wasserzeichen des Mittelalters, a database maintained by the Austrian Academy of Sciences).<sup>64</sup> WILC (Watermarks in Incunabula printed in the Low Countries) was then compared with Piccard-Online in order to be integrated in the Bernstein Portal.<sup>65</sup> WILC already used the motif classification of the IPH standard, and so did several other databases (see above). Others, such as GRAVELL (the Thomas L. Gravell Watermark Archive), inherited the classification of paper catalogues, and they could sometimes not fully adapt to standards such as IPH.<sup>66</sup> The Bernstein Consortium therefore sought to establish a classification and terminology of motifs that would be compatible with the ones used in the biggest databases. The results of this endeavour are the Bernstein Systematics and Watermark-Terms.<sup>67</sup> These two documents cover the main languages used in watermark databases. The Bernstein Systematics are mainly based on the classification developed by Piccard, which was expanded in the Piccard-Online catalogue and by extension WZIS (Wasserzeichen-Informationssystem),<sup>68</sup> the largest database in the catalogue, which focuses on watermarks in manuscripts in German repositories and which now also incorporates Piccard-Online. They are used for the motif field in the advanced search and the ‘Browse motifs’ function of the portal. There are also fields for the IPH and Briquet classifications in the advanced search.

Both the IPH and Bernstein classifications have three levels: class, subclass and subgroup. In IPH, each watermark motif is assigned a code and name in six languages: English, German, French, Italian, Spanish and Russian. The standard provides an alphabetical list of motifs, as well as an illustrated index.<sup>69</sup> The Bernstein Systematics are available in German, English, Spanish, French, Italian and Russian.<sup>70</sup> In addition, Bernstein established an illustrated list of watermark terms in English, German, French, Greek, Italian, Russian, Spanish, Portuguese, Hungarian and Dutch.<sup>71</sup>

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<sup>64</sup> *Piccard Online* 2021; WZMA 2021.

<sup>65</sup> WILC 2021; Frauenknecht 2009, 108.

<sup>66</sup> Mosser/Sullivan 2021.

<sup>67</sup> Frauenknecht/Rückert/Stieglecker 2012; Frauenknecht et al. 2018. For the development of the Bernstein Systematics and Watermark-Terms, see Frauenknecht 2009.

<sup>68</sup> WZIS 2021.

<sup>69</sup> IPH, 21–29, 30–84.

<sup>70</sup> Frauenknecht/Rückert/Stieglecker 2012.

<sup>71</sup> Frauenknecht et al. 2018.

## 5 Watermarks in Catalogues and Databases

Before the appearance of online watermark databases, several important catalogues were published in print. However, they reproduced only a small part of the watermarks studied by their authors, who in many cases built large unpublished collections of reproductions and records. Current online databases aim not only to register watermarks that have not been studied before, but also to digitise printed catalogues and unpublished watermark collections.

### 5.1 Relationship between Paper Catalogues, Watermark Collections and Digital Databases

In the past twenty years, the contents of several printed catalogues were registered in online databases. These include Briquet's *Les filigranes*.<sup>72</sup> Important watermark collections that were not fully published previously were also digitised. For instance, the GRAVELL database includes not only the contents of Gravel's *A Catalogue of American Watermarks*<sup>73</sup> but also unpublished photographs of Dylux watermark reproductions made by Gravel and kept at the University of Delaware Library and unpublished watermark tracings and records from the C.-M. Briquet archive at the University Library of Geneva.<sup>74</sup> The watermark collection of Piccard in the Hauptstaatsarchiv Stuttgart, which was in great part unpublished, was also digitised as Piccard-Online.<sup>75</sup> In 2012, Piccard-Online was incorporated into WZIS.<sup>76</sup> In 2016, the Fedrigoni Fabriano Foundation acquired the collection of Augusto Zonghi, which is being digitised as part of the CFF (Corpus Chartarum Fabriano) online catalogue.<sup>77</sup>

Besides WZIS, several other watermark databases exist that were born digital, such as CCI (Corpus Chartarum Italicarum), NIKI (Watermark Database of the Dutch University Institute for Art History), WIES (Watermarks in Incunabula printed in España), WILC and WZMA,<sup>78</sup> to mention only a few. The vast majority of online watermark databases can be collectively searched and browsed for motifs using the Bernstein Portal.

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<sup>72</sup> *Briquet Online* 2021.

<sup>73</sup> Gravel/Miller 1979.

<sup>74</sup> Mosser/Sullivan 2021.

<sup>75</sup> *Piccard-Online* 2021. See also Rückert 2009c, 85.

<sup>76</sup> WZIS 2021.

<sup>77</sup> CCF 2021.

<sup>78</sup> CCI 2021; NIKI 2021; WIES 2021; WILC 2021; WZMA 2021.

## 5.2 The Bernstein Portal

The Bernstein Portal is a search portal that links over 50 online watermark databases. At present, it covers about 200 000 watermark records. It displays data that is uploaded and managed independently by the different institutions and/or research groups in charge of the individual databases. These databases are more or less integrated into Bernstein, but many have their own server and a different structure. This is the case for the databases that predate the Bernstein project, Piccard-Online, WILC, WZMA and NIKI. These are now well integrated into the portal by means of a common workspace.

## 5.3 Database Fields and Queries in Bernstein

In the Bernstein workspace, metadata that defines material features of paper and cataloguing information is mapped around a simple description structure that can represent both Bernstein's description standard and the ones of the different databases that it links.<sup>79</sup> The names of features of papers and watermarks can thus be translated from one terminology to another in a systematic manner and easily searched by users.<sup>80</sup> Terms and classifications used for watermark motifs are more varied and subjective than those of material features of paper and cataloguing information, and equivalences between them could not be established entirely with mapping. For this reason, Bernstein uses a taxonomy of motifs that was made by comparing the ones of the main watermark databases in existence, as mentioned above (section 4.3). In addition, the portal allows for searching descriptive parameters and classes that are used only by some of the databases. This system makes it possible not only to search for watermarks despite discrepancies in terminology, but also to use watermark data for statistical analysis.<sup>81</sup>

## 6 Describing Watermarks in Non-Specialised Databases: The Example of TEI

Including watermark information in digital databases that contain records of historical paper documents but are not watermark-specific has several benefits. It increases the availability of paper and watermark information, making it easier to locate watermark records and facilitating the collaboration between paper scholars and other specialists of historical documents. However, this endeavour is useless unless paper

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<sup>79</sup> Krasser/Perchthaler/Schinnerl 2009, 102–104.

<sup>80</sup> Partes 2009, 104–106.

<sup>81</sup> Stieglecker/Wenger 2009, 101–102.

and watermarks are described according to the same conventions as in specialised databases. This is a prerequisite not only for the accuracy of the information, but also for the navigability of records and for efficient communication between the different specialists.

## 6.1 Representing Paper in TEI-XML

TEI (Text Encoding Initiative) is a standard for encoding transcriptions and descriptions of textual and material features of written objects that is used in several online databases of handwritten documents.<sup>82</sup> It uses XML (eXtensible Mark-up Language), a mark-up language specifically intended for meta-information. It can be used to briefly describe paper and watermarks but has also been customised by users to make more detailed descriptions.

In XML, data fields are represented by tags, the main components of which are called elements. Elements appear within angle brackets both in publications about XML and in the code itself (for example `<height>`). They can be nested in—i. e., contained by—other elements: for example, the element `<height>` will typically go inside the element `<dimensions>`. Their properties can be defined more precisely using attributes and values. Attributes are represented using the at symbol in academic publications (for example `@unit`). In XML, they are placed within the brackets of the element, followed by their value (for example `<height unit="mm">`). Each attribute requires a specific data type (numeric, text, Boolean, etc.) as a value, but not specific data per se. TEI has different subparts called modules. Each contains a set of elements and attributes for a specific purpose (text transcription, manuscript description, etc.). Besides the official modules, it gives users the possibility to create their own custom modules containing custom tags.

In the official TEI module ‘Manuscript Description’ (referred to as ‘`msdescription`’ in TEI-specific terms),<sup>83</sup> which is used for the material description of written objects, the elements `<support>` and `<material>` can be used to describe paper and can contain a `<watermark>` element. Dimensions of paper, references and chronological information can be represented in `<support>` and `<material>`. The element `<watermark>` can contain dimensions and text, but it lacks tags for motif class, chain lines and laid lines, twins, countermarks and other watermark- and paper-specific features. It can thus be used to indicate that a watermark is present and to provide some degree of information about it, but it is not sufficient to record watermark information comprehensively and in accordance with best practice. For this reason, users have customised TEI to describe paper and watermarks more adequately and thoroughly.

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<sup>82</sup> TEI 2021.

<sup>83</sup> TEI 2021, section 10.1.



## 6.2 TEI Customisations with Paper-Specific Metadata

There exist three customisations of the official ‘msdescription’ module that enable the inclusion of more precise watermark information. The first two are not specifically made for the description of paper documents, but they allow users to describe paper and watermarks—among other features—more precisely than the official ‘msdescription’ module. The third one is made specifically for paper and watermark descriptions and aims to reflect the IPH standard (see section 4.2) as much as possible in TEI.<sup>84</sup>

### 6.2.1 Customisation for *manuscripta.se* and *msDesc Consolidated TEI Schema*

The first customisation was created by Patrick Granholm and Eva Nyström for the online manuscript catalogue *manuscripta.se*.<sup>85</sup> It uses the values of the official TEI attribute `@type` to add paper- and watermark-specific meta-information and relies otherwise on official TEI elements. For instance, the dimensions of paper marks such as chain lines are tagged using the official `<dimensions>` element and the value of `@type`: `<dimensions type="chainlines">`. The term used to designate the watermark motif is tagged as `<term type="WatermarkMotif">`, and so on.

The *manuscripta.se* customisation was the first basis for the *msDesc consolidated TEI schema*,<sup>86</sup> which was born of the joint efforts of several TEI specialists in the *Fihrist* project<sup>87</sup> at the Cambridge University Library, the Bodleian Libraries and the British Library.<sup>88</sup> It adds a custom `<countermark>` element and the possibility to reference the watermark motif in a given classification—IPH for instance—using the value of the official attribute `@key`. For example, one would indicate the reference of a foolscap watermark motif in the IPH classification, which is A7/1/3, in the following manner: `<term type="WatermarkMotif" key="A7/1/3">`.<sup>89</sup>

This solution has the advantage of staying close to the official TEI tag set while allowing the inclusion of a variety of watermark-specific parameters. It gives users a lot of freedom regarding what information they wish to include. However, since the values of `@type` are not strictly defined, watermarks could be described using a soft, unstandardised terminology. This can create discrepancies and make it difficult to extract certain types of information from more than one record.

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<sup>84</sup> The relationship between the three customisations is also briefly discussed in Müller 2020, 7–8.

<sup>85</sup> *manuscripta.se*; Github 2021a.

<sup>86</sup> Github 2021b.

<sup>87</sup> *Fihrist* 2022.

<sup>88</sup> Github 2022, 7.

<sup>89</sup> Github 2022, 31–32.

### 6.2.2 Paper and Watermarks TEI Extension

The author of the present article found it useful to make another TEI customisation specifically intended for paper and watermark description that follows official guidelines in this field.<sup>90</sup> The ‘Paper and Watermarks TEI Extension’ (abbreviated PWTE hereafter) adapts the IPH standard.<sup>91</sup> In addition to those official TEI elements that can represent IPH criteria, it uses custom elements to represent paper-specific parameters. While allowing for the creation of more comprehensive paper descriptions, it is also more rigid because it has required data fields for paper-specific features. Moreover, it brings heavier modifications to the official TEI since it adds a large number of custom elements. For catalogue entries of paper documents that need not include extensive watermark and paper information, it is therefore less adapted than the two customisations surveyed above. It is rather intended for writing entries that have a focus on paper information and that would be standardised enough for use in a quantitative study on watermarks.

PWTE consists of two custom modules. The first one, ‘WatermarkDesc’, is used for describing the paper of a physical document, including paper marks. It is based on the official ‘msdescription’ module, like the two customisations mentioned above. It reflects the contents of IPH section 3.0–1 (sheet and watermark data) and IPH section 4 (reproduction and data extraction information).<sup>92</sup> The second custom module, ‘PaperMoldDesc’, reflects the contents of IPH section 3.2–5 (mould, paper mill and papermaker data).<sup>93</sup> It is used optionally in addition to ‘WatermarkDesc’ to describe paper moulds and record paper mill and paper maker information. It is based on the official TEI module ‘Names, Dates, People, and Places’,<sup>94</sup> referred to as ‘names-dates’ by TEI users, which is meant for prosopographic, geographic and historical information.<sup>95</sup>

In ‘WatermarkDesc’, paper descriptions, the contents of which reflect the parameters of IPH section 3.0, are written within a custom <PaperDesc> element that can be nested in the official <support> element. Watermark descriptions, the custom elements of which reflect the criteria of IPH section 3.1, are all contained by a custom <WMDesc> element, which is nested either in <PaperDesc> or directly in the official <watermark> element. Both paper and watermark descriptions can be made into items of a list, which allows for the description of several sheets and watermarks in the same document. <WMDesc> requires the following information:

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<sup>90</sup> *Github* 2021c. For a more detailed discussion of the Paper and Watermarks TEI Extension, see Müller 2020.

<sup>91</sup> IPH. See also the discussion in section 4.2 of the present article.

<sup>92</sup> IPH, 3–6, 8–9.

<sup>93</sup> IPH, 6–7.

<sup>94</sup> TEI 2021, 13.

<sup>95</sup> For the general use of the two custom modules, see also Müller 2020, 8–10.

- The kind of watermark, main watermark, countermark, etc. (IPH section 3.1.0, custom attribute @kind).<sup>96</sup>
- The location of the watermarked sheets in the physical document (IPH section 3.0.4, official element <locusGrp> or locus group).<sup>97</sup>
- The dimensions of the watermark (IPH section 3.1.6–7, custom element <WMdim>).<sup>98</sup>
- A full text description of the watermark (IPH section 3.1.5, custom element <WMfull>).<sup>99</sup>
- The “number of the compartment (counted from left to right) which is touched by the furthest left point of [the] watermark” (IPH section 3.1.12, custom <compl>).<sup>100</sup> In IPH, “compartment” refers to the space between two chain lines, which is sometimes also called chain space. IPH does, however, not specify if these compartments are counted on a reconstruction of the original sheet or as they appear on the sheet in its current state if it has been trimmed. Since all sheets that are not complete are marked as fragments (IPH section 3.0.9,<sup>101</sup> custom element <papState> in the ‘WatermarkDesc’ module) and it is not always possible to reconstruct the original dimensions of the sheet, these compartments should then be counted on the sheet in its current state.
- The watermark motif and IPH reference (IPH section 3.1.3, custom <moti>), in accordance with the classification in IPH section 5.<sup>102</sup>
- The “smallest horizontal distance in mm between the watermark and the nearest chain line on the left” (IPH section 3.1.8, custom <posl>).<sup>103</sup>

One can also indicate the relationship between watermark twins, link images of the watermark and describe a large number of additional paper features with custom elements and attributes based on the optional parameters of IPH.<sup>104</sup>

Descriptions of paper sheets made in ‘WatermarkDesc’ can then be linked to the description of the mould used to make them in the other custom module, ‘PaperMoldDesc’, which contains custom elements to describe the materiality of the mould, and official TEI elements for geographic and chronological information, which are used for paper mill and paper maker data.<sup>105</sup>

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**96** IPH, 5.

**97** IPH, 3.

**98** IPH, 5.

**99** IPH, 5.

**100** IPH, 5.

**101** IPH, 3–4.

**102** IPH, 10.

**103** IPH, 5.

**104** For a more technical discussion of ‘WatermarkDesc’, see Müller 2020, 12–16.

**105** For a detailed discussion of ‘PaperMoldDesc’, see Müller 2020, 16–19.

At present, PWTE does not cover IPH in full. IPH section 3.6 (“Additional criteria for the registration of Far Eastern and Arab papers without watermarks”)<sup>106</sup> is lacking from ‘WatermarkDesc’, and the overall structure does not accommodate files that describe original moulds and decorated paper.<sup>107</sup> These criteria and files, which are optional in IPH, can be added upon user demand.<sup>108</sup>

There are, however, more important issues with how PWTE adapts IPH, some of which are inherent to representing paper-specific data in mark-up standards that do not focus on paper like TEI. The next section reviews them and discusses how they impact the use and future development of PWTE.

### 6.3 Critical Discussion of PWTE

#### 6.3.1 Challenges of Recording Watermark Information in TEI

As mentioned before, recording paper and watermark data in mark-up standards used for large databases of historical documents such TEI can benefit paper studies in several ways. It enables the recording of more information, which is de facto also more accessible online, and facilitates the exchange between different specialists (paper historians, librarians, codicologists, bibliographers, archivists, etc.).<sup>109</sup> However, paper and watermark information can be misrepresented when it is recorded outside of specialised databases because:

- It can be recorded without knowledge of the best practice in the field.
- It can be recorded using a soft terminology.
- It can be incomplete.
- Even with standardisation efforts and expertise, one cannot perfectly follow the existing guidelines for paper and watermark description using non-specialised encoding methods and database structures.

PWTE addresses the three first issues by using an official standard as a basis and orienting the user with a relatively rigid structure. This approach makes sure that the most important information is present and recorded adequately. It nevertheless does not solve the fourth issue because it is not possible to fully reflect the structure and terminology of IPH in a TEI customisation without deviating from the TEI guidelines themselves. A few compromises are necessary in order to ensure the compatibility of PWTE with the official TEI.

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**106** IPH, 7–8.

**107** IPH, 19–20.

**108** See Müller 2020, 20–21.

**109** For a more comprehensive discussion of the advantages of recording paper and watermark data in TEI, see Müller 2020, 3–4.

### 6.3.2 Remaining Discrepancies with IPH

PWTE still deviates from IPH in two ways. First, the database structure recommended by IPH cannot be perfectly reproduced in TEI. Second, some IPH parameters have the same function as official TEI tags but different names. Making custom tags to represent them would render the customisation inconsistent with the official TEI.

The database structure recommended by IPH calls for separate files for physical documents, paper sheets, watermarks, mould reconstructions, extant moulds, paper-makers and paper mills.<sup>110</sup> In theory, one can reproduce this structure by linking different TEI files, some being made with official TEI modules and some with PWTE. In this case, however, one cannot include paper and watermark information directly in the record of the physical document. This would make PWTE useless for describing paper in non-specialised database entries. The customisation consequently gathers bibliographic/codicological information and paper descriptions in the same file.<sup>111</sup>

Furthermore, not all data fields can be named like in IPH because some already have equivalents in the official TEI tag set. Replacing them with custom elements with names identical to the corresponding IPH parameters would compromise the compatibility of PWTE with TEI by creating redundancies and ambiguities.

These discrepancies are necessary evils, but they entail that, although PWTE respects the information recording practice outlined by IPH, it is not strictly compatible with it, with two main consequences. First, although one could reproduce the structure of an IPH-conformant watermark database with PWTE, it would deprive it of some of its functions. It would therefore not be relevant to use PWTE for the creation of entire watermark databases in TEI as initially intended.<sup>112</sup> Second, because of the terminological differences, in order to work with PWTE entries alongside the contents of specialised databases, one needs to establish equivalences between their metadata. These limitations do not completely undermine the usefulness of PWTE, but they impact how it can be used at present and how it should develop in the future.

### 6.3.3 Use and Potential Improvements of PWTE

PWTE was originally intended for the following uses:

- First and foremost, recording paper and watermark information in TEI records of paper documents within non-specialised databases.
- Additionally, creating paper and watermark databases directly in TEI with the objective of mining them in order to reconstruct moulds.<sup>113</sup>

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<sup>110</sup> IPH, 19–20.

<sup>111</sup> For a more technical and detailed explanation of this difference in structure, see Müller 2020, 10–11.

<sup>112</sup> Müller 2020, 20.

<sup>113</sup> Müller 2020, 19–20.

As we have seen, this second use is problematic because it would compromise the first if one followed the database structure recommended by IPH using PWTE. Using PWTE for entire watermark databases would, however, still be problematic without this technical issue. As mentioned above in section 4.2, there already exist specialised tools for the creation of watermark databases. Making paper-specific databases in TEI would be somewhat redundant and could become counterproductive if it distracts users from more ambitious common endeavours in paper studies. It benefits research more if paper and watermark information is uploaded to large specialised databases that already use the IPH standard or the Bernstein tools than to small, homemade TEI databases.

Moreover, the terminological discrepancies that remain between IPH and PWTE have an impact on the interoperability of PWTE with specialised watermark databases. One could currently mine one or more databases made entirely with PWTE, but one could not efficiently compare the data to that of specialised databases. The results obtained in this manner would thus be isolated and most likely rely on too little data to be statistically accurate. For this reason, at present it is more relevant to improve the interoperability of PWTE with specialised databases and tools than to make it even more faithful to IPH on a semantic level.

As we have seen above in section 5.3, the search engine of the Bernstein Portal overcomes the differences in metadata through mapping. The data fields in the different databases are mapped around a set of fifteen elements developed for describing the widest possible range of resources, the Dublin Core™ Metadata Element Set or DCMES,<sup>114</sup> which can be expressed in XML and HTML.<sup>115</sup> Without entering into technical details, it may be possible to implement a similar mapping so that PWTE entries can be displayed in the same way as the results of queries in the Bernstein Portal and can therefore be searched and analysed alongside specialised database entries.

## 7 Conclusion

The study of watermarks relies on quantitative methods and is therefore dependent on the accessibility and consistency of watermark and paper information. Images of watermarks are essential for registering and analysing them, but image quality varies significantly depending on the reproduction technique adopted, meaning that images have to be accompanied by descriptions. Watermark descriptions contain metric information that is extracted either from the original or from a high-quality image. They also convey information that is necessary for locating watermarks in documents and collections and for determining the contexts in which a given paper stock was used.

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<sup>114</sup> *Dublin Core™ Metadata Initiative* 2022.

<sup>115</sup> For a thorough discussion of mapping and search queries in the Bernstein Portal, see Krasser/Perchthaler/Schinnerl 2009, 102–104, and Partes 2009, 104–106.

Last but not least, they are used to situate watermark motifs in classifications. Labeling descriptive information in an unambiguous and systematic manner facilitates the search, localisation and comparison of watermarks in different physical and digital repositories. Standardising the meta-information used in watermark entries is therefore key to the accessibility of the information itself and, by extension, to its analysis.

Including watermark descriptions in non-specialised catalogues and databases that contain paper documents furthers the traceability and accessibility of watermark information. To be accurate and usable, these descriptions must follow the same conventions as the ones in specialised databases. Despite standardisation efforts, however, some differences remain due to encoding methods. Solutions must therefore be developed to improve the interoperability of specialised and non-specialised databases that contain paper and watermark records.

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## **Production of Books and Manuscripts**



Pádraig Ó Macháin

# Continuity and Change in Bindings and Book-Size

## From Vellum to Paper in the Gaelic Manuscript

This study is concerned with a survey of Gaelic vernacular manuscripts from the vellum tradition (1100–1600) and from the first two phases of the paper tradition (1468–1600, 1600–1700), the first phase of which ran in parallel with the end of the vellum era.<sup>1</sup> The survey is predicated on the understanding that it is not possible to discuss the use of paper as a manuscript material in Gaelic tradition without also understanding the use of calfskin, the material that it replaced, which had been in use continuously since writing and book-craft were brought to Ireland with Christianity in the 5th century. The gospel books, psalters, missals and scholastic books created in monasteries and surviving in insular script from the early Christian era down to the 12th century are testament to the ecclesiastical and Latinate foundations that lie beneath the creation of books in the vernacular. As literature in the vernacular existed from at least the 8th century, it follows that vernacular manuscripts must have existed since that time also. Today, however, the earliest vernacular manuscripts survive only from the 12th century, emerging at a time of Church reform and the beginnings of Anglo-Norman settlement.

The slow emergence of the vernacular manuscripts in the 12th century parallels the tentative arrival of the paper manuscript in the late-15th and 16th centuries. Both eras were periods of increasing social and political turbulence, which in the case of the earlier era is reflected in the absence of any surviving vernacular manuscripts from the 13th century. When we speak of the vernacular vellum tradition, therefore, we are referring to three manuscripts surviving from the 12th century (see below) and the Gaelic manuscripts that were produced between 1300 and 1600, together with a small handful written in the 17th century.

The Gaelic vernacular manuscripts of the late Middle Ages (1100–1600) were the means of conveyance and preservation of learning that was practised by hereditary families of secular scholars, who depended on local Gaelic chieftains for their maintenance. When this arrangement collapsed due to the disintegration of elite Gaelic society brought about by English conquest and colonisation from the second half of the 16th century, the practice of learning as a profession began to disappear, and the

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<sup>1</sup> By 'vernacular' is meant manuscripts written in the Irish/Gaelic language, as opposed to the near-exclusively Latin ecclesiastical manuscripts of the period 600–1100. A small number of vellum manuscripts were created during the 17th century, and these have been included in this survey for sake of completeness.



use of calfskin as a writing support was discontinued. New literary tradition-bearers emerged, however: scholars who pursued the study and transmission of Gaelic learning in a part-time capacity. These scholars wrote on paper.<sup>2</sup>

The survey presented here focuses on the material aspects of this important change and addresses the related questions of the binding and the size of the writing supports. While reference will be made to the books created during the monastic period pre-1100, the survey confines itself statistically to the vernacular tradition up to the end of the 17th century, when the first two phases of paper manuscript production had passed. Such a study could not be carried out without consulting the work of scholars who, from the late 19th century onwards, produced catalogues of Gaelic manuscripts held in various institutional repositories. One of the earliest catalogues that was carried out between the years 1886 and 1892 by Standish Hayes O'Grady, who completed what would become the first volume of the *Catalogue of Irish Manuscripts in the British Museum*.<sup>3</sup> Published in 1926, eleven years after O'Grady's death, the volume became—and remains—a classic introduction to Irish literature in manuscript, noted for the wit and discursive style of its author. His catalogue describes 76 manuscripts, extending in date mainly from the 14th century in the vellum era to the 19th century in the latter stages of the paper era, covering practically every aspect of medieval and modern Gaelic literature.

In outline, O'Grady's methodology follows the modalities of the time: sparse in its summary of essential details, and precise in its listing of contents, but with the unconventional addition of his own valuable, learned commentary on the texts being described. The essential details are the four established by norm: material, dimensions, extent and date. The dimensions were expressed through a bibliographical terminology of descending sizes that had been established since the introduction of the printed book, of which the four primary terms—folio, quarto, octavo and, rarely, duodecimo<sup>4</sup>—were adequate as general descriptors for what O'Grady found before him in both paper and vellum manuscripts. These terms remain useful today.

Descriptive manuscript catalogues that preceded O'Grady's contained subdivisions capable of describing the variations that existed between those four general categories. The 1802 catalogue of the Cotton library, for example, describes dimensions *in folio*, *in 4to* and *in 8vo* as 'longiori', 'majori' and 'minori', with less frequent subdivisions such as *in folio grandiori* and *in quarto ampliori*.<sup>5</sup> The description in the Bodleian catalogue of 1858 subdivides sizes into 'minimo', 'minori', 'majori' and 'maximo', and *in folio* has the additional category of 'oblongo'.<sup>6</sup> The sub-categories that

<sup>2</sup> Ó Macháin 2019a.

<sup>3</sup> O'Grady/Flower 1926. The dates for O'Grady's work are provided by Flower in his introduction to vol. 2, ix; in his preface to vol. 1, however, Julius P. Gilson gives them as 1889–1892.

<sup>4</sup> London, British Library (henceforth BL), Cotton Nero A. VII, ff. 132–157 (O'Grady 1926, vol. 1, 141).

<sup>5</sup> Planta 1802.

<sup>6</sup> Coxe 1858.

O'Grady called into service to describe the Gaelic manuscripts in the British Museum, vellum and paper, were 'small folio', 'small quarto', 'oblato quarto',<sup>7</sup> 'octavo' and 'octavodecimo'.<sup>8</sup>

Descriptive categories such as these referred to the size of the manuscript rather than the format; for example, though there are many Gaelic manuscripts to the size of which the term 'folio' might apply, in bibliographical terms a 'folio manuscript'—gathered in twos—has yet to be recorded for either paper or vellum books. The terminological subdivisions attempted to capture the variations in size that existed in both materials, where irregularity of size was a constant feature. In many cases, the bindings—and the binders—of later times tended to impose an artificial regularity on materials that otherwise lacked regularity. The requirement that leaves be of uniform size for convenience of binding—and for other reasons such as painting or gilding of the edges, or simply for visual symmetry—meant that many of our Gaelic vellum manuscripts today do not appear as they originally did. This could result in significant losses to the size of the manuscript. A telling example is the case of Dublin, King's Inns, MS 12 and MS 13, which were originally a single vellum manuscript but were later separated and given individual and identical bindings of marbled boards, and in the process the first section lost a centimetre in height and width compared to the second section.

Original bindings of Gaelic manuscripts are rare, and many may never have been bound. Later binders, perhaps in part at least to satisfy the tastes of collectors and antiquarians in the 18th and 19th centuries, indulged in much cutting, cropping and trimming of leaves in order to present a uniform 'book'. Though we now lament the consequent loss of marginal entries, pen tests, early paginations or foliations and generally any true idea of what the manuscript looked like in its natural state, there are two considerations that oblige us to concede that the impetus to bind these manuscripts may have been compelling. The first was that, outside of Anglo-Norman or ecclesiastical settings,<sup>9</sup> the concept of the library—a dedicated, sheltered space where books reposed—was not widespread in the autonomous Gaelic world of the late-medieval era, at least not to the extent that a word for such a utility existed in the Irish language. The word for 'library' now in use (*leabharlann*) is a 17th-century lexicographical neologism that gained no currency until the 19th century.<sup>10</sup> This fact, together with the relative rarity of surviving bindings, allows us to visualise the Gaelic manuscript

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7 BL, Additional 19 995 (O'Grady/Flower 1926, vol. 1, 328). Oblong manuscripts are relatively rare in Gaelic tradition; others noted to date are Marsh's Library *Irish Primer*, Oxford, Bodleian (henceforth BOD) MS Laud Misc. 615, Edinburgh, National Library of Scotland (henceforth NLS), Adv. MSS 72.1.29, 72.1.31 (ff. 1–5) and 72.2.14.

8 BL, Additional 15 403 and Arundel 313 (O'Grady/Flower 1926, vol. 1, 222, 258).

9 Ó Corráin 2017, 193; Byrne 2013; Ó Clabaigh 2002, 158–180; Ó Clabaigh 2012.

10 Ua Súilleabháin 2005, 75–76. Another neologism for 'library', *seathar*, also appears in the 17th century. The term *tech screbtra* 'scripture/writing house' occurs in an early annalistic reference to the monastic scriptorium/library at Armagh (Marstrander et al. 1913–1976). The borrowing *librari* is found

as especially vulnerable, particularly in the leaves and quires at the beginning and end of books, where the outer leaves doubled as de facto covers, becoming darker and more illegible with use and with time. Such entities were therefore ripe for the attention of a binder in the 18th and 19th centuries.

The second consideration is that most manuscripts that had been bound at or near to the time they were created lost their bindings over time. The survival rate of original bindings of Irish vellum manuscripts is poor, but what survives suggests that binding with boards, though common, was not universal.<sup>11</sup> In the early-monastic period, limp bindings may have been more of the norm, as in the case of the *Faddan More Psalter*.<sup>12</sup> In the late-medieval period, from which all vernacular Gaelic vellums date, original bindings are in short supply. Again, such a situation might have prompted the later antiquarian or collector to seek the help of the binder.

## 1 Bindings

The question of the binding of Gaelic manuscripts is important if we are to understand a core element in the history of the Gaelic book, and a point of both continuity and divergence between the vellum and the paper traditions. While the concept of the library may not have been general in Gaelic society, many late medieval Irish manuscripts could be said to be libraries in themselves, their quires textually complete and, in the case of some manuscripts at least, easily detachable from the parent manuscript.<sup>13</sup> This may have been a reflex of the Gospel books of earlier times, where, it is suggested, the individual gospels were codicologically complete in themselves.<sup>14</sup> The prominence of the quire is particularly evident in patrons' large-sized manuscripts of the 14th and 15th centuries and supports the proposition that in the case of multi-text manuscripts the quire, rather than the book, was the unit of bibliographical currency in late medieval Ireland. An outstanding example of this is the quaternion—*caidime*—created for the Bishop of Clonfert c. 1490 by a scribe who describes

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in an inscription of 1739 in University College Dublin, Order of Friars Minor (henceforth OFM-UCD), MS A 15, f. [iii].

**11** Examples from different periods: the earliest manuscript, the *Cathach* (RIA, MS 12 R 33, c. AD 600), had a single cover of “a thin piece of board covered with red leather” (now lost) when originally discovered (Betham 1827, vol. 1, 110); the *Book of Armagh* (TCD, MS 52, AD 807, oak); the *Book of Ballymote* (RIA, MS 23 P 12, c. 1390, oak); two scholars' manuscripts that have lost part of their oak bindings are the *Book of Lecan* (RIA, MS 23 P 2, c. 1418) and Dublin, King's Inns, MS 15 (c. 1512). OFM-UCD, MS A 8 (c. 1540) is a lone example of a manuscript bound in embossed leather.

**12** Gillis 2021; Timothy O'Neill reminds me of the *Corpus Missal*, bound in boards, fastened with thongs and contained in a leather satchel (Oxford, Corpus Christi College, MS 282).

**13** E. g., TCD, MS 1339 *Book of Leinster* (12th century) and University College Cork, Library (henceforth UCC), *Book of Lismore* (15th century).

**14** McGurk 1956, 254–255.

himself as his friend and companion and who warns him not to lend it to anyone. This was a stand-alone piece, complete in itself, and undoubtedly unbound, that was later incorporated into a large manuscript of related material known today as the *Book of Uí Mhaine*.<sup>15</sup> The distinction between the Gaelic book and the book in European tradition is to be seen in an inventory of the library of an Irish book collector in the early 16th century, the Earl of Kildare (the King's Deputy): the works in Latin, English and French all appear to be volumes, while at least 17 of the 20 Irish works listed appear to be quires.<sup>16</sup>

Throughout the vellum and paper tradition, patrons' manuscripts are less numerous than scholars' personal manuscripts, the books that were created by scholars for their own use or the use of their colleagues. As already explained, in the vellum era these scholars were members of families who practiced learning as a hereditary discipline. Remnants of collections assembled by some of these families survive and are instructive as to what scholars' manuscripts looked like. For instance, material from one of the most pre-eminent legal families, that of Mac Aodhagáin, is found as Trinity College Dublin (henceforth TCD), MS 1363, a collection of 15 vellum items with a late paper addition. These items present as a set of quires ranging in extent from a single bifolium to a section comprised of two quires of 14. In size they extend from 13 to 22 cm in height. While the material is predominantly legal in content, significant amounts of traditional non-legal literature occur also, indicative of the eclectic interests of the Gaelic scholar. All of these sections originally existed separate from each other and were only submitted to binding in five volumes in the early 20th century. It is of interest, therefore, that among the sections are found the original wrappers belonging to three of them.<sup>17</sup> These wrappers all bear Gaelic text and are instances of the recycling of material from within the tradition, material that, for whatever reason, had been retired and repurposed to form wrappers.<sup>18</sup> One of the wrappers contains literary material: the other two derive from legal manuscripts. Only one has been analysed to date and has been shown to consist of "three scraps of vellum laced together", one scrap of which contains a fragment of an important legal text.<sup>19</sup> The quire that was contained within this wrapper is described as never having been "bound in an orthodox manner, but vellum thongs were passed through the centres of the sections at two

<sup>15</sup> RIA, MS D ii 1, ff. 48–55.

<sup>16</sup> BL, MS Harley 3756, ff. 97v, 190v; O'Grady 1926, vol. 1, 154; Gilbert 1879, Item LXIII; Byrne 2013.

<sup>17</sup> TCD, MS 1363 sections VIII, X, XV; manuscript described in Abbott/Gwynn 1921, 199–216.

<sup>18</sup> In common with other traditions, vellum wrappers for Gaelic manuscripts also took the form of recycled material from Church service books (e. g., OFM-UCD, MS A 9; RIA, MSS D iv 1 and D v 1, etc.), perhaps, as in the case of Sweden, when such material became available after the dissolution of the monasteries (Brunius 2017). A comparable case from 12th-century Ireland is that of the composite scholastic manuscript BOD, MS Auct. F.III.15: part IV of this manuscript has been described as "essentially a palimpsest of an eighth-century liturgical manuscript that was probably discarded as a result of the twelfth-century liturgical reforms in Ireland" (Ó Néill 1997, 34).

<sup>19</sup> O'Sullivan 1968; text analysed in Binchy 1968.

places and probably through the cover and knotted together at the back”.<sup>20</sup> Thong-sewn, coverless binding is a consistent feature of scholars’ manuscripts.<sup>21</sup>

Another notable remnant of a scholarly family collection from the vellum era is that of the Beaton medical family of the Western Isles of Scotland. Although many books are associated with this remarkable family,<sup>22</sup> the remnant in question survives in two manuscripts: Edinburgh, National Library of Scotland (henceforth NLS), Advocates MSS 72.1.2 and 72.1.13. The same characteristics as noted for the Mac Aodhagáin collection are seen here: individual thong-sewn quires displaying a range of dimensions and extents, with original wrappers surviving in two cases.<sup>23</sup> These wrappers bear fragments of Gaelic medical texts.

The collection of the National Library of Scotland provides an especially good view of Gaelic manuscripts in their original state. In part at least, this is because many of them appear to have been transmitted directly to the library from the Gaelic-speaking Highlands unmediated by collectors or binders, some as a consequence of the evidence-gathering that accompanied the Highland Society’s inquiry of 1805 into the authenticity of the *Poems of Ossian*. In this collection we see many manuscripts that were never contained within anything other than wrappers at best. In an important survey of these manuscripts, Ulrike Hogg quotes Lachlan Mac Mhuirich’s evidence to the inquiry regarding his family’s books that “some of the parchments were made up in the form of books, and that others were loose and separate”. She also notes Edward Lhuyd’s 1699/1700 description of John Beaton’s library as “a chest full of Gaelic books [...] most of them (almost all) are written on parchment”.<sup>24</sup> Hogg suggests that “confined storage space and the need to house manuscripts in mouse-proof conditions may have made bindings seem both unnecessary and impractical”.<sup>25</sup>

These manuscripts also provide us with a rare glimpse of the continuation of the phenomenon of the scholars’ collection into the paper era, in the form of some of the remnants of the papers of the Mac Mhuirich family of poets, apparently collected by James Macpherson in Uist.<sup>26</sup> Some of these were lost after being transmitted to the Inquiry, but what remains today as NLS, Adv. MS 72.2.2 is a collection of 55 leaves of differing sizes written by various Mac Mhuirichs in the 17th century.<sup>27</sup> This marks a change from the vellum era as there is no discernible intimation here of the quire as an

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<sup>20</sup> O’Sullivan 1968, 140.

<sup>21</sup> E. g., TCD, MSS 1302, 1314, 1323; RIA, MSS D i 1, D v 2.

<sup>22</sup> Bannerman 1986, 142–143.

<sup>23</sup> NLS, Adv. MS 72.1.2, part VI; Adv. MS 72.1.13 part V.

<sup>24</sup> Bannerman 1986, 39.

<sup>25</sup> Hogg 2021. I am grateful to Ulrike Hogg for providing me with a copy of this paper in advance of publication.

<sup>26</sup> As suggested by Ronald Black 2012 in his online catalogue that accompanies the images of the NLS manuscripts on *Irish Script on Screen* (s. d.), <https://www.isos.dias.ie/libraries/NLS/english/index.html> (accessed 01/04/2022).

<sup>27</sup> These remnants are distinct from more substantial Mac Mhuirich material, see fn. 79.

independent bibliographical unit. Rather, the leaf or the folded sheet of paper is now to the fore, though books continued to be arranged in quires, as they still are today. Just as binders could be confused when confronted with combinations of contemporary vellum and paper in 16th-century Gaelic manuscripts, leading to an illogical separation of materials,<sup>28</sup> so the use of single and double leaves of paper by late scribes led to problems when subject to the indiscriminating attention of binders. Some late paper manuscripts originated as disparate sheets which were then sold to collectors who had them bound into deceptively uniform volumes. In the case of part of the residue of the works of the 18th- and 19th-century Cork scribal family of Ó Longáin, for example, the late Richard Sharpe observed:

Paper books are not made in the same way as vellum books, however, and the means to describe the physical structure of paper manuscripts have still not been established [...] we need to shake off the assumptions that shaped local cataloguing protocols. A manuscript is not defined by having a shelfmark or a binding. The present bindings conceal much that one wants to observe. And behind that, not enough is known about the basic materials available to the scribe. In buying paper, for example, we do not know what choices he made nor in any secure way what was on offer.<sup>29</sup>

Despite disparities between the two periods, the coverless scholar's book continued as a phenomenon from the vellum era to the paper era, and we find examples of these among the Advocates collection also. One such is a copy of the *Lilium Medicinae* and other texts that was made towards the end of the 16th century, consisting of 331 folios of paper "held together by thread and four binding tongs" up until the time that the leaves were laminated in 1977.<sup>30</sup> Another is an important 17th-century paper manuscript written by Fear Feasa Ó Duibhgeannáin, one of the last of a family of professional historians. This manuscript came to light at the beginning of the 19th century as a parcel of loose leaves wrapped in newspaper.<sup>31</sup> Good examples from the Royal Irish Academy collection are two of the five surviving manuscripts of the *Annals of the Four Masters*: the twin books 23 P 6–7 (dated 1632–1636) were received by the Academy library as an "unbound roll" in the late 18th century and were subsequently bound in two volumes in the 1830s.<sup>32</sup>

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**28** Ó Macháin 2019a, 31, 33.

**29** Sharpe 2018, 270–271.

**30** NLS, Adv. MS 73.1.22; online description by Black (2012), "NLS Adv. MS 73.1.22", in: "Catalogue of Gaelic Manuscripts in the National Library of Scotland", [https://www.isos.dias.ie/libraries/NLS/NLS\\_Adv\\_MS\\_73\\_1\\_22/english/index.html](https://www.isos.dias.ie/libraries/NLS/NLS_Adv_MS_73_1_22/english/index.html) (accessed 01/04/2022).

**31** NLS, Adv. MS 72.2.9; online description by Black (2012), "NLS Advocates MS 72.2.9", in: "Catalogue of Gaelic Manuscripts in the National Library of Scotland", [https://www.isos.dias.ie/libraries/NLS/NLS\\_Adv\\_MS\\_72\\_2\\_9/english/index.html](https://www.isos.dias.ie/libraries/NLS/NLS_Adv_MS_72_2_9/english/index.html) (accessed 01/04/2022).

**32** Breatnach 2013, 106.

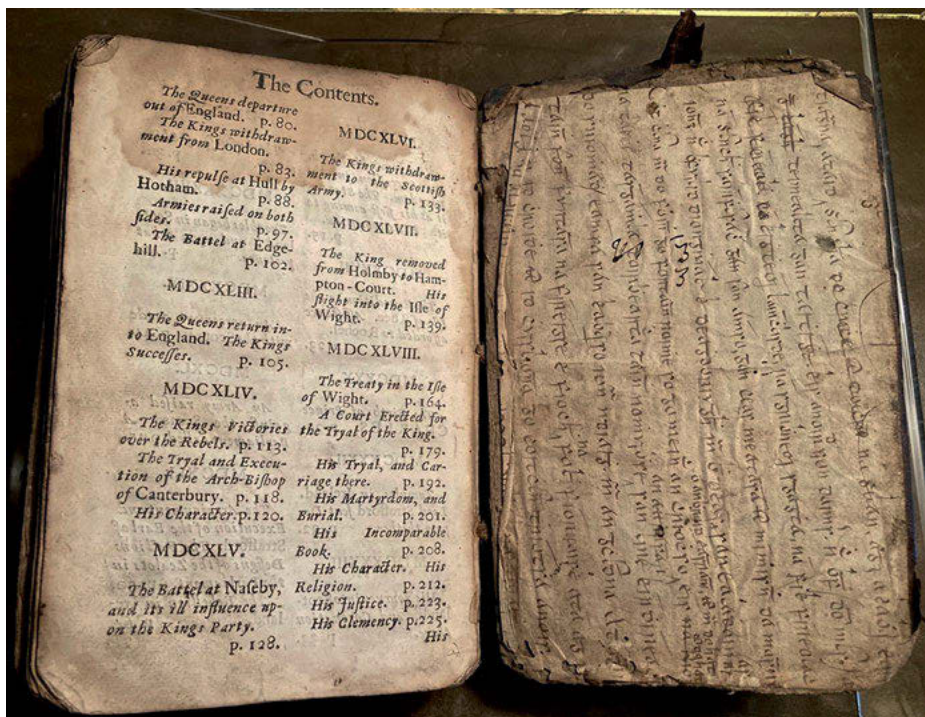


Fig. 1: Mac Cruitín Fragment, pastedown consisting of paper bearing Gaelic text, late 17th/early 18th century. For a colour image, see Appendix, p. 438 of the print version.

Paper required greater protection than vellum. While the use of vellum or leather wrappers continued into the paper era,<sup>33</sup> the scholar's binding came into greater focus and greater frequency at this time. As surviving paper manuscripts outnumber vellum manuscripts by a ratio of 10:1, such home-made bindings are not difficult to identify. They generally consisted not of recycled vellum from earlier times but rather simple cardboard covers or rough leather either on its own or over cardboard. The leather used might reflect locally available material: unshaven skin from hare,<sup>34</sup> deer,<sup>35</sup> seal<sup>36</sup> and cow.<sup>37</sup> One duodecimo manuscript of Catholic religious poems and other material (c. 1700), which was later to come into the possession of the Catholic Archbishop of Dublin, was bound with leaves from the *Book of Common Prayer*.<sup>38</sup> These bindings at times belied their makeshift

<sup>33</sup> For example, NLS, Adv. MS 73.1.10; BOD, MS Rawl. B 477 (preserved inside 18th-century boards).

<sup>34</sup> OFM-UCD, MS A 40.

<sup>35</sup> NLS, Adv. MS 72.1.48.

<sup>36</sup> NLI, MS G 80; UCC, MS Torna 43. Sealskin is also the covering material on one of the biggest vellum manuscripts of the late medieval period, BOD, Rawl. B 514.

<sup>37</sup> Mount Melleray Abbey, MSS 6–7.

<sup>38</sup> TCD, MS 1385; the RIA copy of the first book printed in Ireland, the *Boke of the Common Praier* (1551), was originally discovered functioning as binder's waste (Dix 1908–1909).

appearance through skilful displays of stitching.<sup>39</sup> They maintain their presence up to the end of the tradition in the 19th century, in parallel with the professional bindings that collectors and antiquarians sourced in urban centres in the 18th and 19th centuries.

The phenomenon of the recycling of Gaelic material can again be observed in the case of paper used as binder's waste. Examples exist from the 16th and 17th centuries of the re-use of paper bearing verse<sup>40</sup> and correspondence.<sup>41</sup> From the late 17th or early 18th century we have the recently discovered discarded draft (complete with cancels and corrections) of an introduction to a prose work in the autograph of a well-known author, Aodh Buidhe Mac Cruitín, which he used as pastedowns for his own binding of *The Royal Martyr: or, the Life and Death of King Charles I* (London 1676).<sup>42</sup>

## 2 Dimensions of Vellum Manuscripts

Bound or unbound, a significant and highly visible aspect of the vellum and paper traditions of the Gaelic manuscript is that of the dimensions of the books. The descriptive methodology of Standish Hayes O'Grady in this regard was referred to at the beginning of this paper.<sup>43</sup> His successor, Robin Flower, who completed the British Museum catalogue and saw it through the press, measured books in inches, as did cataloguers of the collections of Trinity College Dublin<sup>44</sup> and the Royal Irish Academy. Subsequent cataloguers measured in centimetres.<sup>45</sup> Irrespective of the terminology of measurement, some general points can be made about the dimensions of Gaelic manuscripts in the vellum and paper traditions.

Practically all Gaelic manuscripts made from animal skin were written on calfskin,<sup>46</sup> and the size of the books produced from that material must have been limited by

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<sup>39</sup> Lévêque 2019.

<sup>40</sup> OFM-UCD, MSS A 9 and A 18.

<sup>41</sup> NLS, Adv. MS 72.1.33 (b); Bannerman/Black 1986, 56–57, where the paper used is described as “possibly cut from a printed work”.

<sup>42</sup> The *Mac Cruitín Fragment* (in private possession, see Fig. 1) is displayed on *Irish Script on Screen*. “Mac Cruitín Fragment”, in: *Irish Script on Screen* (s. d.), [https://www.isos.dias.ie/master.html?https://www.isos.dias.ie/libraries/PRIVATE/Mac\\_Cruitin\\_Fragment/english/index.html?ref=https://www.isos.dias.ie/english/whats\\_new.html?ref=https://www.isos.dias.ie/](https://www.isos.dias.ie/master.html?https://www.isos.dias.ie/libraries/PRIVATE/Mac_Cruitin_Fragment/english/index.html?ref=https://www.isos.dias.ie/english/whats_new.html?ref=https://www.isos.dias.ie/) (accessed 01/04/2022).

<sup>43</sup> O'Grady/Flower 1926.

<sup>44</sup> Abbott/Gwynn 1921. The catalogue was begun by T. K. Abbott, who used the folio-quarto descriptors, and finished by E. J. Gwynn, who continued to use the traditional descriptors but who also measured in inches.

<sup>45</sup> Of the use of the decimal system, Sharpe 2018, 271 n. 29 remarked: “it is worth taking note that the modern convention of measuring in millimetres may interfere with recognizing eighteenth- and nineteenth-century paper sizes based on inches”.

<sup>46</sup> An exception is the 17th-century TCD, MS 1340 which contains both sheepskin and vellum (O'Sullivan, 1976, 214). Sheepskin is also found in the parallel, Anglo-Norman tradition in the case of the 14th-century *Red Book of Ossory* (Representative Church Body Library, Dublin).



the size of the skins available. Our largest vellum manuscripts from early times to 1600 are relatively consistent across the centuries in the dimensions of their prepared sheets prior to folding (height × width): 39 × 57 cm (St. Gall, Abbey Library Cod. Sang. 904, mid-9th cent.), 42 × 53 cm (RIA, MS D ii 1 *Book of Uí Mhaine*, late 14th cent.), 42 × 56 cm (TCD, MS 1432, ?16th cent.), 42.5 × 56 cm (Oxford, Bodleian Library (henceforth BOD), MS Rawl. B 514 *Beatha Choluim Chille*, 16th cent.). In a Gaelic context, these are large calfskins and they demonstrate what might be available to manuscript-makers throughout the vellum era. Noteworthy among them is the scholastic Cod. Sang. 904, a mid-9th-century copy of Priscian's *Institutiones Grammaticae* with glosses and marginalia in Irish, the impressive dimensions of which leave one in admiration of the medieval monks who brought this book from Ireland to the monastery of St. Gall in Switzerland, where it has resided for centuries.<sup>47</sup> On average, however, as we will see, the most frequently occurring dimensions fall shorter than the size of these big books.

Although Latin manuscripts of the early Celtic Church do not come within the scope of the present survey, they are useful for comparative reasons because aspects of their production are shared with books from the post-1100 era. In early Christian Ireland, a general correlation between size and function is noticeable in some categories of liturgical book. One size differentiator may have been portability. Such is the case with the pocket gospels that range in height from 12.5 to 19.5 cm. With few exceptions,<sup>48</sup> these gospels are presented without apparatus in codicologically distinct sections of the manuscript.<sup>49</sup> In size they stand in contrast to other manuscripts, for example the glorious display books that are the *Book of Kells* (c. 800 AD) and its contemporary, the *Mac Regol Gospels*, which are both folio-size books at 33 and 35 cm in height respectively.<sup>50</sup>

Comparable difference in size is also seen in other varieties of ecclesiastical books, psalters for example, pocket versions of which, measuring under 20 cm in height, are the most frequently found.<sup>51</sup> One of the smallest of these books is the 12th-century *Galba Psalter*, which measures 12 cm in height.<sup>52</sup> The earliest surviving Irish manuscript is a psalter traditionally referred to as the *Cathach* (c. 600 AD), which is c. 19 cm in height but with upper and lower margins lost.<sup>53</sup> This contrasts with the single surviving quire of the late 11th-century *Psalter of St. Caimín*, containing a single psalm accompanied by an elaborate commentary in a hierarchy of scripts. Exceptionally, this psalter stands at 36 cm high.<sup>54</sup> As with the gospel books, perhaps portability or

<sup>47</sup> For the date see Ó Néill 2000.

<sup>48</sup> Mullins 2020.

<sup>49</sup> See fn. 14 above.

<sup>50</sup> TCD, MS 58; BOD, MS Auct. D.2.19.

<sup>51</sup> See list in Ó Corráin 2017, vol. 2, 823–832.

<sup>52</sup> BL, Cotton MS Galba A. V.

<sup>53</sup> RIA, MS 12 R 33.

<sup>54</sup> OFM-UCD, MS A 1; Ó Néill 2007.

personal use were factors in deciding the dimensions of these books also. Another factor may have been whether or not the psalters, some of which contain glosses and scholia, had a pedagogical function, bearing in mind the role of the psalter in the acquisition of literacy from an early age.<sup>55</sup>

Vellum manuscripts written wholly in the Irish language become visible about the year 1100 with the writing of *Leabhar na hUidhre*.<sup>56</sup> Two further manuscripts are dated to the middle and second half of that century: the *Book of Leinster*<sup>57</sup> and BOD, MS Rawl. B 502, part B. The dimensions of these three 12th-century manuscripts are instructive. At heights of 28 cm (*Leabhar na hUidhre* and MS Rawl. B 502) and 32 cm (*Book of Leinster*), these early vernacular books belong to a popular range of dimensions that is to be observed again and again throughout the following centuries.

There is, of course, great variation in the size of Gaelic vellum manuscripts. The two largest books are patrons' books, the two smallest are personal *vade mecums*. The former have been referred to already: the *Book of Uí Mhaine* and *Beatha Choluim Chille*. Both were created for wealthy patrons in the 14th and 16th century respectively, noblemen of the powerful Ó Ceallaigh and Ó Domhnaill families. The two smallest books are personal manuscripts created for their own use by professional scholars. The smaller of the two (6 × 4.5 cm) is the remarkable Beaton manuscript of the 15th and 16th century,<sup>58</sup> containing in 100 folios a mixture of medical and theological definitions, preceded by a copy of the longest psalm, Psalm 118 (Vulgate),<sup>59</sup> from which the modern name *Neil MacBeath's Psalter* derives. The binding contains straps that allowed the book to be carried on the owner's belt. The second is the work of an Irish scholar, Pilib Ballach Ó Duibhgeannáin, written during the years 1579–1584 (6.8 × 5.4 cm).<sup>60</sup> It is a commonplace book containing in its 92 folios collections of sayings, riddles, prognostications and further similar material. As with the pocket psalters and gospel books of an earlier time, portability was probably an important factor in the size of this and the Beaton manuscript.

A rough correlation between size and function is obvious in the distinction between the large patrons' manuscripts and the small private manuscripts just mentioned. It does not hold true at all times, however,<sup>61</sup> and between these extremes there lies a spectrum of sizes encompassing all of O'Grady's categories, with the folio or small folio the most prominent. This prominence is reflected across individual collections of Gaelic manuscripts, as also are aspects of continuity and contrast with

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<sup>55</sup> McNamara/Sheehy 1973, 205–206.

<sup>56</sup> RIA, MS 23 E 25.

<sup>57</sup> TCD, MS 1339.

<sup>58</sup> NLS, Adv. MS 72.1.4.

<sup>59</sup> This is the same psalm that survives as the only text in the 11th-century *Psalter of St. Caimín*.

<sup>60</sup> NLI, MS G 1.

<sup>61</sup> RIA, MS 23 P 2 *Book of Lecan* (15th cent.) is a personal manuscript nearly 30 cm in height, consciously created as a family heirloom; NLI, MS G 992 *Nugent Poembook* (16th cent.), a patron's manuscript, is 23 cm high.

the paper tradition. In comparing statistics for vellum manuscripts (1100–1600) and paper manuscripts (1468–1700), it might be thought that the statistical basis would be too dissimilar, given the different time-spans. In fact, however, the total numbers are not too dissimilar because the loss of vellum manuscripts from the late medieval era and the sudden growth in the use of paper in the 17th century provide a balance that allows for a productive comparison and produces total figures of 279 (vellum) and 256 (paper). No doubt these numbers will be further modified as this research progresses.

### 3 Dimensions of Paper Manuscripts

The change from vellum to paper as a writing support in Gaelic manuscripts began gradually at the end of the 15th century, but paper only finally became dominant at the beginning of the 17th century and was well consolidated by the end of that century.<sup>62</sup> In the pre-urban society in which Gaelic manuscripts were produced, this involved a change from a locally sourced material that took a length of time to create, with additional time required to prepare for writing, to an imported, ready-to-use convenience material. As alluded to already, the change occurred at a disturbed time in Irish history when vellum virtually disappeared along with the class of scholars who employed it, to be replaced by one of the material tokens of the conquerors. This change was not a matter of choice, therefore, but, as we will see, it may have resulted in a greater flexibility in the type of book that could be created.

Miscellaneous institutional collections of vellum and pre-1700 paper manuscripts help to inform our understanding of the similarities and differences in the size of the Gaelic manuscript across the vellum-paper divide. No two collections are identical in the data they present. For example, we may observe the relatively homogenous collection of Gaelic manuscripts that was brought from the Friary of Donegal into exile in Louvain by Franciscan friars in the early years of the 17th century.<sup>63</sup> Among the eleven vellums in the collection, eight are 28 cm or higher, the *Psalter of St. Caimín* (mentioned above) being the largest. The smallest vellum measures 22.5 cm.<sup>64</sup> Among the thirteen paper manuscripts<sup>65</sup> that either accompanied the vellums into exile or were created on the Continent in the early years after arrival in Louvain, there are five that are 28 cm or higher, two in the range of 20–28 cm and six manuscripts less than 20 cm in height, a category not represented at all among the vellums in the collection. When we look at the cognate collection of eleven paper manuscripts preserved in the Royal

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<sup>62</sup> Ó Macháin 2019a, 23.

<sup>63</sup> These manuscripts were removed to Rome c. 1792 and returned to Ireland in 1872. They form part of the OFM-UCD collection in University College Dublin. The collection is described in Dillon et al. 1969.

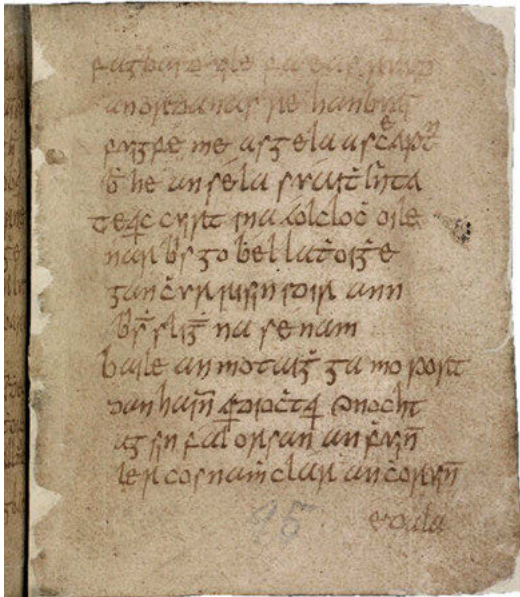
<sup>64</sup> OFM-UCD, MS A 11.

<sup>65</sup> This number excludes fragments, correspondence items and inventories.

Library of Belgium in Brussels—representing a residue of the Louvain library—we see that one book<sup>66</sup> is 26 cm in height, while the rest are 21 cm or less.

A slightly variant profile is in evidence in the collection of vellums and 16th-/17th-century paper manuscripts in the National Library of Ireland (henceforth NLI). Here the respective numbers are 17 of vellum and 17 of paper, presenting an almost identical break-down of dimensions in both categories. In the vellums there are five of 28 cm and higher, ten in the height range of 20–28 cm and two less than 20 cm, including the miniature NLI, MS G 1 mentioned above. Among the paper manuscripts two are over 28 cm, there are seven between 20 and 28 cm and eight that are less than 20 cm.

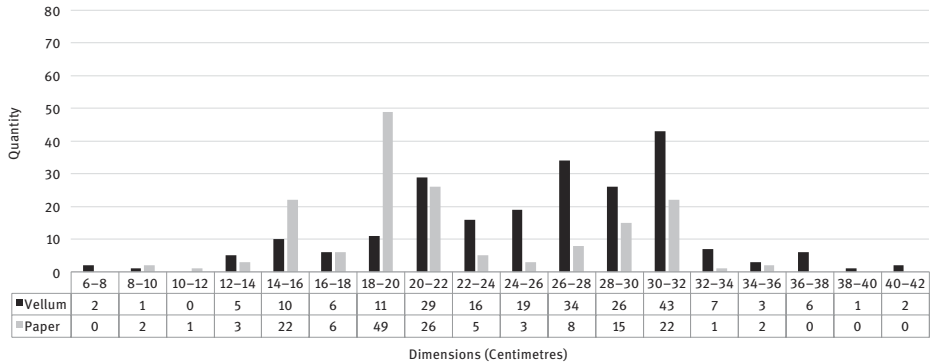
The NLI also contains the two smallest paper manuscripts so far identified, both dating from the 17th century. They are found in the composite NLI, MS G 201 containing *Materia Medica* (9.5 × 7 cm) and genealogical material (8.5 × 7 cm) (see Fig. 2). It is worth noting that reduction or diminution in size appears not to have been accompanied by diminution in script. The text-frame in such manuscripts is naturally contracted, resulting in fewer characters per line and fewer lines per page than in bigger manuscripts. The size of the script, however, remains unaffected, and this is true of many small manuscripts in both vellum and paper.<sup>67</sup>



**Fig. 2:** Dublin, National Library of Ireland, MS G 201, f. 95r (8.5 × 7 cm), the smallest paper manuscript in this survey, 17th century. For a colour image, see Appendix, p. 439 of the print version.

<sup>66</sup> Brussels, Royal Library of Belgium, MS 6131–6133, a poem-book created in honour of one of the exiled nobility, Nualaidh Ní Dhomhnaill.

<sup>67</sup> Remarkably so in the case of the Latin *Computus manualis* (O'Grady/Flower 1926, vol. 1, 285) among the Beaton manuscripts (NLS, Adv. MS 72.1.2, ff. 20–26), measuring 8 × 6 cm.

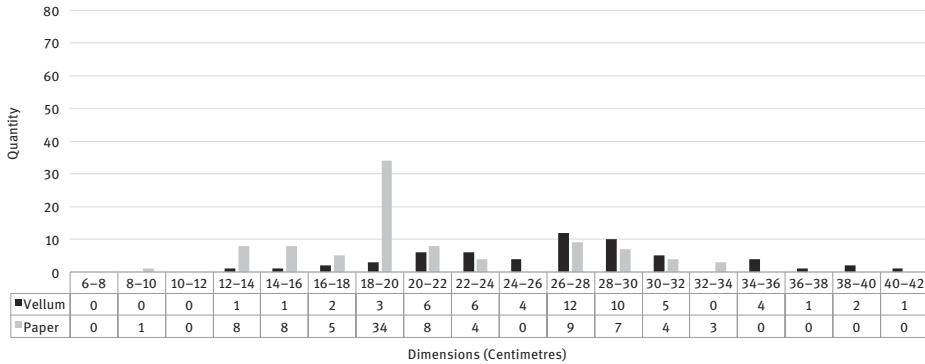


**Fig. 3:** Page height of Gaelic manuscripts (1100–1600 vellum, 1468–1700 paper) in miscellaneous collections.

From the varying evidence and different emphases in the Louvain and NLI collections, it is clear that it would be unsatisfactory to base any broad conclusions regarding variations in book-size on these collections alone. When combined with the details from other collections however, the data generated provide us with a more representative overview of the size of Gaelic manuscripts before and after the transition to paper. This overview is presented in graphic format in Fig. 3.<sup>68</sup> Relative to their vellum counterparts, the data for these miscellaneous collections show a paucity of paper in height-ranges greater than 22 cm. In those below 22 cm, however, that situation is practically reversed, spectacularly so in the case of books in the range of 18–20 cm.

Not included in the data from the miscellaneous collections are those from the manuscripts in the library of the Royal Irish Academy, which contains the most extensive collection of Gaelic manuscripts in existence and deserves to be mentioned separately. For the purposes of the present analysis, this collection provides 58 vellums and 91 paper manuscripts (pre-1700). It is the most comprehensive of all our collections in that it is home to the earliest Irish manuscript, the *Cathach*, and includes the earliest vernacular manuscript, *Leabhar na hUidhre*, mentioned already, together with some of the large-sized patrons' manuscripts and many scholars' books, and also the

<sup>68</sup> Collections represented are those in the British Library (London), National Library of Scotland (Edinburgh), Bodleian Library (Oxford), Cambridge University Libraries, Royal Library of Belgium (Brussels), Edinburgh University Library, Glasgow University Library, Maynooth University Library, Trinity College Library (Dublin), Archbishop Marsh's Library (Dublin), National Library of Ireland (Dublin), King's Inns Library (Dublin), Hardiman Library (NUI Galway), National Library of Wales (Aberystwyth), University College Cork Library, University College Dublin Library and the OFM-UCD collection. To these have been added the details of individual manuscripts: the *Book of the O'Conor Don* (private possession); "Mullingar" MS 1 (private possession); Edinburgh, National Museum of Antiquities *Red Book of Clanranald*; Copenhagen, Royal Danish Library, NKS 268 b fol.; Paris, Bibliothèque nationale de France, Fonds Celtique 1; Bibliothèque de Rennes Métropole, MS 598; Manchester, John Rylands Library, Irish MS 35. Further small collections remain to be consulted.



**Fig. 4:** Page height of Gaelic manuscripts (1100–1600 vellum, 1468–1700 paper) in the Royal Irish Academy.

earliest paper manuscript written in either Ireland or Scotland, that is Dublin, Royal Irish Academy (henceforth RIA), MS 24 P 15, which was written in 1478.<sup>69</sup> This single collection therefore affords us a panoramic view of the evidence presented by a significant range of vernacular manuscripts written on both materials, dating from the beginning of the vernacular period in 1100 to the end of the 17th century: that panorama is represented in Fig. 4. It conforms to the pattern that emerges from the data provided by miscellaneous collections to the extent that it reflects the paucity of paper manuscripts in the upper range of 34 cm and higher and the significantly greater frequency of paper manuscripts in the ranges smaller than 20 cm, particularly that of 18–20 cm. In the middle ranges, however, there is a closer alignment of dimensions between the paper and vellum books than is observable elsewhere.

Combining the data from the miscellaneous collections with those from the Royal Irish Academy library in a single consolidated graph (see Fig. 5) we obtain something approaching a true picture. This consolidated evidence prompts a number of deductions.<sup>70</sup> Firstly, folio- and small folio-sized books (22–32 cm) in the vellum tradition, while underlining the continuity from one medium to the other, outnumber their paper counterparts in the early paper era by 2.5:1. Secondly, there are 4.5 times more vellums than paper books in the 32–42 cm category, though the numbers are small for both materials, and there are no paper manuscripts above the 36 cm mark. Thirdly, below heights of 22 cm the situation is reversed. Paper and vellum are close to parity in the 20–22 cm size, but in manuscripts smaller than 20 cm paper is superior in all but

<sup>69</sup> The earliest Gaelic paper manuscript (Trinity College Cambridge, MS R.14.48) identified so far is dated ten years earlier and was written in England by an Irish medical scholar (Ó Macháin 2019a, 23–26).

<sup>70</sup> For the sake of completeness, it should be noted that a small number of paper manuscripts written by Gaelic scholars in locations outside of Ireland and Scotland are included in these data. These are to be found in the OFM-UCD, Cambridge, Maynooth and RIA collections; also included is the *Book of the O'Conor Don*.

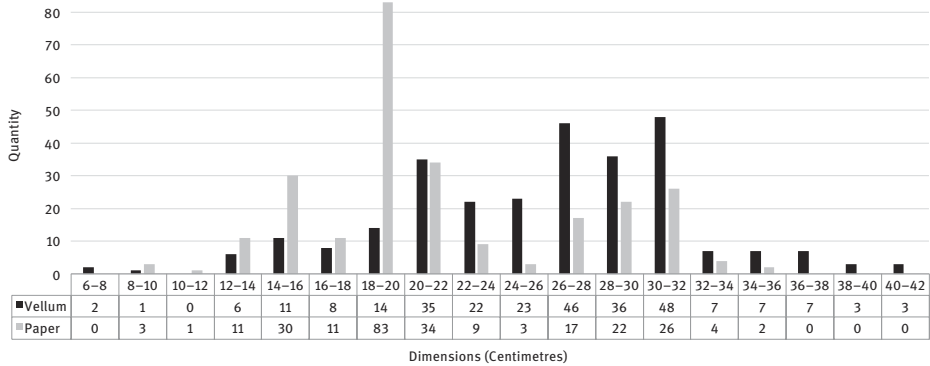


Fig. 5: Page height of Gaelic manuscripts (1100–1600 vellum, 1468–1700 paper), consolidated graph.

the smallest dimension, where the vellum Beaton ‘psalter’ and the Ó Duibhgeannáin commonplace stand alone, as explained above. Supplementary analysis of the paper manuscripts created prior to 1600 shows that the preference for small-sized books was not just a 17th-century phenomenon: over half the paper manuscripts from the 16th century are under 20 cm in height.<sup>71</sup>

The paper-vellum differential is most eye-catching in the 18–20 cm range. The total for manuscripts in this range amounts to almost a third of all paper manuscripts under consideration here. Until more detailed examination of all of these books is conducted, it will not be possible to offer much more than a hypothesis for this notable statistic. The phenomenon of the general trend towards smaller format books from the late medieval period through the Renaissance period has been observed in manuscripts and printed books of other traditions.<sup>72</sup> It is difficult to see that this is entirely true of the Gaelic manuscript tradition, however, especially if we factor in the monastic books and the preponderance of pocket-sized works associated with that tradition.

Whether part of a trend or not, this survey points to the prevalence of sheets that could produce folio, small-folio and quarto paper corresponding to the ranges in Fig. 5. Full sheets measuring (height × width) 25.5–28.5<sup>73</sup> × 36–40 cm will produce the small-folio range of heights (26–28 cm) and quartos in the 18–20 cm range. Sheets measuring 28.5–32 × 40–45 cm will produce the folio range (28–32 cm) and quartos in the 20–22 cm range. In other words, one could argue for a direct correlation between

<sup>71</sup> The round figures for paper manuscripts pre- and post-1600 in Ó Macháin 2019a, 23, hold true. In the present survey 36 pre-1600 paper manuscripts have been accounted for, and no doubt this will change with further research.

<sup>72</sup> E. g., Greenia 2005, 726–727; Harris 2017, [41].

<sup>73</sup> These generalised dimensions of sheets are based on a height:width ratio of 1:√2, while accepting that this ratio may have been only an approximation on the part of many mould-makers (Gaskell 1972, 67; Harris 2017, [37]).

the folio sizes represented in the consolidated graph (see Fig. 5) and the dominant quarto sizes in the same graph. It remains for future research to determine whether this is a result of folding of full sheets by scribes, or if paper, particularly in the smaller dimensions, was available pre-folded, cut and quired.<sup>74</sup>

These full sheets correspond to the lower end of the popular chancery paper.<sup>75</sup> They can also be seen in use in early printed books in the Irish language and script. The first such book, *Aibidil Gaoidheilge & Caiticiosma* (1571), is an octavo created from a sheet measuring 28 × 39 cm; a lone example of this sheet still survives, on which the newly created Queen Elizabeth type was trialled prior to the printing of the book.<sup>76</sup> The second book to be printed, the Irish translation of the New Testament, *Tiomna Nvadh ar dTighearna* (1602), is a folio created from a sheet trimmed to c. 27 × 38 cm, and further examples could be cited.

Full sheets of similar sizes to those just mentioned are also prominent in administration and record-keeping of the early 17th century. An examination of the Roche Papers and the Kinsale Manorial Papers housed at the library of University College Cork (henceforth UCC), for example, shows a preponderance of sheets in a general range of 29–32 × 42–45 cm, being folded or cut for a number of purposes, including correspondence,<sup>77</sup> records of financial transactions and true copies of deeds of ownership.<sup>78</sup> The keeping of records of estates and municipalities would multiply with the confiscation of lands and the creation of new settlements during the 17th century. Combined with the military and political administrative correspondence and records that attended the conquest of Ireland, it is not difficult to visualise the proliferation of paper in Gaelic Ireland at this time. Even though the two sets of 17th-century records just cited can hardly be taken as indicative, their evidence does not contradict the proposition that much of the paper in pre-18th-century Gaelic manuscripts could derive from sheets of the dimensions referred to above.

This is a hypothesis that remains to be fully explored and tested. A number of matters arise that should be systematically researched in both Gaelic and non-Gaelic sources: details such as watermarks and their disposition, cropping of leaves and layout of text. Although it has been suggested above that the integrity of the quire, which is such an overt feature of the vellum era, disappeared with the advent of paper, in truth much more work needs to be done to garner information about the collation of the Gaelic paper manuscript in these early years. Nor have we any proper understanding yet as to what extent the determination of the size of their manuscripts was under

<sup>74</sup> See the case of RIA, MS 23 N 10, a quarto, discussed in Ó Macháin 2019a, 33–34.

<sup>75</sup> Harris 2017, [38–42]; Da Rold 2020, 172. Helpful statistics and tables are available at Gordon/Noel 2017.

<sup>76</sup> Ó Macháin 2021.

<sup>77</sup> Sizes of correspondence paper are cited in Daybell 2012, 34.

<sup>78</sup> UCC, UC/LR/PP/U16/1 *Roche Papers* (1607–1657); UCC, UC/KM/PP/U20/21 *Kinsale Manorial Papers* (1662–1665).



the control of the manuscript-makers in the paper era or to what extent those scribes manipulated paper to suit their purposes.

Among the part-time scholars of the 17th century who took on the task of preserving the record of Gaelic tradition, there was a clear predilection for the creation and use of smaller-sized books. The prominence of small-sized manuscripts is also reflected among the books created by the residue of the professional scholars who continued for a while to ply their trade in the 17th century. For example, the few remaining manuscripts of the preeminent Scottish poetic family, the Clann Mhuirich, measure c. 15 cm or less in height.<sup>79</sup> The surviving manuscripts written solely by the historian Cú Coigcríche Ó Cléirigh are noteworthy, all eight coming within the 18–20 cm height range.<sup>80</sup> These are in contrast to the same scholar's collaboration on the manuscripts of one of the most outstanding new texts of the paper era, the *Annals of the Four Masters*, five of which survive and come within the range of 22–28 cm. Another historian was An Dubhaltach Mac Fhirbhisigh. This scholar moved freely across the boundaries of Gaelic and English society, urban and rural, in 17th-century Ireland, and therefore, more than many other Gaelic scholars, he would have had access to a comprehensive selection of the varieties of paper available in the country during the years in which he was active, 1643–1671. Perhaps in token of that mobility, with the exception of his continuation of the work on the miniature manuscript for the Poor Clares mentioned below, much of his surviving manuscripts, including his *magnum opus*, the *Great Book of Genealogies*,<sup>81</sup> belong to the 18–20 cm range of heights. It is true that his earliest surviving book, TCD, MS 1317, measures 33 × 20.3 cm, but it seems that this manuscript incorporates and continues work by An Dubhaltach's grandfather<sup>82</sup> so that the size of the paper used in this case may have been predetermined.

The flowering of paper manuscripts in the 17th century displays many of the traditional facets of Gaelic book tradition over time, and some new ones. Most obvious among the latter are the transcription of printed material in Irish and the subsequent transmission in manuscript of texts that had first been generated in printed format.<sup>83</sup> Original texts that may have been initially intended for print but that remained in manuscript also prospered in manuscript transmission, none more so than a new history of Ireland (*Foras Feasa ar Éirinn*) that was written in the 1630s by a French-educated Irish priest, Geoffrey Keating. As this work provided a continuous historic narrative from mythological times down to the end of the 12th century, it gained an immediate

<sup>79</sup> E. g., RIA, MS E i 3; TCD, MS 1337/2 (pp. 693–699); NLS, Adv. MSS 72.1.48 and 72.1.50; Edinburgh, National Museum of Antiquities, *Red Book of Clanranald*.

<sup>80</sup> Breatnach 2013, 108.

<sup>81</sup> Dublin, University College Dublin (henceforth UCD), Additional Irish MS 14; Ó Muraíle 2003.

<sup>82</sup> Ó Muraíle 1996, 81.

<sup>83</sup> E. g., BL, MS Sloane 3567 (ff. 18–30); TCD, MS 1350; Glasgow University Library, MS Gen 21 *Ratisbon Manuscript*.

popularity and was to become one of the most frequently-copied prose texts in Gaelic tradition. It is interesting to note that of the 23 17th-century copies of Keating's work surveyed for this study, only two are under 24 cm,<sup>84</sup> while eight are in the 26–28 cm range and nine range from 28 to 32 cm in height. Copies of this text also furnish us with the largest volumes created during the first two centuries of the paper era, both measuring just over 35 cm in height.<sup>85</sup>

As has been noted elsewhere, familiarity with the norms of the printed book is evident in the organisation and layout of some Gaelic manuscripts at this time.<sup>86</sup> Paper bears witness to and facilitates these innovations. A number of Gaelic manuscripts created in the Low Countries contain indexes.<sup>87</sup> Keating's history comes with an Apologia (*Dionbholach*) in the form of an address to the reader, a feature unknown in the vellum tradition. The *Annals of the Four Masters* contain testimonials, a dedication and a preface.<sup>88</sup> An Dubhaltach Mac Fhirbhisigh, mentioned above, who was well acquainted with the printed book, includes prefaces and addresses to a reader in his original work.<sup>89</sup> Looser, less overt forms of prefatory material also begin to appear in paper manuscripts at this time, in the form of grammatical or metrical summaries as an introduction of sorts to what followed in the manuscript.<sup>90</sup> This prefatory material is an indication not just of the migration of the genre of the preface into Gaelic paper manuscripts, but also of the growing need that would be felt among some of the manuscript makers to explain to the uninitiated the knowledge they purveyed. A related development was the novelty of historic works in Irish being translated into English. Most notable was the translation of Keating's history a number of times to English and at least once to Latin, a token of the instant popularity of this work.<sup>91</sup> In 1666 An Dubhaltach translated to English part of a set of annals, now lost, for Sir James Ware in Dublin.<sup>92</sup> Predating these translations was Conall Mac Eóchagáin's 1627 translation of the *Annals of Clonmacnoise*, which contains an address to the reader and a dedication in which he refers to the destruction of vellum manuscripts and to the decline in learning among the learned classes who "neglect their Bookes" and choose to:

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**84** BOD, MS Fairfax 29 (A); NLS, Adv. MSS 72.1.43/72.2.2.

**85** Respectively TCD, MS 1403 and Marsh's Library, MS Z 3.1.7 (where the use of white space in some of the ancillary texts is remarkable).

**86** Ó Macháin 2019a, 40.

**87** E. g., *Duanaire Finn* (OFM-UCD, MS A 20 (b)); the *Book of the O'Conor Don* (private possession) and especially the substantial indexes to Brussels, Royal Library of Belgium, MSS 4639 (ff. 122–178r) and 5095–5996 (ff. 66–100); see also Ó Macháin 2013, 139 n. 22.

**88** OFM-UCD, MS A 13.

**89** BOD, MS Rawl. B 480; UCD, Additional Irish MS 14.

**90** Ó Macháin 2017, 124–126.

**91** E. g., NLI, MS G 293; RIA, MS 24 G 16; TCD, MS 1443; Latin translation RIA, MS 24 I 5 (see Sharpe 2013, 64; Caball/Hazard 2013).

**92** Ó Muraile 1996, 271–272.

put their children to learne eng[lish] than their own native Language, in soe much that some of them suffer Taylors to cutt the leaves of the said Books (which their auncestors held in great account, & sliche them in long peecees to make theire measures off) that the posterities are like to fall into meere Ignorance of any things hapened before their tyme.<sup>93</sup>

Ironically, we are dependent today on secondary copies of this work as neither the manuscript from which the translation was made nor Mac Eochagáin's own manuscript survive.

Though it is an area that awaits exploration, it is possible that the influence of printed works extended beyond layout and innovations in preliminary material to the size of Gaelic manuscripts, as may be the case with one of the smaller paper manuscripts of the period. This was a translation into Irish of the Rule of St. Clare, made for a community of nuns of that order, which was copied by Míchéal Ó Cléirigh in 1636 on pages measuring 9.8 × 7.6 cm (RIA, MS D i 2). The translation and transcript were continued in 1647 by An Dubhaltach Mac Fhirbhisgh on paper that may not have been an exact match to the size of the original, but which was “drastically cut down”<sup>94</sup> by the later binder. The original work in English from which the translation had been made measures 8.8 × 6 cm,<sup>95</sup> and the general proximity of these measurements to those of the manuscript has been remarked on.<sup>96</sup> It is possible that this was an attempt to match the size of the manuscript to that of the printed book from which the translation was made.

The *Annals of the Four Masters* and Keating's history are instances from the paper tradition where the status of the contents seems to be reflected in the size of the books in which these texts were recorded. It is significant that these were newly-created historical texts of national importance. Paper quickly became part of scholarly life and part of the apparatus of the learned in this new era, to the extent that a poet of that time would number his penner and his paper among his cherished companions.<sup>97</sup> One of the ‘Four Masters’, Míchéal Ó Cléirigh—who copied the first part of the Rule of St. Clare mentioned above—published a glossary of medieval Irish in Louvain in 1643, the year of his death. Among the sources he cited were a plurality of vellum manuscripts and a single “old paper book” (*Seinleabhar paipéir*).<sup>98</sup> Ó Cléirigh's glossary, together with earlier publications from Louvain, paved the way for a modicum of Gaelic printed works, which were produced over the ensuing decades without in any way eroding the Gaelic manuscript tradition that would thrive and continue until the end of the 19th century.

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<sup>93</sup> Murphy 1896, 8.

<sup>94</sup> O'Rahilly et al. 1926–1958, 3282.

<sup>95</sup> Knott 1948, 2.

<sup>96</sup> Ó Muraíle 1996, 133.

<sup>97</sup> Bergin 1970, Poem 46; Longfield 1929, 190.

<sup>98</sup> Ó Cléirigh 1643, [iv].

## 4 Conclusions

The landscape of vernacular manuscript production across the vellum and paper traditions in the Gaelic world is dominated by the scholar-scribes. They assembled and wrote the books; they held them together with thongs, or covered them with skins (at times recycled) or with boards; and they used them. One significant point of difference that marked the change from vellum to paper occurred in the area of size. With the decline in patronage that followed the dismantling of Gaelic society, most Gaelic manuscripts created in the 17th century were personal books, but whether personal or intended for an imagined readership, in many cases smaller sizes were found to be the most convenient. This was the continuation of a trend that had begun with the first phase of paper manuscripts in the 16th century. Some texts, which in earlier times might have been associated with middle- to large-sized books, now appeared in small sizes.<sup>99</sup> It is clear that paper provided a flexibility that allowed for greater choice among the manuscript-makers. Had we a view of the entire output of all the scholars of this period, we might well see that flexibility reflected in the work of many of them.

There are many aspects of the production of paper manuscripts that bespeak sizes that were never regular, except perhaps at the moment the sheets left the maker's mould. In this irregularity the paper manuscripts find correspondences in the irregularity of the dimensions of books created during the vellum era. Despite this correspondence, the data arising from a survey of the paper manuscripts tell us that books in small sizes were the particular choice of the paper scribes, with the exception of special texts for which larger-sized leaves seemed more appropriate as a writing support during and after the transition from vellum to paper. If vellum had never vanished with the professional schools and scholars, it is likely that paper would still have become increasingly the material of choice and convenience for the scribes of the early modern Gaelic world. While the Latin books of early Christian Ireland have not formed part of this study, one cannot but remark on the symmetry of the return in the paper era to books of dimensions similar to those of the pocket gospels and psalters prominent at the beginning of the handmade book in the Gaelic world.

There are many matters arising from this survey of the sizes of Gaelic manuscripts that will repay in-depth investigation. Research topics should include a record of watermarks, of collations, sheet sizes and bindings; correlation of the different sizes of paper used by individual scribes; and a systematic analysis of the availability of paper in Ireland and Gaelic Scotland. For the present, however, we must content ourselves with this overview of the transition from one writing support to another and wonder at the near absoluteness of that transition after 1600 when paper became

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<sup>99</sup> E. g., TCD, MS 1378; BL, MSS Egerton 185 and Cotton Nero A. VII (ff. 132–157); NLI, MS G 168.

established so quickly and at how it enabled a thousand years' tradition of the transmission of literature in handmade books to continue for another three centuries.<sup>100</sup>

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- Additional 19 995
- Additional 15 403
- Arundel 313
- Cotton MS Galba A. V
- Cotton Nero A. VII
- MS Egerton 185
- MS Harley 3756
- MS Sloane 3567

BOD: *Oxford, Bodleian Library*

- MS Fairfax 29 (A)
- MS Auct. F.III.15
- MS Auct. D.2.19
- MS Laud Misc. 615
- MS Rawl. B 477
- MS Rawl. B 480
- MS Rawl. B 502
- MS Rawl. B 514 *Beatha Choluim Chille*

*Brussels, Royal Library of Belgium*

- MS 6131–6133

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*Copenhagen, Royal Danish Library*

- NKS 268 b fol.

*Dublin, King's Inns*

- MS 12
- MS 13
- MS 15

*Dublin, Marsh's Library*

- *Irish Primer*
- MS Z 3.1.7

*Dublin, National Museum of Ireland*

- *Faddan More Psalter*

*Dublin, Representative Church Body Library*

- *Red Book of Ossory*

*Edinburgh, National Museum of Antiquities*

- *Red Book of Clanranald*

*Glasgow University Library*

- MS Gen 21 *Ratisbon Manuscript*

*Manchester, John Rylands Library*

- Irish MS 35

*Mount Melleray Abbey*

- MSS 6–7

NLI: *Dublin, National Library of Ireland*

- MS G 1
- MS G 80
- MS G 168
- MS G 201
- MS G 293

– MS G 992 *Nugent Poembook*

NLS: *Edinburgh, National Library of Scotland*

- Adv. MS 72.1.2
- Adv. MS 72.1.4.
- Adv. MS 73.1.10
- Adv. MS 72.1.13
- Adv. MS 72.1.29
- Adv. MS 72.1.31
- Adv. MS 72.1.33
- Adv. MS 72.1.43
- Adv. MS 72.1.48
- Adv. MS 72.1.50
- Adv. MS 72.2.2

<sup>100</sup> This paper was written in a time of pandemic when libraries and archives were closed. I am indebted to Aoibheann Nic Dhonnchadha and to Ulrike Hogg for their help in checking sources and other details. I am grateful to Paddy Vaughan for making the graphs.

- Adv. MS 72.2.14
- OFM-UCD: University College Dublin,  
Order of Friars Minor
- MS A 1
- MS A 8
- MS A 9
- MS A 11
- MS A 13
- MS A 15
- MS A 18
- MS A 20 (b) *Duanaire Finn*
- MS A 40
- Oxford, *Corpus Christi College*
- MS 282
- Paris, *Bibliothèque nationale de France*
- Fonds Celtique 1
- Private Possession
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- *Book of the O’Conor Don*
- “Mullingar” MS 1
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- MS 598
- RIA: Dublin, *Royal Irish Academy*
- MS 12 R 33 *Cathach of St. Columba*
- MS 23 E 25 *Leabhar na hUidhre*
- MS 23 N 10
- MS 23 P 2 *Book of Lecan*
- MS 23 P 6–7 *Annals of the Four Masters*
- MS 23 P 12 *Book of Ballymote*
- MS 24 G 16
- MS 24 I 5
- MS 24 P 15
- MS D i 1
- MS D i 2
- MS D ii 1 *Book of Uí Mhaine*
- MS D iv 1
- MS D v 1
- MS D v 2
- MS E i 3
- St. Gall, Abbey Library*
- Cod. Sang. 904
- TCD: *Dublin, Trinity College Dublin*
- MS 52 *Book of Armagh*
- MS 58 *Book of Kells*
- MS 1302
- MS 1314
- MS 1317
- MS 1323
- MS 1337/2
- MS 1339 *Book of Leinster*
- MS 1340
- MS 1350
- MS 1363
- MS 1378
- MS 1385
- MS 1403
- MS 1432
- MS 1443
- UCC: *Cork, University College Cork, Library*
- *Book of Lismore*
- MS Torna 43
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## Photo Credits

- Fig 1: Mac Cruitín Fragment, pastedown consisting of paper bearing Gaelic text, late 17th/early 18th century. Private possession, reproduced by kind permission.
- Fig. 2: Dublin, National Library of Ireland, MS G 201, f. 95r (8.5 × 7 cm), the smallest paper manuscript in this survey, 17th century. Reproduced by kind permission.
- Fig. 3: Page height of Gaelic manuscripts (1100–1600 vellum, 1468–1700 paper) in miscellaneous collections. By Paddy Vaughan.
- Fig. 4: Page height of Gaelic manuscripts (1100–1600 vellum, 1468–1700 paper) in the Royal Irish Academy. By Paddy Vaughan.
- Fig. 5: Page height of Gaelic manuscripts (1100–1600 vellum, 1468–1700 paper), consolidated graph. By Paddy Vaughan.

Maria Stieglecker  
**Travelling Books**

Johannes de Spira as Scribe, Author and Translator

## 1 Johannes de Spira and the Melker Reform

In 1418 a priest of the Speyer diocese in western Germany decided it was time to make a change in life and started on the journey to Melk Abbey in Lower Austria to join the Benedictines. It was the final year of the Council of Constance, which had started in 1414 with the aims of ending the Western Schism, tackling heresy and discussing reform of the church. The Schism could be ended by the election of Pope Martin V, but the condemnation of Jan Hus as a heretic started the Hussite Wars. In consequence, instead of the Council reaching a compromise, discussions about the *causa fidei* (matters concerning the faith) deteriorated. Also, the tense situation between conciliarism and papal supremacy could not be satisfactorily solved. But beside the discussions about the main points of the agenda, a council always offered the possibilities to discuss *alia* (other topics).

This opportunity was seized by Albrecht V, Duke of Austria, and a number of professors from the University of Vienna, notably Nikolaus de Dinkelsbühl. Reforming the orders was on their minds, and they planned to start with the Benedictines. They had different aims—the stronger influence of the sovereign over the church in his dominion and internal reform of the order—but knew that they needed each other to achieve these objectives. At the Council, close proximity of the council members enabled efficient implementation of the planned measures: the installation of a new abbot at Melk Abbey and the appointment of five members from the Subiaco Abbey in the region of Latium, who were seen as leading very disciplined lives, in compliance with the *Regula Benedicti* (Rule of St. Benedict). This was intended to initiate a return to the beginnings of Benedictine monasticism. And with the installation of Nikolaus Seyringer as abbot, on 2 July 1418, a reform movement started, later known as the *Melker Reform* (Melk Reform). For it was from here, and with the support of Melk monasterial members, that other Benedictine abbeys and monasteries in Austria and southern Germany underwent reform.<sup>1</sup>

Johannes de Spira was the man who headed for Melk in 1418; he was also known as Johannes von Speyer, Johannes de Freinsheim or Johannes Wischler.<sup>2</sup> We do not

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1 On the *Melker Reform*, see Glaßner 2013; Angerer 1999.

2 For the biography of Johannes de Spira, see Bruck 1985, 97–104; Kraume 1983.

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I would like to thank Michael Durgin very much for his help with editing and proofreading.

know how he knew about the plan to reform the order at Melk. Certainly, members of the University of Heidelberg and officials of the diocese of Speyer attended the Council of Constance, and he was in contact with them. But it is striking how early he knew about these developments, and it must have been a pressing concern for him to participate in the reform.

What do we know about this man and his life before he became a Benedictine? From notes in various Melk codices and letters we get a few hints: Johannes was born in Freinsheim in the Palatinate region on Easter Night in 1383. This small town is located less than 50 km west of Heidelberg, on the other side of the Rhine River. Then known as Johannes Wyszeller, he matriculated at the University of Heidelberg in 1401 and studied philosophy, theology, and canon law. After his studies he became a secular priest in the diocese of Speyer. Somehow inspired to be part of the reform movement—his particular motives are unknown to us—in 1418 he started his journey across southern Germany to Melk Abbey in Austria, over 600 km away, to apply for admission to the monastery.

Although he was already ordained as a priest, he had to complete the novitiate like all new candidates. A year later, in 1419, he took his final vows. And he seems to have made his mark on the monastery: soon afterwards he was appointed novice master. This would be a task with responsibilities, especially in view of the reform of religious life that had just begun. His zeal to support and realise this reform is evident in his personal lifestyle, as well as in his writings and his translations of important reform texts into German. What Johannes de Spira seems to have suggested most heavily for consideration was abstinence. He disciplined himself so much that the abbot had to order him to give up meat fasting—about which he wrote numerous tracts—so as not to ruin his health. For novices, monks and lay brothers, Johannes acted as copyist, translator and author, providing them with guidelines for monastic life and helping them understand the ideas of reform. For example, he translated the *Regula Benedicti* and many of the works of Johannes Gerson, a popular author on reform movements of the time, into German.<sup>3</sup> Thus he contributed decisively—along with other confreres like the even more committed Lienhart Peuger—to the early and intensive translation activity of the monastery.<sup>4</sup>

Once the reforms were well underway at Melk Abbey, the *Melker Reform* was to be spread to other Benedictine abbeys and monasteries. Delegates from monasteries that were already reformed were sent to other houses to support the abbots with implementation. One of these was Johannes de Spira, who was sent to Lambach Abbey in Upper Austria in 1429. A short time later, the Council of Basle (1431–1449) was opened. One of the many topics of this new Council was, once again, the reform of the Benedictine order. A group of visitators, including Johannes, was named in 1434 by the Council to visit the Benedictine monasteries of the dioceses of Constance and Augsburg in

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<sup>3</sup> Bruck 1985, 97.

<sup>4</sup> Glaßner 1997, 301–303.

Swabia. Half a year earlier, Johannes had become prior of Melk, a position from which he resigned because of this new task. The following year they visited St. Gall in Switzerland. After Johannes had completed these certainly strenuous journeys between Melk, Basle, Donauwörth, Wiblingen and St. Gall in the role of a visitor, he returned to Melk in 1435 or soon after.

Johannes de Spira went on to copy texts and to write, but he held no more positions in the abbey and doubted more and more the legitimacy of the vows he had made when he entered the Melk monastery. In 1441 he got permission to move to Klein-Mariazell and become a member of its Benedictine monastery. He spent the final years of his life there, about 50 km west of Vienna. His traces are lost here, and it is uncertain whether he continued to work as a scribe at Klein-Mariazell. There is also uncertainty about the date of his death: it was no earlier than 1453 but possibly not until 1458.<sup>5</sup>

## 2 New Findings on Melk Abbey Library, Cod. 427

In the monastery library of Melk, we know of several volumes written by Johannes de Spira, either because he identified himself in the colophon or because the manuscripts could be ascribed to him through comparison of the handwriting.<sup>6</sup> So far, about a dozen codices can be identified as his: Melk Abbey library, Cod. 231, 232, 427, 636, 637, 762, 898, 900, 908/part 2, 917 and 1915.<sup>7</sup> Until recently, there seems to have been a consensus on where he wrote these, namely Melk. But a look at—or rather *through*—the paper used and the accompanying analysis of the watermarks has brought new insights to light.

In the course of the descriptive analysis and cataloguing of the medieval library holdings of Melk Abbey, Cod. 427 was subjected to closer enquiry. The volume contains sermons of Heiricus Altissiodorensis, a Benedictine theologian of Carolingian time, and Philippus de Monte Calerio, a Franciscan of the 14th century. Johannes de Spira was identified as the scribe through handwriting comparison, and it was assumed that he had written it in Melk at the beginning of the 15th century. For the first time, the writing material has now been examined more closely and—taking into account analysis of the paper and its watermarks—new findings have been made with regard to localisation and dating.<sup>8</sup>

At this point, some terms should be clarified that will be used in the discussion of paper production and the comparison of watermarks. Paper was usually made in

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<sup>5</sup> Bruck 1985, 98–99.

<sup>6</sup> This comparison of handwriting was done by Christine Glaßner.

<sup>7</sup> For details on the manuscripts see *manuscripta.at* (s. d.), the online portal for medieval manuscripts in Austria.

<sup>8</sup> An initial study on the topic was published in 2019 (Stieglecker 2019) but can now be revised and updated as a result of this additional research.

a vat with two alternating moulds. Wire figures of the same motif and shape would be fixed onto each to create the watermark. Although these wire figures were often very similar, they were never exactly the same. As pairs of paper moulds were used, watermarks are always found in pairs, and we speak of ‘twin marks’ or a ‘pair of watermarks’. For the comparison of watermarks, three terms are used, which are subsumed under ‘related watermarks’: identical watermarks, variants of watermarks and types of watermarks. ‘Identical’ ones are congruent in all their details. ‘Variants’ are paper marks that clearly originate from the same wire figure on the mould, even if they show differences in their shape. This wire figure can change over time due to the heavy strain of the papermaking process: the wire can deform or parts of it can fall off, be reattached or added to, for instance. Nevertheless, like identical watermarks, they can be used as comparative material to determine the time and place of use, as it is the lifetime of the mould that is important here. In the case of tracings, such as those in the Piccard collection, it is usually not possible to determine clearly whether they are variants in the sense mentioned above or inaccuracies in tracing. Therefore, they are always entered as variants in the online open access databases *Wasserzeichen des Mittelalters* (henceforth WZMA) and *Wasserzeichen-Informationssystem* (henceforth WZIS). Watermarks were also subject to changes in style, and the design of motifs changed over time. Watermarks that are the same with regard to their motif, form and size are considered as having the same ‘watermark type’.<sup>9</sup>

Cod. 427 measures 300 × 210 mm and consists of 170 folios. This means that 86 sheets of paper with the size of 300 × 420 mm were folded once to make bifolia and then arranged in quires.<sup>10</sup> Since the wire figure for creating a watermark was fixed not in the middle of a papermaking mould but on one half, every bifolium shows a watermark on only one of its two leaves. For accurate statistics all watermarks must be recorded. Accordingly, all sheets were checked to see which pairs of watermarks were represented. In 85 sheets we found watermarks of one pair of the motif ‘key in circle’ (see Fig. 1a, 1b). Once, on the inner sheet of the third quire, we saw a ‘bull’s head with star’ watermark, but for analyses it can be ignored because it is only a single sheet, probably leftover paper.<sup>11</sup>

Of each group of identical watermarks one image was reproduced by rubbing or using an IR-sensitive digital camera<sup>12</sup> and then added to the database WZMA. In this repository we collect watermarks systematically with the main aim of dating undated codices. This helps with the cataloguing and scientific classification of medieval manuscripts and documents. The collection is also offered as an online repository for

<sup>9</sup> Haidinger 2004, 6–12; Frauenknecht/Stieglecker 2009, 125; Stieglecker in print.

<sup>10</sup> The formula of the collation is I<sup>VDS.1</sup> + 2.VI<sup>25</sup> + VII<sup>39</sup> + 3.VI<sup>75</sup> + (VII-1)<sup>88</sup> + 6.VI<sup>160</sup> + (VI-1)<sup>171</sup>. After f. 83 and f. 167, one folio each is missing. The bifolium at the beginning consists of parchment.

<sup>11</sup> For description of the manuscript and the watermarks, see “Cod. 427”, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=40327> (accessed 01/04/2022).

<sup>12</sup> WZGFS-TCCS4232 © Manfred Mayer, Graz.

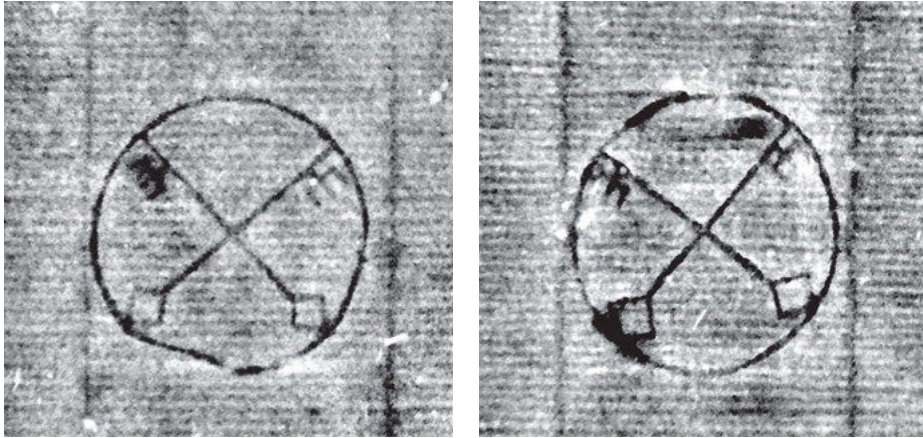


Fig. 1a and 1b: Melk Abbey library, Cod. 427, pair of watermark ‘key in circle’ (ff. 3 and 8).

watermark research.<sup>13</sup> Within the database, the watermarks are related to identical watermarks or their variants in other manuscripts and also to motif types. Links to related paper watermarks in other databases, such as WZIS, are also provided if permanent links are available. In this way, a growing pool of data on dated or dateable sources is provided, as dating with watermarks is becoming increasingly precise. The metadata collected and offered for the manuscripts, documents and watermarks—like provenance, dating or measurement—can also include locations, if known.

The search for the ‘key in circle’ watermarks of Cod. 427 in WZMA brought identical ones to light in only three other manuscripts. These were also written by Johannes de Spira and are part of the Melk library. Paper with this motif type is thus almost completely unknown for Melk and its wider surroundings, the eastern parts of Austria: more than 1 300 manuscripts have already been examined in this region, but of those that were definitely written there, no others contain paper with this watermark. Therefore, it seemed unlikely that Johannes wrote on these sheets of paper in Melk, as previously assumed. To determine when and where this writing took place, we started tracking the watermarks.

WZIS offers the possibility of visualising on a map where paper with watermarks of a special motif was used.<sup>14</sup> Using the search terms ‘key in circle, shaft consisting of one line, with angular bow’, WZIS shows us that paper with this watermark motif was mainly marketed and used in the western parts of Germany, more or less along the River Rhine with a wide corridor, from Switzerland down to the Netherlands and Belgium. Also, Briquet documents this motif and documents its appearance in the same geographical region, but with singular hits as far as southern France (see Fig. 2).<sup>15</sup> For

<sup>13</sup> For more information about the method, see Haidinger 2004, 5–27; Stiegler 2007, 55–63.

<sup>14</sup> See WZIS: Extended Search—Search Map—Place of use.

<sup>15</sup> Briquet 1968, no. 3893–3895.

each motif, a graph can also be generated in WZIS for statistical evaluation of the years of writing. Paper with this type of watermark motif was, according to WZIS, mainly used in the second decade of the 15th century in workshops and scriptoria (see Fig. 3).

The next step in identifying where Cod. 427 was made was to search not only for sources that bear the watermark motif ‘key in circle, shaft consisting of one line, with angular bow’ as a type of motif in itself, but also for sources that show this paper mark in identical form or as a variant. In addition to the codices of the Melk library already mentioned for WZMA, WZIS identifies 13 documents in the holdings of the State Archives of Basle, Frankfurt/Main, Göttingen and Reval, as well as the Leipzig University Library that show this watermark in identical form or variant. Almost all of these archival documents and manuscripts are dated and localised. The datings are as follows: three times 1412, nine times 1413 and once 1415. Localisations are given five times for Frankfurt/Main, three times for Heidelberg and twice for Duisburg, as well as one time each for Wetzlar, Göttingen and Zurich. Paper with this watermark pair was therefore in all probability in use in the western parts of Germany around 1412 and 1413. Hence, we can assume that Johannes de Spira wrote this codex before he came to Melk, either in Heidelberg or at least somewhere in the diocese of Speyer, where he served as a priest. Based on these findings, we learned that we should update the heading for Cod. 427 in the manuscript portal *manuscripta.at*, replacing “Melk” as the location of production with “Western Germany (Heidelberg?)” and the time from “early 15th century” to “about 1412/1413”.

### 3 Examination of the Heidelberg Codices

To pursue possible clues as to where and when the other Melk volumes attributed to Johannes de Spira as scribe were produced, it is essential to examine the watermarks of these volumes.

Cod. 908 can be tied to Johannes’ time in Heidelberg based on its contents and time of production.<sup>16</sup> This volume is a composite book in three parts. The first part (ff. 1–104) includes the *Conclusiones in IV libros Sententiarum* (Conclusions to the Four Books of Sentences) by Johannes de Fonte, a Franciscan living around 1300, and was probably copied in Lower Austria about 1430/1435. Around the same time, the third part (ff. 201–274) was written, presumably in southern Germany. It contains the *Didascalicon de studio legendi* (Didascalion, or, On the Study of Reading) by the influential 12th-century theologian and philosopher Hugo de St. Victor. 30 years earlier, at the beginning of the 15th century, Johannes de Spira copied what is now the second part

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<sup>16</sup> For a description of the manuscript and the watermarks, see “Cod. 908”, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=40621> (accessed 01/04/2022).

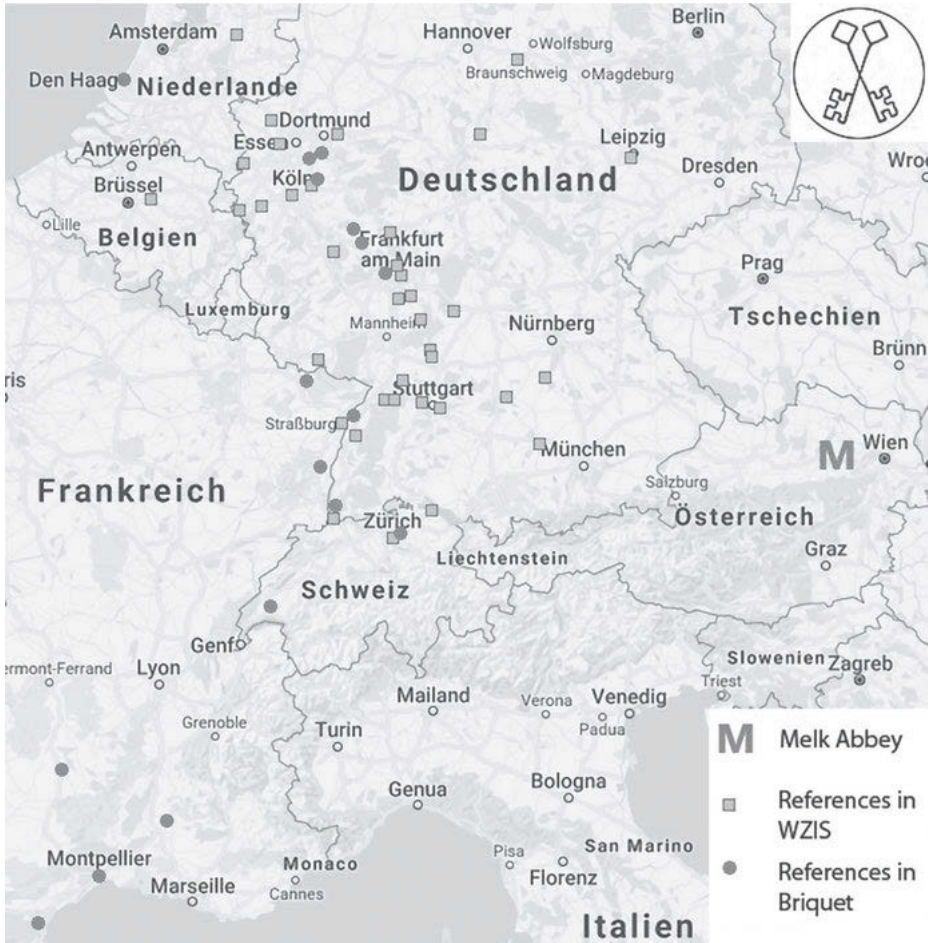


Fig. 2: Motif type 'key in circle'. Places of use according to WZIS and Briquet.

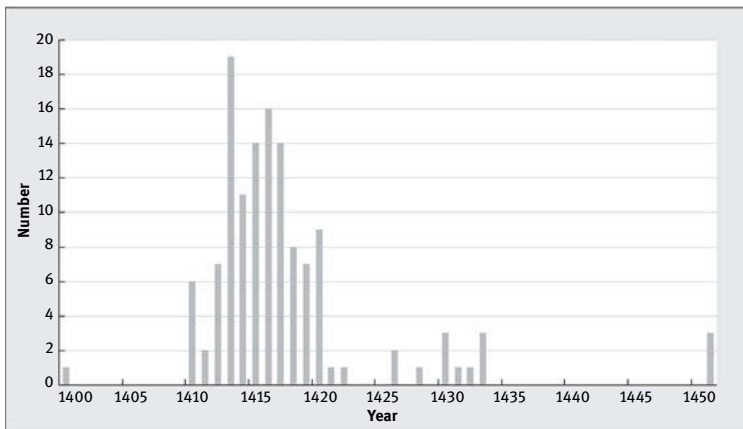


Fig. 3: Motif type 'key in circle'. Dates of use according to WZIS (1400–1450).



(ff. 105–200) of this composite book. It features typical Heidelberg university literature by various authors. These three different textbooks on theology were bound together in Melk into the composite manuscript, today's Cod. 908. It is a smaller book with 215 × 150 mm pages, for which the paper sheets were folded twice. This quarto format makes the watermarks only partially visible because they are within the book's gutter. Nevertheless, they can be identified.

The first part of this volume shows paper with a pair of 'bull's head with flower' watermarks. Such paper was also used for codices today in several monasteries of Vienna and its surroundings. In Klosterneuburg Abbey, for example, such paper was also used for urbaria and account books. In any case, documents of this kind were written locally and not imported. Therefore, we can be sure that paper with this 'bull's head' watermark was marketed in Lower Austria. The reference sources show dates that make an origin in this area around 1430/1435 very probable. Two other pairs of 'bull's head with flower' and a pair of 'head of a blackamoor' characterise the paper of the third part. Beside the hits for these marks in WZMA, there are quite a few in the Piccard collection.<sup>17</sup> In view of the references offered here, we assume that the *Didascalicon* was written in Bavaria or Tyrol about 1433/1435. The second part by Johannes de Spira is composed of various papers: a pair of 'crossed keys in two lines' on two leaves, a pair of 'letter B' on six, two pairs of 'letter S' on twelve and the well-known pair of 'key in circle' on three leaves. Only for this last pair do we know related watermarks so far: for Cod. 427, described above, and two other Melk manuscripts that will be described below. But the other watermarks—with regard to their motif types—also support the assumption that Cod. 908/part 2 was written out by Johannes de Spira at about the same time and place as Cod. 427.

The two volumes Cod. 231 and 232, which belong together, contain Thomas Aquinas' major work, the *Summa theologica* (Summary of Theology).<sup>18</sup> They were written mainly on paper with the already familiar 'key' watermark; identical paper marks of a 'circle' motif can also be found in both volumes. In the first one, Johannes de Spira names himself as scribe and identifies the year of writing, 1413, f. 12v: "*Explicit signacio et ordo questionum secundi libri secunde partis fratris Thome de Aquino finite per me Iohannem Wißheller de Freinsheim anno ab incarnatione domini MCCCCXIII ipso die sancti Clementis pape et martyris. Benedictus Deus. Amen*" (End of Thomas Aquinas, Contents of Questions, second book, second part. Finished by me, *Iohannem*

<sup>17</sup> The watermark collection of Gerhard Piccard unites more than 92 000 file cards at the Hauptstaatsarchiv Stuttgart (shelfmark J 340). Just under two thirds of the collection have been published in the *Findbücher*. At the beginning of the 21st century, the collection was digitised ([www.piccard-online.de](http://www.piccard-online.de)). It has since been integrated into WZIS. Maier/Rückert 2017; Piccard 1961–1997. This collection contains mainly archival material that is usually dated and localised and is thus a very valuable source for watermark research.

<sup>18</sup> For description of the manuscripts and the watermarks, see "Cod. 231" and "Cod. 232", in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=40208> and <https://manuscripta.at/?ID=40209> (accessed 01/04/2022).

*Wißheller de Freinsheim*, in the year of our Lord 1413, on the day of pope and martyr Saint Clemens. God be praised. Amen). At that time, Johannes de Spira was either still pursuing his studies in Heidelberg or was already functioning as a secular priest in the diocese of Speyer, which suggests that the codex originated in this region. Another clue to this is provided by a fragment of a charter with a notarial instrument of a cleric of the Speyer diocese, which was used as a pastedown in the second volume. Thus, in addition to Cod. 427, these two codices as well as the eight sexternions today included in Cod. 908 were written by Johannes de Spira, probably in Heidelberg or at least in the area of the Speyer diocese and brought by him to Melk in 1418 and subsequently incorporated into the monastery library there. And so they have been part of this famous library for 600 years now.

#### 4 Further Volumes of Johannes de Spira in Melk

Additional volumes or parts of volumes in the Melk Abbey library were written by Johannes de Spira after his entry into the monastery there. He did not identify himself by name in the codices, but we can attribute them to him by a comparison of the handwriting. Also, the history of these objects can be aligned with his biography and, once again, the paper used plays a major role in associating these volumes with him.

Between his entry in 1418 and being sent to Lambach Abbey in 1429, Johannes de Spira was involved in writing at least three codices. In Cod. 762 Johannes copied onto about 100 leaves in quarto the *Divinae institutiones* (The Divine Institutes) by Lactantius, one of the most famous apologists of early Christianity.<sup>19</sup> Almost all the paper of this manuscript shows as watermarks a pair of ‘head of a bird with crown’ and a pair of ‘scales’; a ‘bull’s head with flower’ watermark is less important because it is found on only one leaf. Identical marks have been found in several codices at Melk and two other libraries in the same region: Klosterneuburg Abbey and the Scots in Vienna. The dating references in the various codices suggest a chronological classification of the Melk codex of around 1420/1425. At about the same time, Johannes took some sheets from the same paper supply for another project, today’s Cod. 637.<sup>20</sup> He mixed it up with paper containing ‘flowers’, ‘mountains’, ‘stags’, ‘bull’s heads’ and ‘towers’ watermark motifs. This volume includes texts by Nikolaus de Dinkelsbühl, one of the most important advocates of the reform, as well as by his contemporary, Petrus Reicher de Pirchenwart, professor of theology and rector at the University of Vienna, and by Nikolaus de Lyra, a Franciscan theologian who lived a hundred years earlier in

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<sup>19</sup> For a description of the manuscript and the watermarks, see “Cod. 762”, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=40525> (accessed 01/04/2022).

<sup>20</sup> For a description of the manuscript and the watermarks, see “Cod. 637”, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=40445> (accessed 01/04/2022).

France.<sup>21</sup> The reference material on the paper makes it plausible that Johannes wrote this volume at the same time as Cod. 762. And since some of these manuscripts for which the same paper was used were written in Lower Austria—according to their colophon or other indications like scribes or content—Cod. 637 and thus also Cod. 762 may well have been written when Johannes de Spira was at Melk.

Also during this time between his entering the monastery and being sent to Lambach, he started another codex, Cod. 636.<sup>22</sup> At least the first part, the first three of ten books of the *Quaestiones super librum Ethicorum* (Questions about the Books of Ethics) by Johannes Buridanus, a scholastic of the 14th century, was finished then. In this quarto codex with about 130 folia, we find watermarks of the motifs ‘mountain’, ‘sword’ and ‘star’. So far, we know of only a few identical watermarks in other manuscripts, one at Melk and two at the Scots in Vienna.<sup>23</sup> All three volumes in turn show other watermarks that are also found in other Melk manuscripts. Cod 403 of the Scots in Vienna, for example, is partly written on paper of the same stock as Melk, Cod 637. This volume is an autograph by Johannes de Ochsenhausen, who came from Bavaria to the University of Vienna. There he became acquainted with the *Melker Reform* efforts, stayed for some time at the Melk monastery and finally, in 1428, became abbot of the Scots in Vienna.<sup>24</sup> Perhaps he sat side by side with Johannes de Spira while he wrote his *De sacramentis* (On the Sacraments) and both pulled sheets from the same piles of paper. This, together with the dates of the related watermarks in these volumes, leads to the conclusion that Cod. 636 was produced in Melk around 1420/1425. The second part of Buridanus’ *Quaestiones* with books IV–VII had to wait for some time, as only after his return from Lambach did Johannes de Spira continue his copying work, in about 1431/1433, and on paper with completely different watermarks.

Cod. 898, also in quarto format, shows marks of the motif ‘mountains with cross’ and several ‘bull’s head’ watermarks.<sup>25</sup> Such paper was also used for other manuscripts from the region. However, Johannes was not able to complete the second volume, probably because he was prevented from doing so by his appointment as prior, during Advent 1433, and by his journey to the Council of Basle the following year.

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**21** For further typical literature like this, copied and read in reform times at Melk, see Glaßner 1997, 292–301.

**22** For a description of the manuscript and the watermarks, see “Cod. 636”, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=40444> (accessed 01/04/2022).

**23** Melk Abbey library, Cod. 625, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=40439> (accessed 01/04/2022); Vienna, Schottenstift Abbey library, Cod. 369 and Cod. 403, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=1949> and <https://manuscripta.at/?ID=5814> (accessed 01/04/2022).

**24** Angerer 1999, 288–289; Bruck 1985, 118–119.

**25** For a description of the manuscript and the watermarks, see “Cod. 898”, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=40612> (accessed 01/04/2022).

## 5 Cod. 900: One Book, Different Times and Places

Cod. 900 from Melk is a typical composite book: booklets from different times and places that were later bound together.<sup>26</sup> This small, handy volume in quarto format consists of 316 leaves. Johannes de Spira meets us here as scribe, author and critical reader, and different phases of his life are mirrored in the paper used.

Around Easter 1434, Johannes resigned as prior, as he had been appointed as a visitor by the Council in Basle. At the time of the Council, leading reformers, especially of the Benedictine reform movement, met in Basle to discuss putting their ideas into practice. Subsequently, visitors were appointed from monasteries that had already been reformed to carry those reforms to other monasteries, especially in southern Germany.<sup>27</sup> In June 1434 Johannes was sent as part of such a delegation to the Heilig Kreuz Abbey in Donauwörth and, afterwards, Wiblingen Abbey in Ulm. The following year, the group was commissioned to investigate monastic life in St. Gall. Johannes went back to Basle in June 1435, before he finally returned to Melk.<sup>28</sup>

Well before Johannes de Spira started this roundtrip and even before he left for Lambach in 1429, he copied *Epistulae* (Letters) from and to Bernhard of Clairvaux. Bernhard stood for the revitalisation of Benedictine monasticism in the 12th century and was thus an important authority for the *Melker Reform* (ff. 1r–47v).<sup>29</sup> These letters were the beginning of Cod. 900 (see Fig. 4). The last sheet of the quire (f. 48r–v) was left blank. The next quire (ff. 49–65) looks more complicated. He starts another letter of Bernhard of Clairvaux on f. 49r on one of the ‘tower’ watermark leaves and ends it on a single ‘scales’ watermark sheet (f. 50v). This is followed by an empty sheet of paper with another ‘scales’ watermark. The opposite parts of ff. 49–51, namely ff. 63–65, were left blank in the first place. The inner six bifolia of this quire (ff. 52–62) consist of paper with the ‘mountain with cross’ watermark, which was also used for the next three sexternions (ff. 66–101) and which we know already from Cod. 637. On these inner sheets of the quire, Johannes copied an *Epistola* by Pelagius and excerpted an *Epistula* by Theodoricus Kerkering de Monasterio. We can see that Johannes wrapped the three outer bifolia of the quire around a regular sexternion. What follows are another five sexternions (ff. 66–125) with the ‘mountain’ watermark, as well as another pair of this motif. He copied texts by Matthaeus de Cracovia, Bernardinus Senensis, Bartholomaeus de Sancto Concordio, Johannes Gerson, Henricus de Hassia and Nikolaus de Dinkelsbühl, but ff. 124v–126v were left blank. Then Johannes did the same as before: on six bifolia with a ‘bull’s head with flower’ watermark he copied an *Epistula*

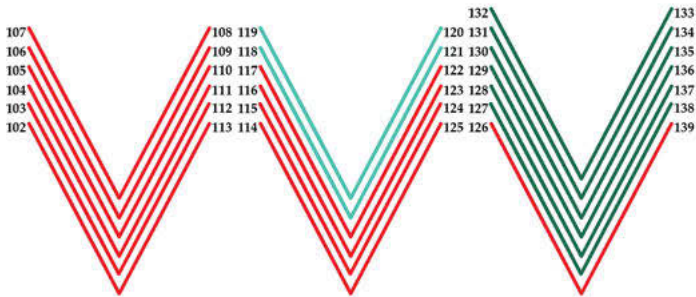
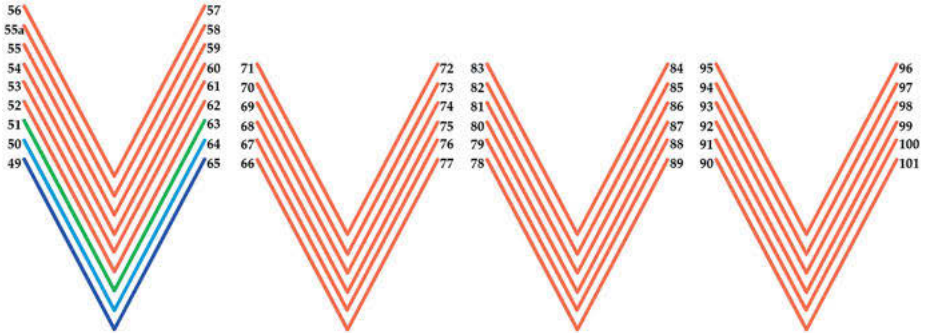
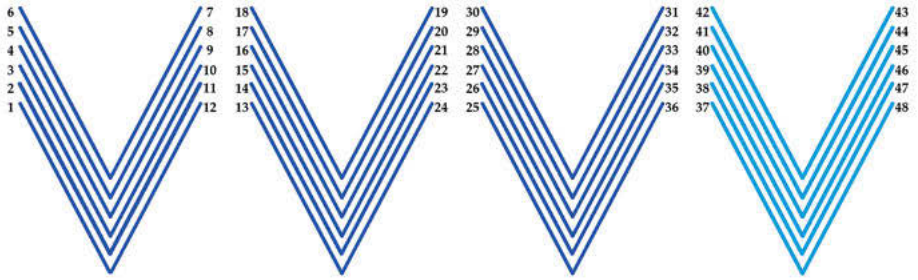
<sup>26</sup> For a description of the manuscript and the watermarks, see “Cod. 900”, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=40614> (accessed 01/04/2022).

<sup>27</sup> Helmtrath 1987, 129–132; Angerer 1999, 274–275.

<sup>28</sup> Bruck 1985, 98.

<sup>29</sup> The collation formula of Cod. 900 is 4.VI<sup>48</sup> + IX<sup>65</sup> + 5.VI<sup>125</sup> + VII<sup>139</sup> + 3.VI<sup>175</sup> + IV<sup>183</sup> + 11.VI<sup>314</sup>; the originally not-counted leaves after 55 and 282 are now counted as 55a and 282a.

PART 1 (around 1422/1430)



PART 2 (around 1435/1440)

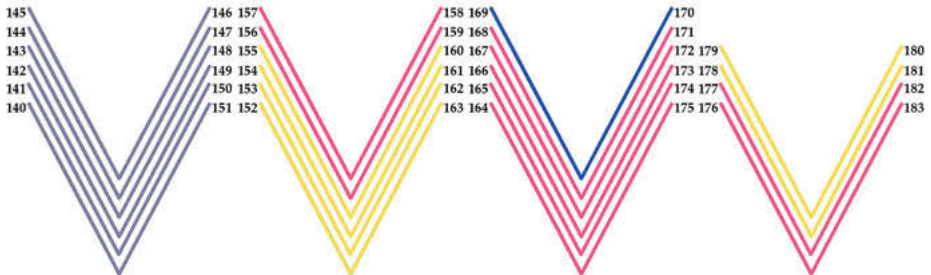
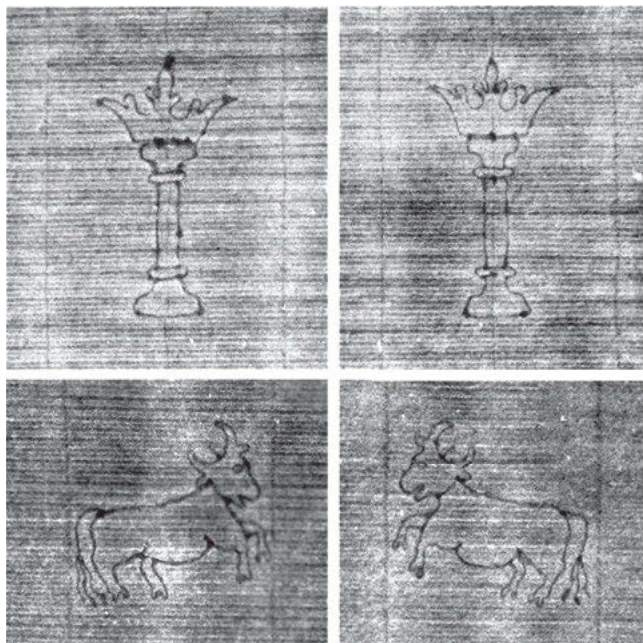


Fig. 4: Collation of Melk Abbey library, Cod. 900/part 1 and 2. Identical watermarks. For a colour image, see Appendix, p. 440 of the print version.



**Fig. 5:**  
Typical watermarks  
of Basle manuscripts  
(‘tower’: Vienna, Schotten-  
stift Abbey library, Cod. 22,  
ff. 1 and 5; ‘bull’: Kloster-  
neuburg Abbey library,  
Cod. 516, ff. 63 and 334).

by Humbertus de Romanis and wrapped around this quire a blank bifolia with the ‘mountain’ watermark mentioned before. The originally blank sheets did not remain blank, however. Johannes de Spira later used these blank leaves to copy a collection of canon law documents and accompanying glosses. He used ff. 62r–65v and 138r–139v for this purpose. By looking at the paper, it is possible, with a bit of luck, to follow the writing process of a medieval monk. For this first part of Cod. 900, paper with watermarks was used that we also find in other Melk manuscripts, all dated or at least datable to between 1422 and 1430.

The second part of this composite book (ff. 140–183) includes an autograph of Johannes de Spira, which is supplemented by numerous corrections, marginalia and notes in his hand. He discusses here the seventh chapter of the *Regula Benedicti*, concerning humility. He used paper with ‘bull’s head’ watermarks, which was most likely in use around 1435/1440; it can be found, for example, in two Melk manuscripts: Cod. 218 (dated 1438) and Cod. 917 (around 1435/1440). One bifolium, ff. 169/170, can be seen as leftover paper showing one of the ‘tower’ watermarks of part one (see Fig. 5). Thus, Johannes probably started this exposition after his return from Basle in 1435.

In microcosm, a medieval council such as that of Basle offered all of the conditions for books to come into being. Clerics, politicians and intellectuals from a wide variety of backgrounds met and exchanged ideas, often conveying them through sermons that were subsequently written down and copied.<sup>30</sup> Thus, there was a great

<sup>30</sup> Helmuth 1987, 173–175.

need for paper. Some of the delegates may have brought their scribes from home, but certainly not the paper: they all used paper from the same stocks available in town. At the time, paper in Basle was imported from Piedmont, Champagne, Burgundy or Lorraine. Basle's own famous paper production had only just begun at that time and therefore could not provide the quantities needed. When the delegates left Basle, they took many documents, booklets and volumes back home with them. Today, it is possible to deduce from the paper used for all those sources whether the texts transferred onto it were written in Basle or whether—because they were important and should be shared—they were copied at home on locally available paper.<sup>31</sup> The third part of Cod. 900 consists of fascicles written in Basle. On five sexternions (ff. 184r–241r), a copy of Henricus de Coesveldia's *De tribus votis monasticis* (On the Three Monastic Vows) is preserved. The paper shows two pairs of watermarks, one with the motif 'bull, whole figure' and one with the motif 'column with crown'. They can be found in identical form in several other manuscripts also brought from Basle to Austria, all written around 1434.<sup>32</sup> We do not know whether Johannes de Spira ordered these fascicles to be copied or whether he bought them already completed, but he brought them to Melk. And we know he studied the text because of the marginalia in his hand. A tentative theory can be put forward about the fourth part of the volume (ff. 244–290). According to the paper used, it is possible that Johannes de Spira continued his scribal work during his time as a visitor in the southern German monasteries. As watermarks we see three pairs of 'bull's head with flower'. Most of them are dated or datable around 1434/1435, the time we know Johannes stayed at Donauwörth and Wiblingen. And several of the references for this watermark, especially those in the Piccard collection, show this kind of paper was used in southern Germany. Two volumes of the Melk library also have paper using this mark, one being Cod. 1241, part 1 of which presents copies of *De esu carniū monachorum* (On Eating Meat by Monks) by Johannes de Spira; a letter of the Council of Constance from 1415 to Nikolaus Seyringer, the reform abbot of Melk in 1418; and a reform text of Pope Gregory IX. There is a dating with 1432, but this seems to be the date of the master copy.<sup>33</sup> In any case, these reform texts are closely related to the visitors' task of introducing the reform to other monasteries. Paper with related watermarks was also used for the previously mentioned Cod. 908/part 3, which we assume was written in Bavaria or Tyrol. It is therefore not completely out of the question to assume that the fourth part of Cod. 900 was also produced in southern Germany.

There is one last part of Cod. 900: ff. 291–314. A *Sermo de proprietate* (Sermon on Property) by Henricus de Hassia and the *Tabula de considerandis a missa celebraturis*

<sup>31</sup> Stieglecker 2015.

<sup>32</sup> E. g., Melk Abbey library, Cod. 927 and 1802, Klosterneuburg Abbey library, Cod. 516, or Vienna, Schottenstift Abbey library, Cod. 22, 142 and 408.

<sup>33</sup> Melk Cod. 1241, 55v: "*Edite sunt hec tres questiones anno domini millesimo quadringentesimo tricesimo secundo*" [1432] (These three questions were edited in the year of our Lord 1432).

(Table on Considerations of Celebrating Mass) by a Pseudo Benevetura were both copied by an unknown scribe at the beginning of the 15th century. The paper used this time shows two pairs of a ‘bell’ watermark. There are enough related watermarks in the databases to say it must have been written around 1407/1408. There are too few localisations named to be sure about the place of production, but it was probably Vienna or its surroundings. As before, Johannes used empty space for annexes: on f. 309r he added a medical prescription, and on ff. 310r–313v he added *Excerpta ex Thoma de Aquino, Summa Pisana et Decretalibus* (Excerpts from Thomas Aquinas, the Sum of Pisanus and the Decretals).

In addition to other evidence, the paper used for Cod. 900 helped us distinguish the parts of this composite book that were written in different times and places. Our assessment so far suggests the following: part 1 in Melk around 1422/1430, part 2 also in Melk around 1435/1440, part 3 in Basle around 1434, part 4 in southern Germany around 1434/1435 and part 5 in Lower Austria around 1407/1408. Of course, it is not clear when Johannes made his additions, only a *terminus ante quem non* can be given except for the last part. Cod. 900 has the appearance of a handbook, compiled by Johannes de Spira and bound in Melk after 1435, as can be deduced from the cover and the strips of parchment waste serving as sewing supports.

## 6 Back from Basle

It seems that Johannes de Spira resumed writing with zeal after his return from Basle. Perhaps still under the responsibilities of his appointment as visitor, he wrote the above-mentioned treatise on modesty found in Cod. 900. Besides this autograph, two additional autographs can be located in the Melk library from the same period: Cod. 917 and a few pages in Cod. 1915.<sup>34</sup>

In Cod. 917 Johannes published the *Dialogi des Gregorius Magnus* (Dialogue of Pope Gregory I) in German.<sup>35</sup> For this quarto (213 × 152 mm) of 221 pages, he used only one type of paper, which shows a pair of ‘bull’s head with flower’ watermarks. Paper with these watermarks in either identical form or as variants was also used for Klosterneuburg Abbey library Cod. 445 and for the Melk manuscripts Cod. 218 and Cod. 900/part 2. As mentioned above, the first one was written in Melk in 1438 and the second one around the same time. So, Cod. 917 was certainly written in these few years before Johannes left for Klein-Mariazell in 1441. A clue that Cod. 917 was produced in Melk and got its cover there is the paper leaf used as front and back pastedown, a maculature of an old accounting book from the end of the 14th century. Because of the small

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<sup>34</sup> Due to restrictions because of the Covid-19 pandemic, two further manuscripts that can be attributed to Johannes de Spira could not be further examined for this article.

<sup>35</sup> For description of the manuscript and the watermarks, see “Cod. 917”, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=40630> (accessed 31/08/2021); Glaßner 2016, 13, 435.



format of Cod. 917, this leaf was cut so that the watermark is divided: on the front cover we see the upper part and on the back cover the lower part of a ‘stag, half figure’ watermark.<sup>36</sup> It is interesting that several sheets of paper with this watermark were lying around in the scriptorium of Melk for quite a long time. This ‘stag’ can be found in identical form also in Cod. 637, dating from the third decade of the 15th century.<sup>37</sup>

Only a few pages in Cod. 1915 (ff. 249r–252v) were written by Johannes de Spira.<sup>38</sup> It is again a typical composite book, consisting of a dozen parts with 253 folia all in all. As far as we can tell now, it was written partly in Melk, Tegernsee and Basle. The twelfth part of this quarto manuscript (ff. 244–253) consists of one real bifolium and eight single sheets tipped together to create four ‘bifolia’. This makes the watermarks hard to recognise. We can detect part of a ‘letter M with cross’ watermark and a ‘tower’ watermark. For this ‘tower’ watermark, no known identical watermarks or variants have been found so far. Paper with this motif was used around 1427/1429, according to Piccard, making this a leftover leaf.<sup>39</sup> Paper with an identical ‘letter M’ watermark was used for several other manuscripts (now in libraries in Lower Austria) that are dated or datable around 1435/1436. For example, the Melk manuscripts Cod. 447/part 2, Cod. 769/part 1 and Cod. 940/part 3 were all presumably written in Melk. This corresponds to the text in this part of Cod. 1915: *Collatio de humilitate habita in vigilia natiuitatis domini 1435* (Collation on Humble Habit, on the Vigil of the Nativity 1435). We know when this sermon was preached, so it could have been written down in 1435 at the earliest. Not all the pages of this quire were needed for the sermon, and Johannes de Spira used some empty folia (244r–252v) for an *Epistola ad monachum quendam fugitivum, quam ad monasterium suum reducere satagit* (Letter to the Absconded Monk when Lamenting about his Return to the Monastery). That must have been after his return from Basle and before he left for Klein-Mariazell in 1441. The fascicle must have been loose when he made his additions, and he never saw which texts were put together in this composite book because the bookbinder was involved at the earliest in 1443, when the most recent part of Cod. 1915 was produced. With this last autograph and his move from Melk to the Klein-Mariazell Abbey, evidence ends of Johannes de Spira as scribe (see Tab. 1).

<sup>36</sup> “AT6000-917\_VDS”, in: WZMA, <https://www.wzma.at/19953> (accessed 31/08/2021).

<sup>37</sup> This illustrates that it is important to always check all the sheets of a manuscript for their watermarks, because often older paper was mixed in. If only single sheets are checked and, randomly, such leftover paper is used for dating, gross misinterpretations may occur. Haidinger 2004, 19–20.

<sup>38</sup> For description of the manuscript and the watermarks, see “Cod. 1915”, in: *manuscripta.at* (s. d.), <https://manuscripta.at/?ID=41508> (accessed 31/08/2021).

<sup>39</sup> Piccard 1961–1997, vol. 3: *Die Turmwasserzeichen*, no. 311–312.; online available in: WZMA (s. d.), <https://wzma.at/PPO.php?vol=3> (accessed 01/04/2022).

**Tab. 1:** Important dates in the life of Johannes de Spira and the chronology of his writing/copying activities.

<b>1401 Mentioned in the registers of the University of Heidelberg</b>		
Cod. 908	about 1410/1415	University literature
Cod. 427	about 1412/1413	Altissidoriendis and others
Cod. 231	dated 1413	Thomas Aquinas
Cod. 232	dated 1413	Thomas Aquinas
<b>1418 Entry to Melk Abbey</b>		
Cod. 636	about 1420/1425	Buridanus I
Cod. 762	about 1420/1425	Lactantius
Cod. 637	about 1422/1426	Dinkelsbühl and others
Cod. 900/p 1	about 1422/1430	Epistolae
<b>1429 Visitation of Lambach Abbey</b>		
Cod. 898	about 1431/1433	Buridanus II
<b>1434 Council of Basle</b>		
Cod. 900/p 3	about 1434?	Marginalia
<b>1434/1435 Visitator in South German monasteries</b>		
Cod. 900/p 4	about 1434/1435	Dinkelsbühl, Johannes de Spira
<b>1435 Back to Melk</b>		
Cod. 900/p 2	about 1435/1440	Regula Benedicti
Cod. 917	about 1435/1440	Gregorius Magnus
Cod. 1915	about 1435/1440	Epistola
<b>1441 Entry to Klein-Mariazell Abbey</b>		

## 7 Conclusion

This study about a man and his books gives insight into the life of a medieval monk and scribe. It was important to Johannes de Spira to take four heavy volumes, which he had painstakingly produced, with him on the long journey from Heidelberg to Melk. They became part of this famous library and were given some half-brothers who saw the light of day at various later stages of Johannes' life. Since these fascicles were written on locally available paper in each case, we can place them in the biography of the writer. These are all manuscripts that have been preserved and that can be attributed to him through a comparison of his handwriting. We know of other texts by Johannes de Spira as well as translations, but they are not preserved as autographs. In a certain

sense, this is a snapshot; he must have taken up the pen on more occasions. Further research on the library will certainly bring new insights, as will further research on the material used for writing, like the paper he used in the codices discussed above.

This case study has been an examination of the object biography of medieval paper manuscripts with the help of watermark analysis. A look at or, better, *through* the paper may provide a piece of the puzzle to follow the path that paper can take from its place of use to its place of storage (in this case, from the place of writing to the shelf of a library). Watermark analysis and paper examinations are also important tools for establishing cross-connections between codices within a collection or between different libraries. Of course, more information must be synthesised, looking at palaeographical and codicological evidence to obtain as complete a picture as possible. But a look at the paper of an object—such as a medieval manuscript—can be the start of a long journey to write its comprehensive biography.

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- Cod. 762
- Cod. 769
- Cod. 898
- Cod. 900

- Cod. 908

- Cod. 917
- Cod. 927
- Cod. 940
- Cod. 1241
- Cod. 1802
- Cod. 1915

##### *Vienna, Schottenstift Abbey library*

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## Photo Credits

- Fig. 1a, 1b: Melk Abbey library, Cod. 427, pair of watermarks ‘key in circle’ (ff. 3 and 8) © ÖAW.
- Fig. 2: Motif type ‘key in circle’. Places of use according to WZIS and Briquet © WZIS (based on Google Maps).
- Fig. 3: Motif type ‘key in circle’. Dates of use according to WZIS © WZIS.
- Fig. 4: Collation of Melk Abbey library, Cod. 900/part 1 and 2. Identical watermarks coloured © Stieglecker.
- Fig. 5: Typical watermarks of Basle manuscripts (‘tower’: Vienna, Schottenstift Abbey library, Cod. 22, ff. 1 and 5, ‘bull’: Klosterneuburg Abbey library, Cod. 516, ff. 63 and 334) © ÖAW.

# Nina Hesselberg-Wang & Chiara Palandri

## *Missale Nidrosiense*, 1519

### An Archaeological Approach

## 1 Introduction

The art of letterpress printing was introduced to Norwegian book production in 1519 with the printing of two books, *Breviarium Nidrosiense* and *Missale Nidrosiense* (see Fig. 1). The purpose of these books was to standardise the liturgy for the entire province of Nidaros, which in 1519 included the whole of Norway with Härjedalen, Bohuslen, Iceland and the Faroe Islands.<sup>1</sup>

In this article we will present some aspects of the ongoing research that has been carried out on several copies of *Missale Nidrosiense*. The research began in 2019 on the occasion of the 500th anniversary of the printing of *Breviarium Nidrosiense* and *Missale Nidrosiense*.<sup>2</sup> Through an interdisciplinary study that included scientific and conservational methods, the aim was to analyse all the individual parts of the book independently to obtain a holistic description and understanding of a single, multi-material object. The subjects for the analyses were three copies of the *Missale*, as well as a loose cover without the text block, all kept in the National Library of Norway's collection of early printed books, and seven copies present in other collections in Norway.<sup>3</sup> Even if the preserved volumes are few in number, we were able to locate many common features, suggesting a schematic and almost identical production. This

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1 The books are part of Norway's Documentary Heritage, and since 2012 they have been listed among the Norwegian contributions to UNESCO's Memory of the World Programme Norway's documentary heritage. *Submission for Nominations from the National Library of Norway* (11/09/2011), <https://www.kulturradet.no/documents/10157/25f20378-cbd9-4075-92e3-67348cf1f902> (accessed 01/04/2022).

2 Digital images of *Breviarium Nidrosiense* are available at: [https://www.nb.no/items/URN:NBN:no-nb\\_digibok\\_2007092813001?page=5](https://www.nb.no/items/URN:NBN:no-nb_digibok_2007092813001?page=5) and of *Missale Nidrosiense* at: [https://www.nb.no/items/URN:NBN:no-nb\\_digibok\\_2014081128001?page=609](https://www.nb.no/items/URN:NBN:no-nb_digibok_2014081128001?page=609) (accessed 01/04/2022).

3 The copies located in Norway account for ten of a total of eighteen surviving copies of *Missale Nidrosiense*: three copies and a cover without textblock belong to the National Library's collection in Oslo (henceforth NB. NB D Pal 42, NB D Pal 43, NB D Pal 44 in the collection of early printed books and Ms.fol. 3858 in the manuscript collection), three copies in Gunnerus Library are in Trondheim, one copy is in the University Library in Bergen, two copies are in the Deichman Library (Oslo's municipal public library) and one copy belongs to Oppdal church. The other surviving copies are held by the British Museum in London, Bibliothèque nationale de France in Paris, the Vatican Library, private owners (two copies) and the Royal Danish Library in Copenhagen (three copies). The copy of the *Missale* owned by Olav Engelbrektsson, the last Catholic bishop in Norway, became a part of Count Palatine's library in Heidelberg in the 1540s and was later transferred to *Palatino Vaticani* (Stamp. Pal. II.419, <https://opac.vatlib.it/stp/detail/10497568>, accessed 31/10/2022).

is despite the fact that many of the constituent elements were produced, collected or used in different geographical areas. These features could be observed from various types of evidence, ranging from the production of the paper to the binding of the volume.

The research presented in this chapter implements visual and multispectral analysis of paper properties, watermarks, printing techniques for text and illustrations, including red and black printing ink. The bookbinding structures were examined along with their execution, the wooden boards, the finishing decoration on the leather cover and, finally, the metal furniture. We have described the bindings' attributes and physical features and registered similarities and differences. The research involves various professionals — conservators, conservation scientists and book and paper historians — working together towards the goal of defining the origin of the materials and creating an overall biography of the *Missale*. This chapter pays special attention to material aspects of paper, printing, illustrations and their interrelationships and to the description and structure of the book bindings.



Fig. 1: The movable types used to print the *Missale* are based on medieval Gothic handwriting and printed in red and black. The musical staves are printed in red, while the notes themselves, when present, have been added later by hand (NB D Pal 44). For a colour image, see Appendix, p. 441 of the print version.

## 2 Historical Setting, 1500–1519

In the year 1500, Norway's population counted only 150 000 inhabitants, caused by the Black Death in 1350 and countless pandemics in the following years. As a result of this drastic decrease in population, the country's infrastructure was debilitated. Norway was at the time a society with relatively little or no social differentiation, with few or no privileges for anyone. At the beginning of the 16th century, great opportunities opened in Norway in the form of new technological inventions such as the head saw and extraction of iron ore. Natural resources such as wood, iron and fish found new markets in Europe and led to the strongest period of economic recovery in the country's history.

Farmers primarily ran households based on subsistence farming, keeping horses, cows and sheep and cultivating oats, barley and some rye. Fishermen in the north and west of Norway produced stockfish for sale to southern Europe through Hanseatic trading networks,<sup>4</sup> but otherwise, cod and herring was fished seasonally. Dutch timber buyers sought out southern Norway because it entailed a shorter and thus cheaper transport route than from the Baltics, where they normally traded timber.<sup>5</sup>

The political and economic situation in Scandinavia after the Black Death had brought Norway, Denmark and Sweden to enter into the Kalmar Union in 1397.<sup>6</sup> Later, this development led to the loss of Norway's independence when the nation came under the rule of Denmark. King Hans (1455–1513) strengthened and centralised royal power at the expense of the Norwegian Council and the political elite, and appointed his son Christian (1481–1559) viceroy from 1506 until King Hans's death in 1513.<sup>7</sup>

The church was the country's largest landowner. The bishops came to form an increasingly large part of the Norwegian Council, and their influence increased accordingly. The church was even in charge of law enforcement. The archbishop was the obvious chairman and represented a significant political power in northern Norway, where the king's ombudsmen had a weaker representation than further south in the country.<sup>8</sup>

Erik Valkendorf (1465–1522) was a counsellor to the future King Christian II of Denmark-Norway, and in 1510 he was provided with Nidaros, the metropolitan see of

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<sup>4</sup> The Hanseatic League (or Hansa) was a powerful commercial confederation of northern German cities that controlled much of the trade in the Nordic region and had great influence over Nordic politics during the late medieval period. "Hansaforbundet", in: *Store norske leksikon*, <https://snl.no/Hansaforbundet> (accessed 23/04/2021).

<sup>5</sup> Bagge/Mykland 1992, 11–51.

<sup>6</sup> The Kalmar Union was a historical union consisting of the kingdoms of Denmark, Norway and Sweden and various other provinces and areas. The union was established in 1397 at a meeting in the town of Kalmar in Sweden. Sweden left the union under Gustav I Vasa on 6 June 1523. "Kalmarunionen", in: *Store norske leksikon*, <https://snl.no/Kalmarunionen> (accessed 23/08/2021).

<sup>7</sup> "Hans", in: *Store norske leksikon*, <https://nbl.snl.no/Hans> (accessed 22/04/2021).

<sup>8</sup> Bagge/Mykland 1992, 36.



Norway.<sup>9</sup> At the time, the priests in Norway used handwritten books with texts dating as far back as the 11th century, and there could be major deficiencies and deviations in these texts. More modern printed texts from abroad could not entirely replace them since they would have lacked masses for the celebrations of Norwegian saints. The high cost of books was a major reason for keeping the old books and continuing to use them despite their textual variation.<sup>10</sup>

### 3 Biography of the Book

Archbishop Valkendorf had seen the need for standardisation of the liturgy in the entire ecclesiastical province of Nidaros and initiated the printing of *Breviarium Nidrosiense* and *Missale Nidrosiense* in 1519.<sup>11</sup> The *Breviarium* was a small octavo ‘pocketbook’ intended for the priests for recitation of the Canonical Hours, while the *Missale* was a folio mass book intended for the altar. Two well-qualified clerics, Dean Olav Engelbretsson (c. 1480–1538), later Norway’s last Catholic archbishop, and cantor Peter Sigurdsson, edited the *Missale* together. They sought to achieve a complete revision of the liturgy, but nevertheless parts of the old *ordo* from the 13th century can still be found embedded in the text, surviving as testimony to liturgical traditions in Norway. In the words of Lilli Gjerløw: “the Nidaros Missale and Breviary are the unique summa of centuries of religious culture”.<sup>12</sup> Although the two books are to be regarded as a further development of the Nidaros *ordo*, a systematic study of the relationship between the *ordo* and the *Missale* has yet to be carried out.<sup>13</sup>

The archbishop paid for the printing of the *Breviarium* so that it could be sold for a reasonable price; the price of one *Breviarium* was three Rhenish guilders,<sup>14</sup> which corresponded to two-and-a-half cows.<sup>15</sup> In the foreword he encourages all the clergy of his province to acquire a copy of the *Breviarium* and grants all its buyers 40 days of indulgence.<sup>16</sup> The printing was commissioned to Jean Kerbriant and Jean

<sup>9</sup> The province of Nidaros included the whole of Norway, with an exception for Jämtland which even though Norwegian, belonged to Uppsala archdiocese.

<sup>10</sup> Karlsen 2020, 180–182.

<sup>11</sup> Today, only a few copies, whole or fragmentary, of the two books survive. In addition to the aforementioned 18 copies of the *Missale*, there are eight extant copies of the *Breviarium* (three in Norway).

<sup>12</sup> Gjerløw 1986, 77.

<sup>13</sup> Karlsen/Hareide 2019, 3.

<sup>14</sup> The price of one *Breviarium* is noted in *Diplomatarium Norvegicum* in an inventory by Valkendorf from 1521: “Jtem c. xx breffwire fflore ixc marc, stykket regnet fflore iij rinske gl.”, *Diplomatarium Norvegicum*, vol. 8, 495, no. 500.

<sup>15</sup> We wish to thank Gunnar I. Pettersen, National Archives of Norway, for calculating the value of three Rhenish guilders.

<sup>16</sup> “quadraginta dierum relaxationem de iniunctis ipsi penitentijis misericorditer in domino concedimus”, Karlsen 2020, 13.

Bienayse,<sup>17</sup> who were among the most prominent book printers in Paris at the time. It was done under the supervision of Hans Reff (c. 1490–1545), the archbishop's canon, and the print has been characterised as “one of the most beautiful specimens of its kind”.<sup>18</sup>

Poul Reff (d. 1533), the brother of Hans Reff, was the first native letterpress printer in Copenhagen, and he printed the *Missale*.<sup>19</sup> In 1513 Reff had taken over the printing press of Matthäus Brandis (d. 1512) from Lübeck,<sup>20</sup> who had printed *Missale Hafniense*, the Danish counterpart to the Norwegian *Missale* in 1510.<sup>21</sup> Reff thus possessed the types that were needed.<sup>22</sup> The Norwegian *Missale* is considered to be his most important work and one of the most prominent Danish prints preceding King Christian III's Bible in 1550.<sup>23</sup>

It is not known how many copies were printed, but the idea was to supply all churches with a *Missale*, or between 1550 and 1600 churches in total.<sup>24</sup> The provenance of several preserved copies can be traced back to specific churches and bears witness to widespread distribution. The three copies in the National Library collection belonged to the churches of Eid on Ytterøy (NB D Pal 42), Beitstad (NB D Pal 43) and Ørlandet (NB D Pal 44), all located in Trøndelag County. The loose cover without text block belonged to the church of Gildeskål, in Nordland County.

*Missale Nidrosiense* was the main book used during mass. It followed the church year and the calendar of saints' days, and it contained songs, prayers and bible lessons. It also preserved older liturgical practices that had become obsolete or lost elsewhere in Europe but still existed in the Nidaros diocese.<sup>25</sup> With its Latin liturgy, the *Missale* was in use for the primary church festivals until 1680s, far beyond the Reformation in 1537.<sup>26</sup>

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17 Jean Kerbriant, or Johannem de Kerbriant, was active in Paris between 1516 and 1550. Jean Bienayse was active in Paris between 1510 and 1521. From 1516 to 1521, Kerbriant and Bienayse worked together. *BnF catalogue general* (s. d.), <https://catalogue.bnf.fr/ark:/12148/cb418766801> (accessed 20/04/2021).

18 Gjerløw 1986, 57. “et af de smukkeste af den Art Tryk, der findes”, Nielsen 1996, xxxi.

19 On the life and works of Poul Reff, see Adams 2013, 122–124; Nielsen 1996, xxx–xxxii, 178–184.

20 The first book printed by Poul Reff is *Manuale curatorum secundum usum ecclesie Roskildensis*, dated 25 March 1513. Nielsen 1996, xxx.

21 *Hafnia* is the Latin name for Copenhagen, from the old Danish *hafn*, harbour.

22 Nielsen 1996, xxx.

23 “det eneste betydeligere Trykværk, som blev udført her i Landet før Christian III.s Bibel”. Nielsen 1996, xxxi.

24 Karlsen 2020, 185–186; Karlsen 2013, 33–36.

25 Kolsrud 1919, 134.

26 Karlsen 2018, 469.

## 4 Book Binding Description

The original binding is preserved in its original state on seven of the ten analysed copies of Missale (in addition to the loose cover without text block).<sup>27</sup> It can be described as a European full leather binding of Gothic type, richly decorated with blind tooling on both boards and equipped with metal furniture.<sup>28</sup> The *Missale* has oak boards with square corners and straight cut edges with a bevelled edge towards the spine (see Fig. 2).



**Fig. 2:** NB D Pal 42 *Missale Nidrosiense* is a full leather binding of Gothic type. It was the main book used during mass. It followed the church year and the calendar of saints' days, and it contained songs, prayers and bible lessons. For a colour image, see Appendix, p. 441 of the print version.

The bookbinder had access to hand-held finishing tools, a pallet with a Gothic leaf pattern, a three-line pallet, a plaque with a double pointed arch, a small stamp with a Madonna and child motif and a stamp with rose motif, identical to the rose in the archbishop's coat of arms—today known as the *Trondheimsrosa* or Trondheim Rose. Each copy has an individually designed composition.

The wooden-board bindings are furnished with two hook-clasp fastenings. Two metal catch-plates with decorated elements in the form of engraved circles are present on some of the fore-edges of the boards. Although the circle decorations are not identi-

<sup>27</sup> NB D Pal 44 has been partially disassembled and repaired in the past.

<sup>28</sup> Szirmai 1999, 173–284.

cal, the catch-plates show signs of serial production. Bevel stops are carved out under the catch-plates. The leather clasp straps with metal hooks have been attached to the backboards and secured with metal strap plates.<sup>29</sup> A noteworthy feature is that the leather straps are lined with handwritten parchment fragments. Metal corner fittings are mainly for protection and without any decorations. Their uneven size and shape indicate that the corner fittings are handmade *in situ* and not ready-mades.

The *Missale* was delivered unbound.<sup>30</sup> Similarities in the materials used, structure and attributes of the bindings indicate execution by the same bookbinder. Measurements differ slightly for the three copies in the National Library's collection, but they are approximately 345 mm high, 250 mm wide and 70 mm thick.<sup>31</sup> The text block of D Pal 44 is the only one complete and consists of 39 gatherings, mainly four double leaves, two gatherings with three double leaves (31st and 38th) and a final gathering with only two double leaves and one blank leaf torn out. The title page contains Erik Valkendorf's coat of arms as well as the title: "Missal for use in the entire Kingdom of Norway according to the regulations of the holy archdiocese of Nidaros, corrected and meticulously reviewed, cleansed and revised".<sup>32</sup>

Typographic information such as printer's name, print site and year is printed in a colophon on the last page of the *Missale*. This is an aspect inherited from the very earliest printed books, or incunabula, from the 15th century.<sup>33</sup>

The text block sewing is on four double raised bands in addition to two change-over stations above and below the supported area of the spine. Sheet numbers located to the bottom right of each double sheet indicate the order of the pages.<sup>34</sup>

Endbands are missing on all copies. It is hard to detect traces of needle holes, which could mean that the endbands were of a stuck-on type and have at some point fallen off.

The text block in D Pal 44 is equipped with a total of 6 gold-coloured leather tabs fixed to the front edge, obviously to point out central areas in the text block such as

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**29** Only remnants of the leather straps with metal hooks are preserved on the National Library's copies.

**30** Karlsen 2020, 178–179.

**31** The measurements of the three copies of the *Missale* in the National Library are: NB D Pal 42: 350 mm H, 250 mm W, 63 mm T; NB D Pal 43: 350 mm H, 250 mm W, 60 mm T; and NB D Pal 44: 345 mm H, 250 mm W, 70 mm T.

**32** *Missale pro usu totius regni Norvegie. Secundum ritum sancte Metropolitanæ Nidrosiensis ecclesie. Correctum atque diligentia visa castigatum et revisum.*

**33** The *Missale's* colophon reads: *Missale secundum vsum ecclesie Nidrosiensis finit feliciter. Impresum Haffnie arte magistri Pauli Reff: ibidem Canonici ac santissimi domini nostri Pape ad titulum Nidrosiensis ecclesie Accoliti. Anno domini MCCCCxix. Die vero XXV. Maii.* ("Missal following the use of the Nidaros Church finishes happily. Printed in Haffnia thanks to the art of Master Pauli Reff: in the same place, he is a clergyman and an acolyte of the Church of Our Lord Almighty for the Pape of the diocese of Nidaros. Anno Domini MCCCCXIX. Truly in the day XXV of May").

**34** NB D Pal 44 collation: [X] 4, [a-z] 4, [A-F]4, [G]3, [A-F]4 [G]3, [H]2.

the beginning of the Canon of the Mass. We observed similar leather tab bookmarks in a copy belonging to the Deichman Library in Oslo. Since they do not occur in all copies, they would not have been standard elements for the original bindings but rather added by request of the owner.

The wooden boards are attached by sewing support slips drawn through drilled holes and tunnels. Sewing support slips are secured with square wooden pegs from the internal sides of the boards.

Covers are of brown sheep leather. Turn-ins are trimmed and mitred but not pared at the corners. Separate endleaves, also used as pastedowns, are sewn together with endleaf guards of large handwritten parchment fragments. Smaller fragments are utilised as narrow transverse spine linings and board stabilisers. The script uses three different types of ink: brown-blackish iron gall ink, cinnabar for the red colour and verdigris for the green.<sup>35</sup> The fragments originate from two liturgical music manuscripts from the first half of the 12th century with continental music notation and a 12th-century Bible, all in large format and probably used in the Trondheim area and of relevance for early Norwegian book history.<sup>36</sup> As for the content of the *Missale*, some of its texts date to 11th-century England and show that clergymen in Trondheim either had access to early manuscripts that predated the Norman Conquest (1066) or transcriptions of such material.<sup>37</sup>

## 5 Paper

To gain a more precise and complete idea of the origin of the paper and how it was used to print the *Missale*, every sheet of the ten copies of the *Missale* was examined. Considering that there were no paper mills in Denmark until 1573,<sup>38</sup> the paper would have been imported from the large production centres of Western Europe at the time, such as France, Germany or Italy, through Western European trade lines.<sup>39</sup>

The paper was analysed for its morphology and structure in normal light, transmitted light and raking light. Watermarks were registered. The distances between the chain lines, the density and thickness of the laid lines and the average thickness of the sheets were measured. The watermarks' measurements were collected, and their position on the sheet was mapped to facilitate the identification of the starting paper

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**35** Confirmed by the results of the XRF analyses by Hartmut Kutzke, Museum of Cultural History, University of Oslo.

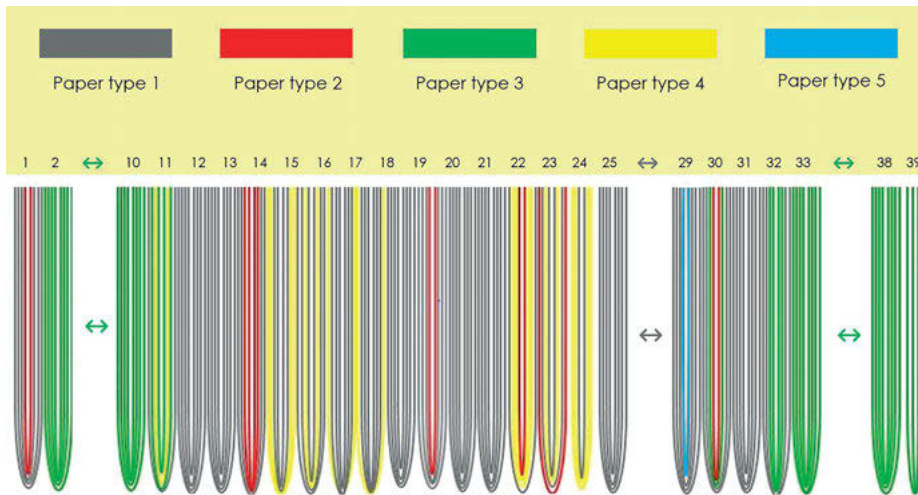
**36** Edwards 2013, 340.

**37** Karlsen 2020, 182–183.

**38** The first known Danish paper mill was established by Sten Bille in 1573 in Herrisvad cloister (today in the Swedish province of Skåne), which operated for only three years. In 1576 King Frederik II of Denmark established his own paper mill in Hvidøre, north of Copenhagen. The Hvidøre mill closed just a few years later, in 1583. Nielsen 1995, 67; Lindberg 1998, 78; Fiskaa/Nordstrand 1978, 299.

**39** Tschudin 2012, 111.

format.<sup>40</sup> The data collected made a major contribution to the distinction of the paper, even in the absence of watermarks. The paper is generally of good quality, and the variations are often due to manufacturing defects rather than the quality of the paper pulp. The types of paper were numbered from 1 to 5, taking into consideration their position in the volumes, starting from the title page.<sup>41</sup> Furthermore, all the data collected has aided confirmation of the distribution of paper in the book blocks. The alternation of the different types of paper is practically identical in each volume,<sup>42</sup> and this aspect leaves open many assumptions about the paper supply of *Missale Nidrosiense* and the practice of mixing stocks of different types of paper before printing (see Fig. 3).



**Fig. 3:** The alternation of the different types of paper in *Missale NB D Pal 44*. It is practically identical in all 10 volumes analysed. For a colour image, see Appendix, p. 442 of the print version.

Two types of paper are present in greater numbers, type 1 and type 3, while for the other types the number of sheets, even if present in all copies, is very small. In type 1, present in about 40 % of the *Missale*, no watermarks have been highlighted, but there are many defects due to the sheet formation. These appear as substantial accumulations of fibre along the margins, distortions of the chain lines, drops of water,

<sup>40</sup> The format of the different types of paper used for printing the *Missale*, deduced from both the position of the watermarks and the presence of the tranchefiles, suggests the use of ‘median’ format sheets (*meçane*), about 345 × 490 mm. Harris 2017, 41.

<sup>41</sup> A double sheet of paper without watermark was identified, always in the same position in the book block (Eiiii), with specific characteristics such as thicker and more spaced laid wires. During the data collection, it was catalogued as type 5.

<sup>42</sup> The differences in the number of sheets, especially for type 3, in some of the copies examined, are due to the incomplete text blocks, e. g., NB D Pal 43 and NB D Pal 42 at the National Library of Norway.

uneven distribution of the paper pulp and other obvious irregularities. The stitches on the chain lines are marked on most of the sheets in a very rough way. The distance between the chain lines often varies significantly. The *tranchefile* present on all the sheets of type 1 could suggest the identification of the geographical area of origin of the paper, especially in the absence of watermarks. The *tranchefile* (or *water-bar*), an additional chain line at each of the short sides of the mould, can be found sporadically towards the end of the 14th century and became common during the 16th century. It is a specific feature in papers manufactured north of the Alps in the period, particularly in France, that gradually spread northward.<sup>43</sup>

On paper of type 3 (about 45 %), there is a small watermark (17 × 10 mm) in the centre of one half of the sheet, the origin of which has not yet been identified. It depicts a very small bunch of grapes or a small flower. Watermarks representing a small bunch of grapes were found mainly on French papers from the first half of the 1500s. This mark is included in a group defined by Briquet as “Grapes, a small cluster, sometimes round and symmetrically arranged, sometimes figured in a conventional way”.<sup>44</sup>

Viewing this watermark is difficult because of the printed text, and precisely defining its characteristics and making comparisons with others is tricky. Despite this, it seems that there are two very similar but not identical motifs that alternate and therefore make one think of twin watermarks.

The laid wires are thicker and more widely spaced than in type 1, and the sheet has a fairly high thickness. This aspect might result in a closer dating through a more in-depth comparative study.

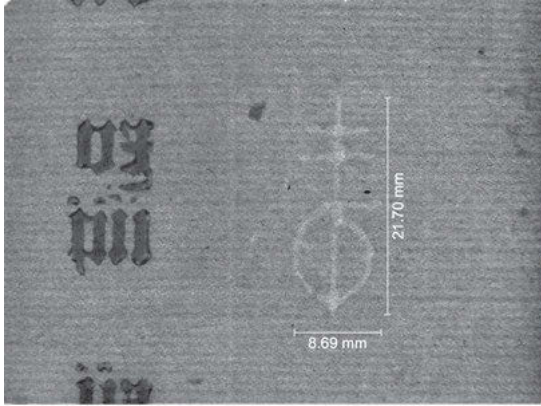
Among the rest of the sheets (types 2, 4 and 5), type 2 stands out. Paper of this type was used in a small percentage (about 4.5 %). The sheets are individually inserted in the quires in which other types of paper have been used, which might suggest they were cancels. The paper is of excellent quality with very few impurities, whiter and thinner than the other paper employed in the book. On the edge of the sheet, a small watermark is visible but the origin has not yet been conclusively identified. Searches have led to identification of similar motifs or with some similar parts, in paper produced in the period. These motifs are defined and described in different ways, possibly representing a sphere, a globe, an imperial orb or even a letter G with the Lorraine cross or patriarchal cross superimposed.<sup>45</sup> The unusual motif and the unusual

<sup>43</sup> De La Lande 1761, 47. In the 15th century, there are some exceptions in paper produced by the paper mills of Northeast Italy. Briquet 1907, vol. 1, 8; Harris 2017, 13, 120–121.

<sup>44</sup> “Raisin, petite grappe à grains tantôt ronds et disposés symétriquement, tantôt figurés d’une manière conventionnelle petite grappe symétrique ou conventionnelle”, e. g., Briquet no. 13 077–13 078, 13 098–13 100. Briquet 1907, vol. 4, 651.

<sup>45</sup> In Briquet 1907 a similar symbol is named “cercle avec croix” (e. g., Briquet 1907, vol. 1, 206, no. 2958), in Piccard a “letter G” or “spherical cross” (e. g., “DE8370-PO-27644”, in: WZIS, <https://www.wasserzeichen-online.de/wzis/struktur.php?ref=DE8370-PO-27644> (accessed 01/04/2022) or “DE8085-PO-27615”, in: WZIS, <https://www.wasserzeichen-online.de/wzis/struktur.php?ref=DE8085-PO-27615> (accessed 01/04/2022)).

position on the edge of the sheet might indicate an unusual sheet size. Moreover, it is known that similar symbols were commonly used as typographical marks by numerous early publishers (see Fig. 4).<sup>46</sup>



**Fig. 4:** The small watermark of paper type 2 is located to the edge of the sheet.

We tried to hypothesise and reconstruct the supply of the paper needed for printing the *Missale* by taking the print run of 1 600 copies as a point of departure. As stated previously, this number refers to the number of churches in Norway and its dependencies for which the *Missale* was intended. The distribution of the different papers is practically identical in all the copies analysed, and using the complete *Missale* (NB D Pal 44) as an example, we know that 152 full sheets were used. If we assume that 1 600 copies were printed, this number yields 243 200 sheets. If we divide it by reams of 500 sheets, we will have about 486 reams of paper (486.4).<sup>47</sup>

## 6 Printing Technique

The movable types used to print the *Missale* are based on medieval Gothic handwriting and were the most prominent types of the time. In 1513 the printer Poul Reff had taken over the types and printing press that Matthäus Brandis (mentioned previously) used to print *Missale Hafniense* in 1510. By comparison, we observed that the type matters are identical, except for the red initials.

<sup>46</sup> The printer's marks of the period are often made by assembling alchemical symbols, in particular those of antimony and cinnabar, two elements present in early books: antimony for movable types and cinnabar/vermillion for the colour red in printing. *Base de Typographie de la Renaissance* (s. d.).

<sup>47</sup> Dividing by single types of paper: type 1: 62 sheets (41 %) × 1 600 copies = 99 200 sheets, about 198 (198.4) reams of paper; type 2: 7 sheets (4 %) × 1 600 copies = 11 200 sheets, about 22.4 reams of paper; type 3: 68 sheets (45 %) × 1 600 copies = 108 800 sheets, about 217 reams of paper (217.6); types 4 and 5: 15 sheets (10 %) × 1 600 copies = 24 000 sheets, 48 reams of paper.



The *Missale* is printed in red and black, and this means that each page had to be printed twice and that a single sheet passed through the printing press four times. Using magnification and raking light, it is possible to see the printing sequence of colours, first red and then black. Differences in the use of the colours and in the alignment of the two printing sets were detected between the copies observed (see Fig. 5).



Fig. 5: Using magnification (8x), it is possible to see the printing sequence of colours, first red and then black. For a colour image, see Appendix, p. 442 of the print version.

The images taken with a VSC-8000<sup>48</sup> highlight the fluorescence, in the ultraviolet region, of the red ink, which we know is cinnabar, compared to carbon-based black printing ink. In addition, the images also show some deposits of red ink on the surface that, because they produce the same fluorescence as the red text, are probably due to migration by contact with another fresh printed page.

The *Missale* has printed musical staves, while the notes themselves, when present,<sup>49</sup> have been added later by hand.<sup>50</sup> The analysis of the ink sequencing indicates

<sup>48</sup> The VSC-8000 © Video Spectral Comparator from Foster and Freeman is a powerful, high-resolution device for the digital imaging process of multispectral analysis, which is used for forensic testing of documents. It is currently used for the non-destructive examination of archives and the like. *Foster + Freeman* (s. d.).

<sup>49</sup> “The printing of musical notation was still beyond the Copenhagen printers”. Gjerløw 1986, 72.

<sup>50</sup> In the National Library’s copies, the manual addition of musical notation occurs in D Pal 44 and D Pal 42.

that the red lines of the staff were probably applied subsequently to the printing of the text and images. The ink has a different viscosity, which allowed the red ink to migrate through the paper and deposit in conspicuous agglomerates on the opposite side of the sheet and settle on the black lines.

Printing irregularities appeared during the study of every single sheet of paper in VIS (Visible Spectrum), transmitted and raking light, including printing errors, corrections and page layout errors. Some of these were covered by gluing strips of paper with the printed corrections. These are usually located in the same areas in all the *Missale* copies, with some exceptions. Another type of correction was made by printing the correct letter, word or colour above the mistake, and this type of emendation is different in the copies analysed.

## 7 Initials and Illustrations

Poul Reff used a large collection of capitals on a black background with an elegant white decoration made by small flowers, elongated leaves, intertwined geometric patterns and in a few cases even anthropomorphic figures.<sup>51</sup> The background of the initials is compact and covered with small white dots that suggest the use of a metal plate rather than a woodblock. Metalcut was a relief printmaking technique invented to create a particular decorative effect where the areas not to be printed are cut away or hammered back with punches. Metalcut is therefore also called dotted manner, or *manière criblée*, due to its characteristic use of dots. This technique was mainly employed in the period from about 1450 to 1550, mostly in the Low Countries, Germany, France and Switzerland and especially for initials, borders and small plaques in a book's decoration.<sup>52</sup>

We find some of these initials both in *Missale Hafniense* of 1510 and in volumes printed by Poul Reff after the *Missale Nidrosiense*, confirming that they were part of his supply of fonts and decorative elements for his printing shop even after he left Copenhagen.<sup>53</sup> Wilhelm Munthe, who was a librarian and the head of the University Library of Oslo from 1920 to 1953, suggested that if the initials may have been manufactured in Paris, due to the richness and quality of the decoration, since Paris was known for the elegance of the decorative motifs created for printed volumes.<sup>54</sup>

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<sup>51</sup> Decorated initials in *Missale Nidrosiense*: 1 large initial with coat of arms (73 × 73 mm), 62 medium initials (39 × 37 mm) and 93 small initials (32 × 31 mm). The initials and typefaces of the *Missale* are described in Nielsen 1919, 178–184.

<sup>52</sup> Hind 1963, 175–197; Field 1965; Griffiths 1996, 29–30.

<sup>53</sup> *Canon secundum vsum ecclesie Roschildensis*, Nyborg 1522; Poul Helgesen, *Danmarks Biskoppers Gensvar til de Lutherske Artikler*, Århus 1533; Adams 2013, 124.

<sup>54</sup> Munthe 1930, 63.

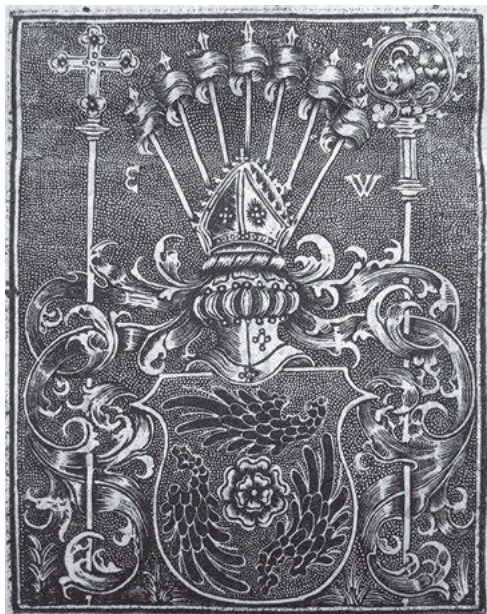


Fig. 6: Erik Valkendorf's coat of arms is printed in metalcut on the book's title page.

The printer employed metalcut not only for the decorated initials but also for Valkendorf's coat of arms on the title page (Fig. 6). For the full-page illustration of the crucifixion of Christ, Poul Reff adopted the woodblock that Brandis had used for printing the same motif in *Missale Hafniense* nine years earlier. The crucifixion illustration shows signs of wear due to the repeated use of the woodblock in the printing of other editions. However, some damage and loss in the woodblock are already apparent in the crucifix woodcut from *Missale Hafniense* (National Library of Norway's copy), so the woodblock was evidently in use even before 1510, although no confirmation has yet been found in other older editions.

In the Roman missals, on the page that follows the woodcut of the crucifixion, the Canon of the Mass—*Canon Missae*—begins. In *Missale Nidrosiense*, the space left for the initial T of the *Te igitur*, the first prayer of the canon, is empty, and it is empty in all the copies of the *Missale* that we have viewed.<sup>55</sup> This has prompted several hypotheses, including the observation that it was not required since there is already the T of the cross in the woodcut of the crucifixion on the opposite page.<sup>56</sup> A brief search of the missals printed in Europe in the period 1480–1519 has not shown any similar case, except for *Missale Hafniense* (1510). The space of the T is always filled with an illuminated or handwritten initial, or a coloured or non-coloured printed image. This suggests that the decision on how to decorate (or not decorate) the initial was often left to those who purchased the volume, unless there were special typographical requests.

<sup>55</sup> Except for the Oppdal copy, where somebody has added a simple pen-drawn T.

<sup>56</sup> Munthe 1930, 66.

## 8 Conclusions

Traditionally, research into historical books in Norway has mainly been aimed at the textual content. We wish to draw attention to how an in-depth analyse of the books' characteristics, with an emphasis on materials and techniques used, yield new and interesting knowledge about the books' biographies.

An archaeological approach with scientific analyses of the various constituent parts of the book uncovers evidence relating to the dating and origin of the materials. The provenance of the materials may provide new information about craftsmanship, economy, trade and commercial exchanges within a certain timeframe, despite the lack of written documentation from the period. The study of the use of paper, its quality, provenance and availability in Copenhagen in the first quarter of the 16th century has provided useful information. The comparisons between ten preserved copies of *Missale Nidrosiense* and the detection of an identical pattern give more accurate insights into the important preparatory stages for the printing itself. Likewise, the book bindings' execution and the selection of materials bear witness to deliberate and intended 'serial' production. One of our aims has been to detect circumstances that could point to where the bookbinding was located. Among Norwegian book historians, agreement prevails that *Missale Nidrosiense* was bound in Trondheim by the archbishop's bookbinder.<sup>57</sup> This is based on the fact that Nidaros archdiocese produced documents in religious, legal and historical categories that were bound on the premises and that handwritten parchment fragments used to reinforce the bindings originate from Norwegian monasteries.<sup>58</sup> Besides, printed book texts were traditionally transported unbound to their destination to save cost and weight.<sup>59</sup> Whether all copies or just a certain number were bound in the Gothic style is not known. The solid bindings have positively helped to preserve the surviving copies.

By virtue of the significant investment they represented, these book editions document Nidaros archdiocese's prominent position of economic power at the beginning of the 16th century.<sup>60</sup>

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<sup>57</sup> Astrid Schjoldager 1927, 54–55 suggests a bookbinder named Casper, who lived and worked in Trondheim at the time, but there are no further references to whom he might have been working for.

<sup>58</sup> Pettersen 2013, 47; Gullick 2017, 31–36.

<sup>59</sup> Karlsen 2020, 178–179.

<sup>60</sup> We wish to draw attention to another article on *Missale Nidrosiense* that we will submit later together with a group of interdisciplinary researchers from material analytic fields that will deal with the results of the complete material surveys. This article will include research on the composition of metallic components by X-ray fluorescence spectroscopy (pXRF). Pigments, printing ink and binders were characterised by a combination of pXRF and synchrotron-based infrared microscopy. Non-invasive dendrochronology based on X-ray tomography was utilised, a rare method in the study of bookbindings, to indicate date and provenance of the oak wooden boards. Fibre identification of sewing and support materials was carried out and protein molecular genetic samples from the leather on the book cover and medieval manuscript parchment fragments have been analysed to identify species of animals.

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Geoffrey Day

# Frost Fairs and Laki

## The Effects of the Weather on Papermaking and Printing in 18th-Century England

The summer of 1783 was so hot that on Friday 27 July at Strawberry Hill Horace Walpole decided to have the pond drained because he thought his goldfish must have been boiled.<sup>1</sup> Less than five months later there set in a great frost, which lasted 89 days from December through to March. The River Thames froze, but there was no Frost Fair. The following winter was almost equally severe. Once again the River Thames froze; once again there was no Frost Fair.

For many years these wild variations in the weather were attributed to the effects of the eruption in June and July 1783 of Laki, which was, and remains, the largest and most explosive fissure eruption of historical times. Between a quarter and a third of the population of Iceland died. It has been calculated that over 40 000 more died in mainland Europe as a direct result of the eruption, and there were both drought and famine across Africa and Asia. Diarists and letter writers in England provide graphic descriptions of the scenes in the summer of 1783. On 9 July William Dunn noted: “the Air continues in a Putrid state. The sun is red as blood with Thunder and Lightning with heavy rain”; and William Gilpin wrote:

During almost all the summer months, the sky was overspread with a dark, dry fog. The vapours sometimes rolled about, as is usual in a dispersed storm: at other times, they clung like a heavy fog; and the sun, at noon day, appeared through them of that dark, dingy red, which it sometimes assumes through the haziness of a frosty evening.<sup>2</sup>

Recent research has shown that responsibility for these extremes cannot be attributed solely to Laki. Indeed, Brian Zambri et al. have shown that, far from being responsible for the heat wave of 1783, the eruption would have had a cooling effect. That summer would have been even hotter had it not been for Laki. The two bitterly cold winters that followed are now thought to have been primarily the result of an El Niño, the effects of which were enhanced by the eruption.<sup>3</sup>

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1 Walpole 1937–1983, vol. 39, 403. Letter to Henry Seymour Conway 27/06/1783.

2 Pyle 2017, 145–147. See also Thordarson/Self 1993.

3 Zambri et al. 2019.

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I am deeply indebted to Susan Allix who, drawing on a life-time’s experience of printing on hand-made paper, answered innumerable questions over a period of more than two years. She also enthusiastically entered into experiments to freeze paper. My long-term research partner, Amélie Junqua, commented upon several drafts of this paper and made acute observations on the illustrations. Any errors are my own.



Perceptions of the weather in 18th-century England are notably coloured by the Laki eruption and the idea that the country was in the throes of a Little Ice Age, the most obvious manifestations of which being the well-known Frost Fairs on the River Thames. This view is now disputed by meteorological historians, who argue that the freezing of the River Thames depended to a large extent on a number of non-climate factors, such as flow speed and tides, and that the principal contributory factor was old London Bridge, the many narrow arches of which acted as a weir. There were many years when the Thames froze and there was no Frost Fair: between the recorded fairs of 1763 and 1789, for example, there were at least five years when the river froze with no celebrations. There were good reasons for these absences: in 1776 the river was frozen during a flu epidemic that is estimated to have killed 40 000 people in England,<sup>4</sup> and in the February of the winter following the eruption of Laki, *The Gentleman's Magazine* reported: "From different parts of the country we have accounts of more persons being found dead in the roads, and others dug out of the snow, than was ever known in any one year in the memory of man".<sup>5</sup> It would have been politically inexpedient to have had public festivities at such times.

Whatever the causes of these climatic variations may have been, the effects are indisputable. 18th-century English trade depended on water transport, and when rivers froze, so too did trade. At a trial at the Old Bailey on 20 February 1782 (another winter without a Frost Fair), a witness testified that the last ship to Bremen had sailed over six weeks before, the Thames having been frozen since 5 January.<sup>6</sup> And trade was not interrupted just for the period when the river was solid. Navigation could not take place during the build-up of ice floes, nor during the thaw and its aftermath, which often included major flooding. There were serious accidents, such as an incident in 1739–1740:

A few days after the frost had set in, great damage was done among the shipping in the river Thames by a high wind, which broke many vessels from their moorings, and drove them foul of each other, while the large sheets of ice that floated on the stream, overwhelmed various boats and lighters, and sunk several corn and coal vessels.<sup>7</sup>

Flooding, which also adversely affected river traffic, was not solely the result of ice thawing: tidal surges and heavy rain could be equally if not more devastating. In the Great Storm of 1703 the tidal surge destroyed or damaged practically all the shipping in the Thames, while on 20 July 1752 during a thunderstorm a whirlwind was generated that "lifted two boats several feet out of the Thames at Vauxhall and smashed one of them to pieces on the river bank".<sup>8</sup> At the other extreme, during the drought of 1716

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<sup>4</sup> Lockwood et al. 2017.

<sup>5</sup> *Gentleman's Magazine* 54 (February 1784), 148.

<sup>6</sup> Hitchcock et al. 2018, 20/02/1782, Peter Saifert and Caston Haseman (t17820220-61).

<sup>7</sup> Andrews 1887, 47.

<sup>8</sup> Brazell 1968, 5–6.

it was possible to walk under the arches of London Bridge,<sup>9</sup> and the *Annual Register* noted that on 2 March 1761, “The flow of the tide was so low, that the starlings of London bridge were not covered at high-water, a thing not known in the memory of man”.<sup>10</sup>

All trades suffered during such extreme conditions. In the winter of 1739–1740, “the watermen and fishermen, [...] and the carpenters, bricklayers, &c., with their tools and utensils in mourning, walked through the streets in large bodies, imploring relief for their own and families’ necessities”.<sup>11</sup> Papermaking was particularly hard hit. Linen rags, the essential component, were sourced from London and delivered to those rural areas that had both rivers providing motive power for the mills and fresh spring water to clean the rags and add to the furnish. Once the paper was made, it had to be transported back to the metropolis where the customers lived. As D. C. Coleman observed, “paper was still a long way from being a common item for the common man. Most of the community still lived in rural conditions and more persons still worked in agriculture than in industry. In the circumstances of the time such persons were unlikely to use much paper”.<sup>12</sup> The paper makers of Kent, the most important area of the trade, shipped rags from London to Sheerness in a hoy, the vessel used for coastal trade, and then transferred the cargo to a smaller brig to manoeuvre along the River Medway to Maidstone, before completing the final short distance in a wagon. Newly-made paper took the reverse route: wagon, brig, hoy.<sup>13</sup> When the River Thames flooded, froze or fell to unnavigably low levels, or when, as in October 1740, the rivers in Kent froze or, as in March 1771, the Kent roads were blocked by six-foot-deep snow drifts, there could have been no deliveries in either direction.

Drought could be equally calamitous for papermaking. Droughts were recorded in 1704, 1714, 1716, 1740–1743, 1785 and finally 1788, a year that received only 66 % of the annual rainfall. In these years the supply of motive power for the water wheels on which the mills depended was liable to interruption. The drought of 1785 was so bad that the *Dublin Evening Post* declared: “Accounts from all parts of England are lamentably affecting, of the distress the people are in for want of water; and great numbers of Paper Makers and others whose business depends on running streams, daily arrive here in hopes of obtaining employment”.<sup>14</sup> Those who did make the journey to Ireland in search of work and better weather conditions were again adversely affected three years later when, in the winter of 1788, the *London Chronicle* reported from Dublin: “The astonishing drought of the weather, at this season of the year, is likely to be very injurious [...] the Paper Mills near town are scarcely able to work”.<sup>15</sup>

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<sup>9</sup> Brazell 1968, 7.

<sup>10</sup> *Annual Register* 1761, 79.

<sup>11</sup> Andrews 1887, 46.

<sup>12</sup> Coleman 1958, 105.

<sup>13</sup> Day/Junqua 2018, 76.

<sup>14</sup> *Dublin Evening Post* no. 1168, 12/07/1785, 3, in: Chamberlain 2020, vol. 1, 178.

<sup>15</sup> *London Chronicle* no. 5011, 09/12/1788, 557, in: Chamberlain 2020, vol. 1, 184.

The very fabric of the paper mills was affected by the extremes of weather. The winter of 1795 was notably destructive, as seen from an account in the *Kent Chronicle*:

Wednesday se'nnight an awful spectacle presented itself in Maidstone in consequence of the extraordinary and sudden thaw. The water in the River Medway rose to an uncommon height, occasioned by the great quantity of snow that had fallen contiguous to both rivers in the neighbourhood [...]. The Back River at Maidstone equally agitated by the same cause, rose also in proportion, and bore hard on the dam of Mr. Smith's Paper Mill, causing the mill to be suddenly overflowed, whereby that gentleman sustained considerable damage [...].<sup>16</sup>

In the same month part of the paper mills of Messrs. Wickwar of Newbury were washed away, as were the Woodford Mills in Hampshire.<sup>17</sup> Flooding and the concomitant damage were not confined to the winter months: summer storms were almost equally destructive. In the middle of July 1728, a small area of Kent was devastated: "On Saturday night last two Corn Mills, a Paper Mill and a house were swept down Astley Brook into the River, with great Trees, and part of a Hop Yard by means of a sudden Thunderstorm, [...] and Bursting of the Clouds, from which the water descended as if it had been poured out of Hogsheads".<sup>18</sup> An awareness of this problem is to be seen in an advertisement in the *Reading Mercury and Oxford Gazette* of July 1791, which offered a mill to let and assured prospective tenants that the "said mill has at all times a sufficient flow of water, and never prevented by an overflow, nor impeded by frost".<sup>19</sup> A particularly grim example of the consequences of freezing temperatures was recorded in the *Newcastle Courant* of 12 January 1740: "Last week Mr. James Crompton, paper maker near Richmond, breaking the ice from the wheel of his mill, with a Hatchet, the Wheel unfortunately went about, and crush'd him to pieces".<sup>20</sup>

Not only did adverse weather conditions affect essential supplies and the delivery of the finished product: the processes of papermaking by hand and of printing on hand-made paper are weather-sensitive and particularly in the process of sizing, where humidity, a feature of the English climate difficult to avoid, is problematic. In his comprehensive account of papermaking, published at Paris in 1761, Joseph Jérôme De La Lande warned:

Sizing paper often fails, and then results in a considerable loss: for it to be done well, a dry and temperate day should be chosen. When it is humid, the size melts and runs along the paper on the drying rack; if it is too hot, the paper dries too quickly; if too cold, the size becomes yellow,

<sup>16</sup> *Kent Chronicle* no. 1569, 06/02/1795, 4, in: Chamberlain 2020, vol. 1, 86.

<sup>17</sup> *Reading Mercury and Oxford Gazette* no. 1726, 16/02/1795, 3; *Hampshire Chronicle* no. 1153, 23/02/1795, 2, in: Chamberlain 2020, vol. 1, 8, 119.

<sup>18</sup> *Evening Post* no. 2692, 16/07/1728, 1, in: Chamberlain 2020, vol. 1, 151.

<sup>19</sup> *Reading Mercury and Oxford Gazette* no. 1538, 11/07/1791, 2, in: Chamberlain 2020, vol. 1, 143.

<sup>20</sup> *Newcastle Courant* no. 768, 12/01/1740, 3, in: Chamberlain 2020, vol. 1, 162. All dates New Style, except where otherwise specified.

or flakes, and in both cases fails to penetrate the paper; finally, it goes off, separates out, and becomes sour and runny, when the weather is stormy.<sup>21</sup>

A specific instance of the problems of sizing in bad weather is found in an apologetic letter from the Bishop of Llandaff to the printer John Nichols in December 1784, during the second winter in the aftermath of Laki. Conforming to the usual practice in the 18th century, as a self-publishing author Dr. Watson was responsible for providing the paper on which his book, a collection of theological tracts, was to be printed. He explained the delay: “The paper maker will send you a few reams as soon as he possibly can, but I fear it is not glazed yet; and if so, unless the weather breaks, we must be obliged to wait a little”.<sup>22</sup> Errors in sizing had consequences down the line. In Cooke’s *The Way to the Temple*, published in Devizes in 1773, on the verso of the title page the printer added a warning: “The Binder is desired not to beat, but press the Books, as the Paper was rather over-siz’d”.<sup>23</sup> (See Fig. 1.)

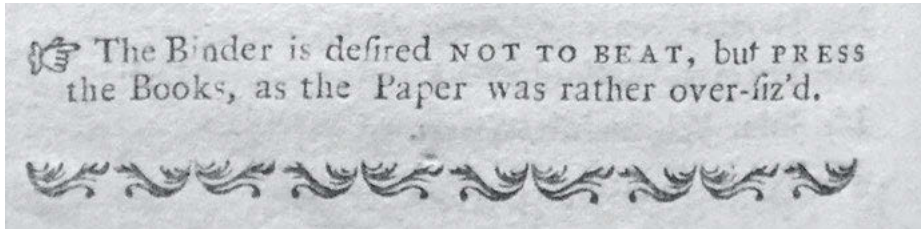


Fig. 1: Cooke (1773), *The Way to the Temple*, verso of title page, detail.

It was not just sizing that was affected by the weather: the paper maker finally needed to dry his product. This too was not plain sailing. De La Lande pointed out:

Réaumur found, by experiment, that paper, even when finished and folded, stretches, if wet, by as much as a sixth. So it is not surprising that paper, in the course of manufacture, should be affected by both moisture and dryness. If it dries little by little and slowly, it will shrink much less than if it dries too quickly, as then the wind that dries the paper causes it to shrivel and become brittle.<sup>24</sup>

And he advised:

It is necessary to have a sufficient number of windows in the drying room so that the paper may soon dry; that is to say, in two or three days; for it becomes reddish if exposed to the air too long.

<sup>21</sup> De La Lande 1973, 68, §107, my translation.

<sup>22</sup> Nichols 1812, 774.

<sup>23</sup> Cooke 1773.

<sup>24</sup> De La Lande 1973, 80, §125.

Care should be taken, however, that the shutters be closed at night, and also on rainy and windy days, because humidity softens the paper, and the wind blows the paper off the drying line.<sup>25</sup>

In short, when it was too hot or too cold; too wet, too dry, or too humid; or when it was too windy, paper makers had problems.

Paradoxically, some weather conditions perceived as disadvantageous could be of positive benefit. Though high humidity levels can affect sizing negatively, they can improve waterleaf by softening it during the drying process. Though freezing conditions can bring the transport of both rags and finished paper to a halt, there is evidence that putting newly made paper outside in a frost can improve the whiteness.<sup>26</sup> These apparent contradictions are what make papermaking an art.

The papermaking year was affected by the natural seasonal cycle and the prevailing weather conditions. So too was the printing and publishing year, but the latter was also heavily dependent upon the social seasons. At the opening of Parliament in November, London filled with the beau monde, who remained until the prorogation in May or June. For a book to be a commercial success—and most were not—it had to appear early enough in the Season to take advantage of the temporarily increased metropolitan population of the educated literate. Authors were very aware of the importance of this timing, as is clear from the surviving correspondence of the firm of Cadell & Davies. Charles Patton, who had written a book entitled *Effects of Property Upon Society and Government Investigated*, wrote to his publisher to say: “When I mentioned haste in publication, I alluded to the circumstance of the Parliament sitting and the Town being full; which is the best time for every new work to make its appearance”.<sup>27</sup>

Where authors were aware principally of sales prospects, topping booksellers saw a rather larger picture. In the spring of 1760, Robert Dodsley wrote apologetically to the poet William Shenstone:

I am sorry I hurried my Essay out of your Hands, before you had done with it; but if I think of publishing my Fables next *October* or *November*, it is high Time I should put both to Press now, that the Printer may have good Weather to print in, and that the Work may have time to dry, after it is finished, before the Books are bound.<sup>28</sup>

Here we have an acknowledgement of the importance of the London Season: Dodsley wanted publication to coincide with the opening of Parliament; but he was also well aware of the effects of the climatic seasons. Those who, in an effort to capitalise upon the fashionable season, failed to recognise the importance of the natural seasons experienced problems. When Conyers Middleton’s *A Free Inquiry into the Miraculous*

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<sup>25</sup> De La Lande 1973, 70, §111.

<sup>26</sup> See Barrett 2011.

<sup>27</sup> Besterman 1938, 109. Letter of 14/10/1797.

<sup>28</sup> Dodsley 1988, 437.

*Powers* was published, it came with an acknowledgement of an error of judgment. On the verso of the half-title there was a warning (see Fig. 2):

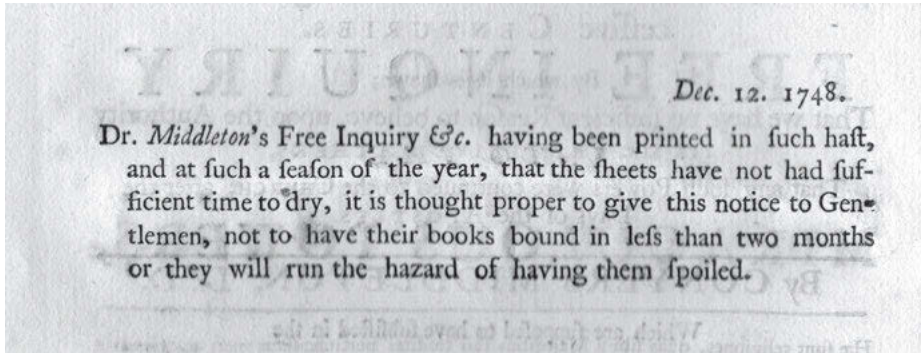


Fig. 2: Middleton (1749), *A Free Inquiry into the Miraculous Powers*, verso of half-title, detail.

Dec. 12. 1748.

Dr. Middleton's Free Inquiry &c. having been printed in such hast, and at such a season of the year, that the sheets have not had sufficient time to dry, it is thought proper to give this notice to Gentlemen, not to have their books bound in less than two months or they will run the hazard of having them spoiled.

Dodsley's was the voice of experience—when he wrote to Shenstone he had been a topping bookseller for 25 years. The publishers of Middleton's work, Manby and Cox, had only been in business for four years at this point. But even the most experienced publisher could not foresee every exigency of the weather. The most notorious example of a book failing to dry occurred in April 1715. John Gay and Alexander Pope wrote a joint letter to John Caryll in which they explained the delay in the publication date of Pope's translation of the *Iliad*:

Mr Pope's Homer is retarded by the great Rains that have fallen of late, which causes the Sheets to be long adrying, this gives Mr Lintott great uneasiness who is now endeavoring to corrupt the Curate of his Parish to pray for fair weather, that his work may goe on the faster.<sup>29</sup>

Though George Sherburn suggested in *The Early Career of Alexander Pope* that publication of this first volume of Pope's translation might have been deliberately delayed as part of a waiting game with the publisher of the rival translation by Tickell, David Foxon and James McLaverty have shown that this view is not corroborated by the Bowyer ledgers; there seems no doubt that the difficulties in drying the sheets in a wet

<sup>29</sup> Gay 1966, 23.

spring were a genuine reason for the delay.<sup>30</sup> This was not a unique occurrence. Four years later Thomas Hearne advised Thomas Rawlinson that the edition of *Thomae Sprotti Chronica* would “not be delivered ’till after X<sup>t</sup>mass, the Sheets being not dry, and the Weather being not favourable”.<sup>31</sup>

Whereas humidity slowed down the drying of paper in the printing-house just as it did in the paper mill, printers also had to contend with the problem of paper damped for printing drying too rapidly. In October 1718 Hearne told Richard Mead that he had had to press on with the printing of his edition of William of Newburgh, “for fear the Paper, w<sup>ch</sup> was wetted, should have been spoiled”.<sup>32</sup> In an attempt to counter this problem, printers employed waste paper. Moxon described paper-covered windows that were designed to prevent the paper damped for printing from drying too quickly in the sun and that also served to help keep out the cold in winter; and Samuel Sewall, an American visitor to England in the late 17th century, recorded seeing such windows at the Cambridge University Press.<sup>33</sup>

Intense cold was a problem for printers as it was for all trades, and paper-covered windows were not always a successful defence. An early example of the consequences of the cold is found in the Term Catalogues for February 1698 relating to William Cowper’s *The Anatomy of Humane Bodies, with Figures Drawn from Life by Some of the Best Masters in Europe*, which was being printed at Oxford for Smith and Walford, the printers to the Royal Society. The entry reads:

This Book should have been published before this time: but that it was not thought adviseable to carry on a Work of so great Curiosity during the long continued frost. The season being now favourable and proper for the working of the Plates, the said Book will (in all probability) be compleatly finish’d by the 25th of *March* next.<sup>34</sup>

In 1709, a bitterly cold winter, Joshua Barnes, the Master of Emmanuel College Cambridge, wrote to Thomas Hearne in February that the freezing conditions were retarding his edition of Homer,<sup>35</sup> though by the following month his work was proceeding “as well as the weather will permit”.<sup>36</sup> Hilkieh Bedford in 1721 explained the delay in completing the printing of his latest work: “the printer, whose most solemn promise I had for Lady Day, alledges y<sup>e</sup> cold weather in February”.<sup>37</sup> Robert Halsband tells us that in the Great Frost of 1739–1740 when Lord Hervey berated Conyers Middleton for failing to publish the edition of the *Life of Cicero*, which subscribers were becoming

<sup>30</sup> Sherburn 1934, 139–140; Foxon 1991, 59, no. 18.

<sup>31</sup> Oxford, Bodleian Library, MS Rawl. lett. 34 fol. 133a, 08/12/1719. Sprott’s history is ESTC T147681.

<sup>32</sup> Hearne 1885–1918, vol. 6, 404. Letter of 31/10/1718.

<sup>33</sup> Moxon 1962, 17, 327; Sewall 1878, 261.

<sup>34</sup> Cole 1948, 314.

<sup>35</sup> Oxford, Bodleian Library, MS Rawl. lett. 24, 367. Letter of 08/02/1709.

<sup>36</sup> Oxford, Bodleian Library, MS Rawl. lett. 24, 388. Letter received 17/03/1709.

<sup>37</sup> Oxford, Bodleian Library, MS Rawl. lett. 2, 61. Bedford to Hearne, 04/05/1721.

impatient to receive, Middleton “had his excuses ready: the printing had been held up by the severe frost”.<sup>38</sup>

It is of course possible that these examples are of ink (or indeed workmen) freezing rather than paper. Indeed, we have found only one explicit reference to an occasion when paper froze during printing. On 30 December 1728 Hearne wrote to Thomas Ward: “The Black Book wants very little of being done, and indeed it had been ready ere this had not the Weather freez’d our Paper, Ink, &c.”.<sup>39</sup> Nonetheless, it would appear that frozen paper was a problem in the printing house as Moxon referred to “the violence of *Winter* [...] Freezing the Paper and Letter”; in the “Dictionary Alphabetically Explaining the Abstruse Words and Phrases which are used in Typography”, which he appended to his *Mechanick Exercises*, we find the entry: “*Froze out*. In Winter when the Paper is Froze, and the *Letter* Froze, so as the Workmen cannot Work. They say, *They are Froze out*”.<sup>40</sup>

This brings us to the revisionist section of this essay. We know there was printing on the ice during various Frost Fairs in the 18th century: there are extant examples of such printing from the fairs on the Thames in the winters of 1715–1716, 1739–1740 and 1788–1789, and on the River Ouse in York in 1739–1740. If Moxon is right about frozen paper experienced by printers working indoors, and given the practice of damping hand-made paper overnight before printing to ensure that the ink takes, how did those out on the ice manage to print without the paper freezing, given that it was so cold that the *Daily Gazetteer* reported on 17 January 1740: “Yesterday Morning a Man who the Night before was hired to look after the Printing-Booths set up on the Ice at Whitehall, was found frozen to death”;<sup>41</sup> and two days later the *General Evening Post* had news of a young clergyman who, “on wiping the Snow, that was frozen to Ice, off his Face, his Eyebrows dropt off therewith”?<sup>42</sup>

Before addressing that problem it is necessary to subvert a popular and long-standing perception of printing at the Frost Fairs. *Ichabod Dawks’s News-letter* of 14 January 1716 claimed: “Over against Westminster, Whitehall, and Whitefriars, Printing-presses are kept upon the ice, where many persons have their names printed, to transmit the wonders of the season to posterity”.<sup>43</sup> This appears to be well supported by several of the most frequently reproduced illustrations of Frost Fairs.<sup>44</sup> These images show orderly lines of tents on a billiard-table-smooth surface of ice and with little evidence of shipping. They often include either depictions of tents with clearly visible common

<sup>38</sup> Halsband 1973, 264.

<sup>39</sup> Oxford, Bodleian Library, MS Rawl. lett. 17, 75. Hearne to Ward 30/12/1728.

<sup>40</sup> Moxon 1962, 17, 341.

<sup>41</sup> *Daily Gazetteer* no. 1428, 17/01/1740, 2, col. 3.

<sup>42</sup> *General Evening Post (London)* no. 986, 17–19/01/1740, 2, col. 3.

<sup>43</sup> Andrews 1887, 44.

<sup>44</sup> Most notably, the engraving printed for William Warter, 1684, London, British Museum, Department of Prints and Drawings [hereafter BM], Cartographic Items Maps K. Top. 27.39; and the oil on canvas by Abraham Hondius, Museum of London [hereafter MusLon] 49.80.



and rolling presses or keys indicating where such tents were located. This utopian orderliness contrasts with written accounts. *The Gentleman's Magazine* recorded a different picture: “The *Thames* floated with Rocks and Shoals of Ice; and when they fixed, represented a snowy Field, rising every where in Hillocks and huge Rocks of Ice and Snow”.<sup>45</sup> This should give pause for thought. Nonetheless, most modern commentaries take these images at face value. A very clear representation of both rolling press and common press not in tents on the ice is seen in *A Prospect of the Town of Shrewsbury taken as it appear'd in the Great Frost 1739* [i. e. 1740],<sup>46</sup> and of this engraving James Bowen writes:

by moving the printing press to the frozen river, printers encouraged consumers with the novelty of engaging with the opportunity to observe at first hand the printing of the document. Printing was also a form of spectacle in its own right, which is illustrated by the artist locating the printing press centrally in the image.<sup>47</sup>

Other commentators make similar claims. Liam Sims, in a Cambridge University Library blog, writes: “Some enterprising printers actually set up presses on the ice”.<sup>48</sup> In a chapter on illustrations of the Frost Fairs, Joseph Monteyne observes: “Furthermore, while the appearance of a rolling press on the frozen *Thames* was remarkable enough, the presence of a letterpress seems even more so”. Monteyne explains his surprise:

a letterpress could only be owned and operated by a master of the Stationers' Company. An emphasis on the existence of a letterpress at the frost fair without an attendant stationer reveals an open disregard for those traditional regulations in a space where jurisdiction became confused and everyday laws ceased to apply.<sup>49</sup>

Monteyne is right to be surprised: but his reasoning is wrong. Of the two presses depicted, it is the rolling press that is the more unexpected. For a common press, ink must stay on the surface of the letter; for a rolling press, the ink has to permeate the lines of the etched plate and stay there when the plate is wiped. Heat is the essential element in this process, as William Faithorne pointed out in his then standard text, *The Art of Graving and Etching*: before adding the ink to the plate “you must lay [it] on the wrong side on the Gridiron or Pan where the Fire is, making it pretty warm”, and then after inking, “you must again lay your Plate on the Gridiron a little, and when 'tis become a little warm” printing can commence.<sup>50</sup> Modern-day printers use a hotplate

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<sup>45</sup> *Gentleman's Magazine* 10 (1740), 35. More realistic images, such as BM 1931,1114.372 and 1868,0808.3638, are seldom reproduced.

<sup>46</sup> Shropshire Archives, PH/S/13/S/22/219.

<sup>47</sup> Bowen 2018, 54.

<sup>48</sup> Sims 2013.

<sup>49</sup> Monteyne 2016, 241–242.

<sup>50</sup> Faithorne 1702, 66, 67.

to warm the oil to help it to spread in when inking a plate. It is this requirement of heat that is why in the previously cited entry in the Term Catalogues it was specifically the printing of the plates that held up the publication of Cowper's *The Anatomy of Humane Bodies* in 1698. It should also be noted that of the surviving personalised souvenirs from the Frost Fair of 1715–1716, not a single one would have necessitated the use of a rolling press.

The depictions of the common press present somewhat different problems.<sup>51</sup> The well-known and frequently reproduced engraving from *L'Encyclopédie* shows an 18th-century common press.<sup>52</sup> In his *Mechanick Exercises* Moxon described the erection of such a press:

And as the Foundation ought to be very firm, so ought also the Roof and Sides of the *Press Room* to be, that the *Press* may be fastned with Braces overhead and on its sides, as well and stedly as under foot [...] By convenience I mean a firm solidity to place the ends of the *Braces* against, be it either a Stone-wall, Brick-wall, or some principal Post, or a Girder, &c. that will not start or tremble at the force of a *Pull*.<sup>53</sup>

No such convenient firm solidities are to be found in a tent. Moreover an 18th-century common press weighed just over seven hundredweight<sup>54</sup> [over 355 kilograms]: the “force of a *Pull*” would have converted an unbraced press standing on ice into a lethal weapon. And there are also the problems of transporting a press in such weather. In the winter of 1739–1740, *The Gentleman's Magazine* reported that the roads were so slippery that many people fell and broke limbs, while carts traversing the streets up from the wharfs needed eight horses.<sup>55</sup> The *London Daily Post, and General Advertiser* warned its readers: “The Roads thro' Fleet-street are so very deep, that they are become almost impassable, and so very dangerous to Travellers going that way”.<sup>56</sup> Moreover, the earliest extant souvenir, from January 1740, was printed on the frozen Thames not in the city of London but at Putney, then an agricultural village with no printing house, some seven miles upstream from London Bridge.<sup>57</sup> In these circumstances moving a seven-hundredweight press from a printing house down to the river or back to the printing house would have been out of the question.<sup>58</sup> Nor is this a weight to be rapidly moved in case of a sudden disruption of the ice. Disruption, not thaw.

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<sup>51</sup> The clearest description of the operation of the rolling press is to be found in Faithorne 1702 and of the common press in Moxon 1962.

<sup>52</sup> Plate from the *Encyclopédie*, vol. 7, Paris 1769 in Moxon 1962, 408.

<sup>53</sup> Moxon 1962, 17, 254.

<sup>54</sup> McKenzie 1966, vol. 1, 43.

<sup>55</sup> *Gentleman's Magazine* 10 (1740), 35.

<sup>56</sup> *London Daily Post, and General Advertiser* no. 1639, 25/01/1740, 2, col. 1.

<sup>57</sup> BM 1931,1114.384. Mrs Anne Emilie, 11/01/1740: “PRINTED on the Thames at Putney”.

<sup>58</sup> There is also the cost of a press to consider. In 1703 Cambridge University bought a second-hand press for which they paid eleven guineas (McKenzie 1966, vol. 2, 237). When Oxford bought a new press in 1767 they paid £17. 3s. 9d (Ould 2019, 72). These were not sums to risk on the ice.

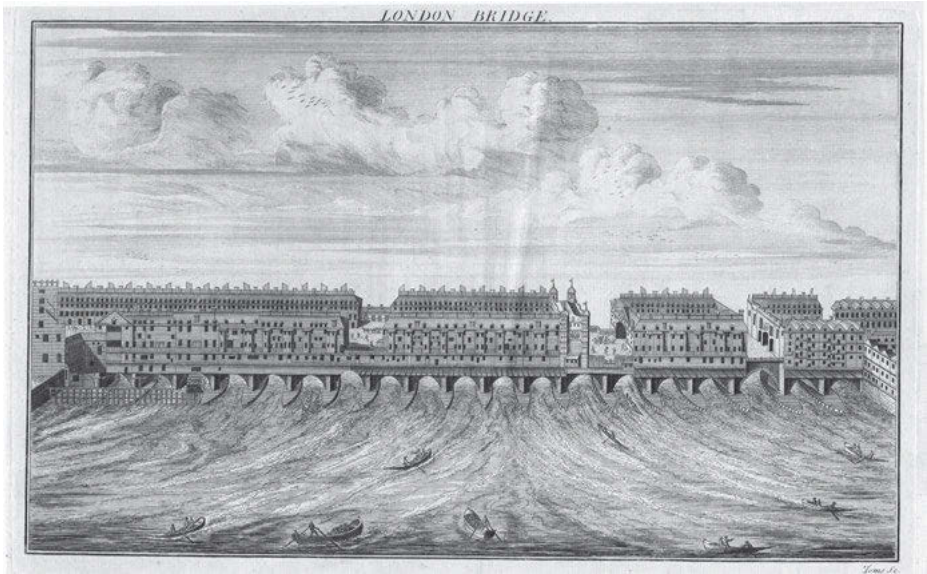


Fig. 3: Maitland (1756), *The History and Survey of London*, vol. 1, 26, “London Bridge”.

The River Thames is a tidal river with high tides twice daily. In the 18th century, the tide-range was fifteen feet [4.57 m]<sup>59</sup> and currents were up to five miles per hour [8 kph]. This combination was considerably enhanced at London Bridge, where, as Nicholas Hawksmoor pointed out in 1736, a river nearly 900 feet wide [just under 275 m] was forced through arches that reduced the waterway to 194 feet [just under 60 m], much less than a quarter of the whole. This generated, Hawksmoor added, “many frightful cataracts”.<sup>60</sup> (Fig. 3.) It was so dangerous that Ray included the proverb, “*London Bridge was made for wise men to pass over, and for fools to pass under*”.<sup>61</sup> When visiting the king at Greenwich, Cardinal Wolsey used to take a boat from York Stairs, disembark at Three-Crane-Stairs, and re-embark at Billingsgate, thus avoiding passage under the bridge.<sup>62</sup> It was effectively the site of an early precursor of white-water rafting. One Welsh visitor to the capital observed that the inhabitants of London Bridge were “deaf to the noise of the falling waters” and to “the frequent shrieks of the drowning wretches”.<sup>63</sup>

According to a pseudonymous pamphlet of 1740, the ice at London “broke every twelve Hours by the high Tides”. The freeze had started on Christmas Day 1739,<sup>64</sup> but

<sup>59</sup> Bowen/Gray 1972, 187.

<sup>60</sup> Hawksmoor 1736, 8–10.

<sup>61</sup> Ray 1737, 13.

<sup>62</sup> Howard 1824, 234.

<sup>63</sup> Wallis 1790, 164.

<sup>64</sup> Frostiface 1740, 8, 10.

it was not until 26 January that the *Daily Post* was able to report: “Last Night, for the first time since the Frost, the Ice above the Bridge stood the Flux of the Tide” [emphasis added], continuing optimistically: “the icy camp is now likely to remain for some time”.<sup>65</sup> This optimism was ill-founded. Only three days later the same paper recounted:

Yesterday as the People were visiting Frost-Fair, an Island of Ice, with about a Dozen Men and Women thereon, separated from the Main against Bear-Garden Stairs, and floated, to their utmost Consternation, for a considerable Time; but at last happily fixing against the Three Cranes, they were with much Difficulty, by the help of Planks, got safe ashore.<sup>66</sup>

Printers’ booths were not immune from such dangers. The pseudonymous pamphleteer recorded:

On Monday the 21st Instant, the ebbing Tide of the Thames carried with it a sort of Island of Ice, which was interrupted in its Passage by London-Bridge, as if it were come to an Anchor: And as no Lives were lost, it afforded an agreeable Prospect. Here stood a Booth with Trinkets, there another with Saloop, a Third with a Dram of the right Sort, and a Fourth with the noble Art and Mystery of Printing.<sup>67</sup>

A similar account of this incident is to be found in the *Daily Post* with the additional information that the break-up had taken place overnight and “With much difficulty last Night they had remov’d the most valuable Effects”.<sup>68</sup> Moving a common press from a floating and frozen island over planks in the middle of the night does not bear thinking about. And from 11 January, the date of the earliest surviving souvenir, to 18 February, the latest,<sup>69</sup> newspapers reported only three days when the ice was not subject to being broken up twice daily by the force of the Thames tides: 26–28 January. Even when not being broken up, the ice was not stable: the *Daily Gazetteer* of 22 January noted that the previous day “the ice by the Highness of the Tide was rais’d 6 Feet higher than before”.<sup>70</sup>

Without directly engaging with these problems of a press on the ice, Caroline Archer-Parré has suggested that “Scaled-down printing presses were regularly exhibited at the fairs and keepsakes were produced to memorialise the occasion”.<sup>71</sup> Unfortunately, the only example of such a press in the first half of the century she adduces

<sup>65</sup> *Daily Post* no. 6360, 26/01/1740, 1, col. 3. Similar reports appear in a number of other papers, including the *London & Country Journal* no. 57, 29/01/1740, 2, col. 3.

<sup>66</sup> *Daily Post* no. 6362, 29/01/1740, 1, col. 3.

<sup>67</sup> Frostiface 1740, 16–17.

<sup>68</sup> *Daily Post* no. 6356, 22/01/1740, 1, col. 2.

<sup>69</sup> BM 1931,1114.384, 11/01/1740 at Putney, Mrs Ann Emilie; British Library [hereafter BL] 840.m.27(2\*), 18/02/1740 at Whitehall, John and Elizabeth Smelt, London.

<sup>70</sup> *Daily Gazetteer* no. 1432, 2/01/1740, 2, col. 3.

<sup>71</sup> Archer-Parré 2020, 105. Archer-Parré acknowledges an article by James Moran in *The Black Art* 2 (3) (1963), 67–70, as her source, but Moran does not mention portable presses.

is one made for the Duke of Cumberland and his sisters in 1713. It seems unlikely that members of the royal family would have been out on the ice touting for trade, though the *General Evening Post* did report that the Duke of Cumberland was on the ice on 31 December, adding, “the Ice broke, and his Highness fell in, but received no other Damage than being wet”.<sup>72</sup> It is equally unlikely that those entrepreneurs who were on the ice would have had the capital needed to commission what was at that date essentially a rich man’s toy.<sup>73</sup>

The remainder of this essay will concentrate on personalised souvenirs from the Frost Fair of 1739–1740. There are four reasons for this decision: the surviving souvenirs from the 1715–1716 fair are all either simple letterpress or letterpress within woodcut frames, whereas the 1739–1740 examples introduce far more variety of production methods; there are over four times as many reliably recorded examples of the 1739–1740 souvenirs; it is reasonable to assume that the buyers were present at the printings, most of which are dated; and there are fuller details in the 1740 newspapers of the state of the ice. This account does not consider items such as the anonymous engraved portrait of William Layer that claims to have been “Printed upon the Ice on the River of Thames Janry 21 1739/40”.<sup>74</sup> For reasons already explained it is highly unlikely that such items were indeed printed on the ice; they were almost certainly merely advertised as such by opportunist traders. False imprints are not unknown in 18th-century publishing.

Who were these entrepreneurs? The report in the *Daily Post* cited above about the floating island included the detail that the printing booth was said to be run “by a Servant to one of the greatest Eastern Trading Companies in Europe”.<sup>75</sup> Not a printer. The only certainly identifiable on-ice printer at Frost Fairs in the first half of the century for whom we have reliable information was operating not on the Thames, but on the River Ouse in York. Thomas Gent was a member of the Stationers’ Company, a master printer, and thus in legal possession of a printing press.<sup>76</sup> In his idiosyncratic autobiography, Gent provided a description of how he operated: “In January 1739 [O. S.], the frost having been extremely intense, the rivers became so frozen, that I printed names on the ice. It was a dangerous spot on the south side of the bridge”. It was dangerous because, he went on to say, “the ice suddenly crackling, they [his customers] almost as quickly ran away”. That Gent himself did not follow suit he explains on the grounds that he was rather hard of hearing. At this dangerous spot, he tells us, “I first set up, as it were, a new kind of press, only a roller wrapt around with blankets”.<sup>77</sup>

<sup>72</sup> *General Evening Post* (London) no. 978, 30/12/1739–01/01/1740, 2, col. 1.

<sup>73</sup> It was not until the second half of the century that the smaller machines became readily commercially available, with advertisements in the press in the 1760s and 1770s by such manufacturers as Sutter, Hopwood and Moore.

<sup>74</sup> BM 1980,U.1024 and BM 1931,1114.383, both dated 21/01/1740.

<sup>75</sup> *Daily Post* no. 6356, 22/01/1740, 1, col. 2.

<sup>76</sup> See McKenzie 1978, 234; Plomer 1968, 124–126.

<sup>77</sup> Gent 1832, 192–193.

This brief description is not overly helpful, but an explanation of Gent's practice may be deduced from Fertel's account of taking proofs, published in 1723 and thus undermining Gent's claim to priority of invention:

In several printing-houses, where *Factums*, or other similar small works, are printed, a roller is used to take proofs. This is cushioned with a double press-blanket; in order to succeed one needs to use a little more ink than one would use for the Press, and the paper must be damped as much as if for printing a copper-plate, so that the ink will 'take' on the paper, as the roller passes over: one must press with both hands on the said roller, and be sure not to press harder with one hand than the other, otherwise there will be the risk of doubling the proof.<sup>78</sup>

A very similar but rather more primitive method is described by Edward Rowe Mores in his account of the mid-century Pasmore Stevens, a proto-Borgesian, who printed in his house title pages of imaginary books, added the words "*speedily to be published*", and went round London pasting them up to whet the appetite of the reading public:

he purchased some letter at *The Hague*, and when he came home he printed for his recreation, he used wooden chases nailed upon planks; no composing stick: no head-sticks, foot-sticks, side-sticks, gutter-sticks, quoins, or other furniture, but nails only with which he pegged his matter together; his balls were a bunch of waste paper: his tympan and frisket a dirty handkerchief; his press for small work the ball of his thumb; for larger a rolling pin and old rags.<sup>79</sup>

Despite this Heath Robinson approach, Stevens managed to produce passable work including an epitaph "in *black* letter and *red* ink" of which Mores had a copy.

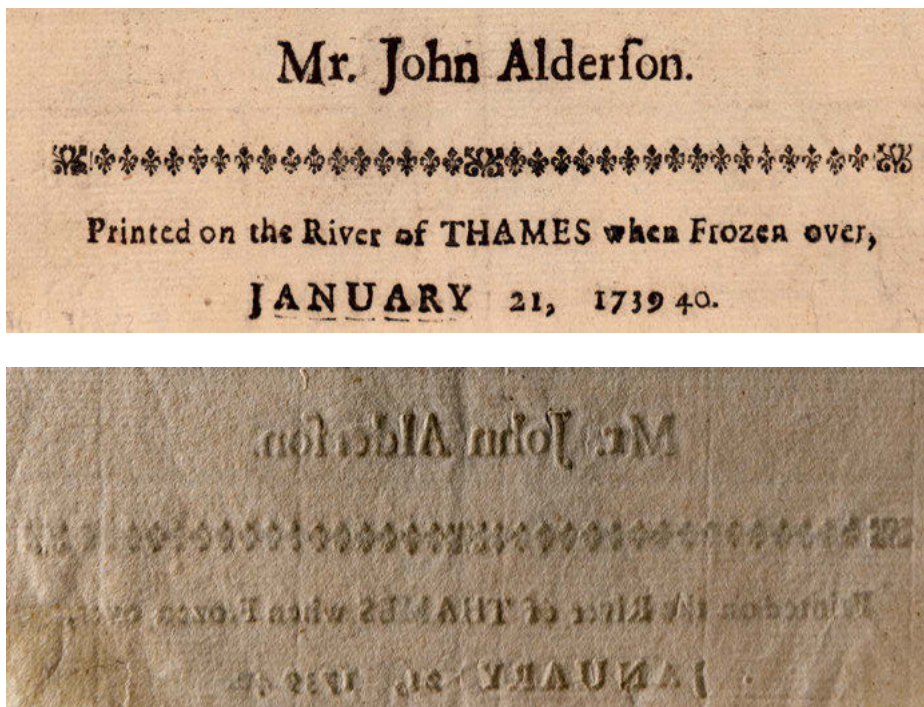
Close attention to the evidence on the paper of the surviving souvenirs of 1740 suggests that the rather amateurish nature of many of the finished products was the result of being printed using equipment similar to that employed by Gent and Stevens. In addition to obviating the risk of losing a press in the Thames, the use of such limited equipment also considerably reduced the need for large and heavy quantities of type. And that the on-ice entrepreneurs had only limited supplies may be deduced from the souvenir bought by George Thomson, who evidently was amused by the notion of having his name printed backwards. The printer does not appear to have had a capital 'E', and the souvenir was made good by adding an arm to a capital 'F' by hand.<sup>80</sup>

The personalised souvenirs may be divided into three principal categories: those that have typographic or wood-cut ornaments, or both, and where the whole could have been printed at the same time; those that have a copper-plate illustration with the buyer's name added in letter-press, requiring two separate actions; and hybrid examples employing copper-plates, wood-cuts, typographic ornaments and letterpress.

<sup>78</sup> Fertel 1723, 186–187, my translation.

<sup>79</sup> Mores 1961, 66, n\*.

<sup>80</sup> Oxford, Bodleian Library, John Johnson Collection, Printed on the Ice 1 (27) "Egrog Nosmoht" 26/01/1740, johnjohnson.chadwyck.co.uk/pdf/tmp\_5180865713130225995.pdf (accessed 23/04/2021).

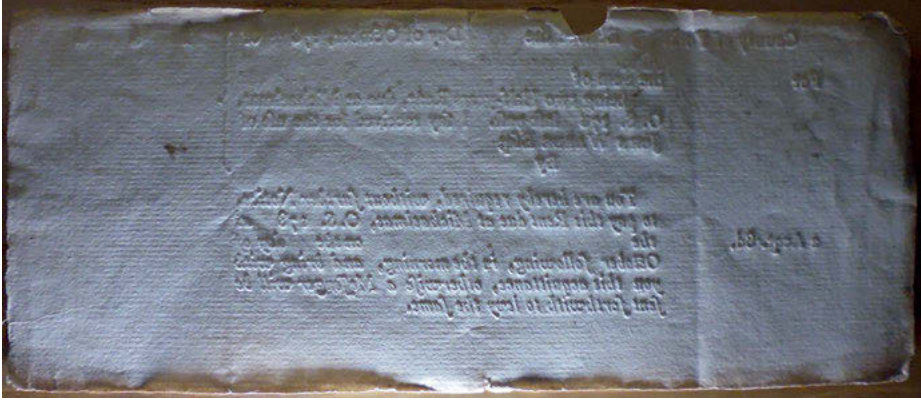


**Fig. 4:** University of Reading, John and Griselda Lewis 3/8. Recto and verso of Alderson souvenir, detail. For a colour image, see Appendix, p. 443 of the print version.

In the first category, letterpress and typographical ornament, there is an example that strongly suggests the use of roller and blanket as described by Fertel and alluded to by Gent and Mores. This, one of the earliest and simplest of the souvenirs, was bought on 15 January by Charles Wray. His name and the date of printing are separated by a row of printer's flowers; there are three parallel rules to each side and a single rule across the top. The doubling resulting from uneven pressure on a roller is apparent.<sup>81</sup> What is also of interest in this example is the use of exclamation marks to bulk out the row of printer's flowers. This same, highly idiosyncratic practice is also to be found on an example of a category two souvenir, combining letterpress and copperplate, to be found in the John and Griselda Lewis Collection at the University of Reading, where the personalised details share the same ornaments and type-face.<sup>82</sup> A photograph taken in raking light of the verso of this item shows the bite of the type (Fig. 4), demonstrating that the elements of letterpress and printer's flowers were printed on damped paper; but the depth and consistency of the impression are not as pronounced as one

<sup>81</sup> BM 1880,1113.1802, [https://www.britishmuseum.org/collection/object/P\\_1880-1113-1802](https://www.britishmuseum.org/collection/object/P_1880-1113-1802) (accessed 01/04/2022).

<sup>82</sup> University of Reading, John and Griselda Lewis 3/8. Mr John Alderson, 21/01/1740.



**Fig. 5:** Verso of part-printed rent receipt slip for John Warde, York, October 1786. For a colour image, see Appendix, p. 443 of the print version.

would expect from an item printed on a common press, as seen in a similarly lit photograph of the verso of a mid-century rent receipt slip (Fig. 5).<sup>83</sup> The relative lack of depth seen in the Alderson souvenir is consistent with the lesser force exerted by a roller in comparison with a full-size press.

But not all second category souvenirs were roller-printed. In the British Library is a keepsake bought by Thomas Watson, and in the Museum of London one bought by Susannah Roberts.<sup>84</sup> The wording, type face and use of large and small capitals and of roman and italic, and of red ink for the buyers' names, show that they were bought at the same booth.<sup>85</sup> Both the headings and the engravings are well printed in black with the buyers' names added rather clumsily in the same shade of red beneath the plate. The printer made no effort to align Watson's name with the lower edge of the plate, and at first sight "Thomas Watson" appears to be followed by an exclamation mark indicative of the buyer's pleasure. Closer inspection shows this to be ink from the furniture holding the name. The same clumsiness is also visible in the printing of Roberts' name where there is a broken red line above "Roberts". In addition her first name is spelled "Susaunah" where the printer has mistaken a 'u' for an 'n' (or

<sup>83</sup> Private Possession, Geoffrey Day, *Part-Printed Pro-Forma Rent Receipt Slip*, York (printed for John Warde, not after 1786).

<sup>84</sup> BM, Cartographic Items Maps K. Top. 2741.2, <http://www.flickr.com/photos/britishlibrary/50265320272> (accessed 23/04/2021); MusLon, A9395\*, <https://collections.museumoflondon.org.uk/online/object/296248.html> (accessed 23/04/2021).

<sup>85</sup> The Watson engraving is "A Description of the Habits of most Countries in the World" by Nathaniel Parr; the Roberts is "The Adieu to Susan", a song engraved by George Bickham the Younger with a maritime scene and staves of music. It is unusual for the day of the month to be omitted. This suggests the booth-keeper was not sure of the likely demand for his wares, so used a form of words requiring no up-dating. The Museum of London holds a remarkable variant of the Watson item: a silk handkerchief headed "PRINTED on the RIVER of THAMES in the Great FROST, which began in the Month of January, 1739–40". [MusLon 39.47.] Whether this was indeed printed on the ice is open to question.



was possibly short of ‘n’s). The counters of the ‘a’s are filled and the ink so loose that it did not fully coat the letters. Both items are very poorly done. In these cases, as in other examples, the printing of the illustration is accomplished, while the letterpress is crudely amateurish. The two cannot have been the work of the same printer.

The evidence strongly suggests that the names have been added using a primitive hand-stamp of the sort employed by Pasmore Stevens. Such hand-stamps had been used for over two centuries by book collectors to mark their possessions.<sup>86</sup> They are generally, as with the two souvenirs just discussed, heavily over-inked, as seen in the book-stamp of Robert Hedrington. A photograph in raking light of the verso reveals an almost total absence of bite, showing it was printed dry (see Fig. 6).

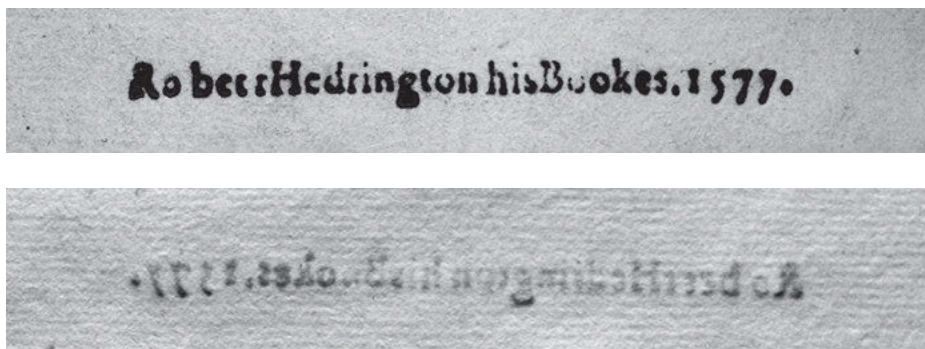


Fig. 6: Recto and verso of Robert Hedrington's book-stamp.

The advantage was that printing could take place without dampening the paper and thus ideal in the circumstances of a Frost Fair. There was no problem of damped paper freezing.

There is one remarkable survivor of a category three souvenir providing key evidence of the sequence and timing of printing of these apparently more complicated items. In February 1740 Hannah Parker bought a souvenir, the upper part of which was a copper-plate etching by Charles Mosley, published by John King, satirising the Westminster Lottery, beneath which was an ornamental frame enclosing her name.<sup>87</sup> The original imprint line beneath the calligraphic title is dated 9 January 1740. At the top of the plate is scratched, in a very amateurish fashion, “Printed upon y<sup>e</sup> River Thames Jan<sup>y</sup> y<sup>e</sup> 14 1740”. This may be dismissed as a fiction. On 16 January, the *Daily Post* reported that “Notwithstanding the Continuance of the Frost, the Ice on the River

<sup>86</sup> The earliest dated book stamp is from 1530. See Pearson 2019, 113–114. The example here is from Hedrington's copy of St. Catherine of Sienna's *The Orchard of Syon*, London: Wynken de Worde, 1519, Sig. q3.

<sup>87</sup> BM, 1880,1113.1808, [https://www.britishmuseum.org/collection/object/P\\_1880-1113-1808](https://www.britishmuseum.org/collection/object/P_1880-1113-1808) (accessed 01/04/2022).

is so much abated, that yesterday [the 15th] several Lighters, laden with Coals, came through Bridge; and in the Afternoon Boats ply'd and carry'd Passengers from Westminster to Lambeth".<sup>88</sup> There was a clear water passage from bank to bank, and the ice must have been sufficiently abated on 14 January for the masters of coal lighters to prepare their cargos for delivery the following day. Not a day for a heavy rolling press to be on the ice with all the necessary equipment to heat the copperplates.

The ornamental frame round Parker's name appears on at least four other surviving souvenirs, which in turn may be linked to further examples on the evidence of accompanying copperplate illustrations and of standing type. This is the largest interlinked group of the 1740 Frost Fair productions, and thus the identification of the printing processes employed is of some value. The satiric element was printed off-ice on 14 January. Before it had been completely dried, the sheet was folded, leaving faint traces of set-off in the lower half. Subsequently the name-frame was added. Once again, the sheet was folded before the ink was dry, and the disparity in the density of the set-off shows that these were two distinct operations. The numeral 4 in the date line was clearly over-inked and is the most prominent detail in the set-off. The buyer's name was also heavily over-inked, but there is no corresponding set-off. The name-frame and the name cannot have been printed at the same time. The most likely explanation is that to minimise both the apparatus needed on-ice and the wastage from unsold sheets, printing of the dated name-frame took place off-ice either during the evening of 3 February or early on the morning of the 4th. The sheet was then carelessly folded while still damp to be carried down to the booth.

The sheet needed to be folded because this example is the largest surviving personalised souvenir, measuring 491 by 368 mm. That is more than 70 mm longer in each direction than a sheet of A3. At the initial printing, sufficient space had been left to allow for the insertion of either a name-frame or a larger more complex setting for the buyer's name as seen on other examples. Engravings of Frost Fairs show tents with large sheets of paper displayed at their entrances. It would appear that the booth-keepers acquired a selection of pre-printed images from which purchasers made their choice and then had their names added. This also explains the extraordinary range of apparently random illustrations on Frost Fair souvenirs, including portraits of such worthies as Theodore I, very briefly king of Corsica and subsequently memorialised in *Candide*,<sup>89</sup> and such events as the Battle of Edge Hill, the first battle of the English Civil War, in 1642.<sup>90</sup> This was a way of disposing of unsold stock.

Once Hannah Parker had chosen "The Lottery" as her souvenir image, her name was stamped on by hand, the same method as was used for the category two items discussed earlier, and with the same distinctive over-inking. Despite the apparent com-

<sup>88</sup> *Daily Post*, no. 6351, 16/01/1740, 1, col. 3.

<sup>89</sup> BM, 1931,1114.374. Mr William Trigg, 15/02/1740.

<sup>90</sup> BM, 1880,1113.1814. Miss Patty Theobald, 22/01/1740; MusLon, A23106A. John and Robert Richards, 23/01/1740.

plexity of this and of those souvenirs with copperplate, letterpress and other ornamentation, the actual on-ice printing was minimal and required no damping of the paper.

But, as seen above, category one souvenirs were printed on damped paper, and we are still left with the problem of how the printers dealt with the freezing conditions. Fertel's advice for the use of the roller for proofing was that "the paper must be damped as much as if for printing a copper-plate". That is much more than the damping for letterpress and would have created problems in the freezing conditions of the fair. There is, however, evidence that it was not necessary to be so profligate with the water. In the Zachs Collection is a possibly unique surviving aid to portable printing (see Fig. 7).<sup>91</sup>

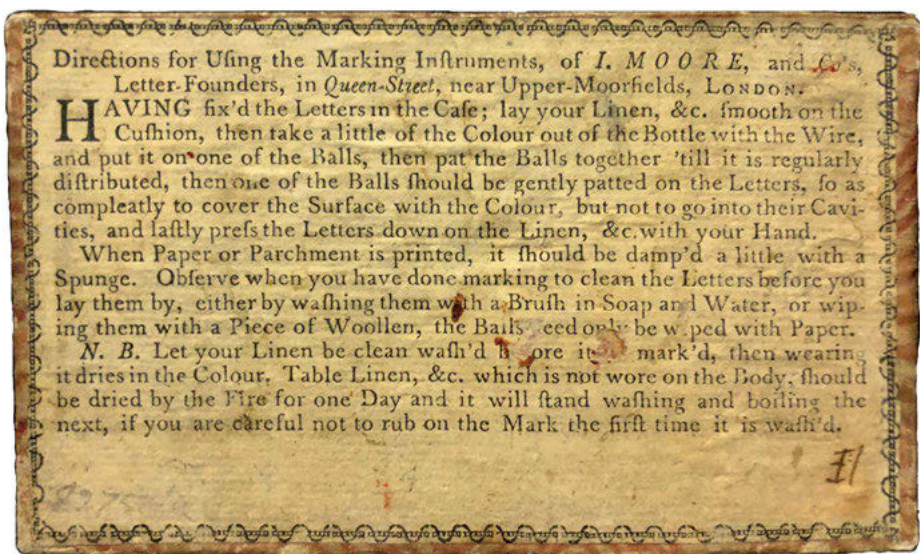


Fig. 7: Instructions for use of Isaac Moore's cushion. For a colour image, see Appendix, p. 444 of the print version.

This is a cushion to be used when printing names by hand onto linen, paper or parchment. Effectively, it serves the same function as the blanket employed by Gent. Issued by Isaac Moore in the 1770s, it retains its instructions for use, and the key sentence is: "When Paper or Parchment is printed, it should be *damp'd a little* with a Sponge" [emphasis added]. Use of a sponge would avoid the usual practice of damping a pile of sheets overnight: only that part of the single sheet on which the letterpress was to be printed would need to be damped, and that only "a little".<sup>92</sup> A sponge was a regu-

<sup>91</sup> I am indebted to William Zachs for drawing this to my attention and allowing publication of the photograph.

<sup>92</sup> Moore 1770s.

lar item of a printer's equipment.<sup>93</sup> Crucially, a natural sponge contains an antifreeze peptide.<sup>94</sup> There would have been no need to have a container of water, which would rapidly freeze, or a pile of wet paper liable to solidify in the middle.

In conclusion: a caveat. This analysis of the methods of printing employed by the Frost Fair entrepreneurs of 1740 was predicated upon the assumption that it was necessary to avoid the consequences of frozen paper, an assumption based upon Moxon's references to paper and letter freezing and the communication from Hearne reporting the delay resulting from paper and ink freezing. Ink freezing is no surprise, but Moxon's claims that type was liable to freeze are the only ones so far to have come to light and present a problem. It may be that his were zeugmatic constructions: the paper actually froze in the centre of the pile; the individual sorts were too cold for the compositors to work with.

It may be an error to assume that the on-ice vendors of printed souvenirs were principally or indeed at all concerned with the possibility of paper freezing. They were much more likely to have been motivated by practical and economic considerations. Printing using a roller—and even more so, hand-stamping names onto pre-prepared sheets of paper—did away with the need for risking heavy presses and type-cases in circumstances where such valuable material could suddenly plummet to the bottom of the river, and these simple techniques could be employed to financial benefit by those with little or no experience of printing. That an enquiry into the possible difficulties of printing on hand-made paper in very low temperatures has led to the identification of the most likely methods of the souvenir vendors has been a happy accident.

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<sup>93</sup> A sponge is one of the "Ordinary Necessaries incident to Printing", listed on the final unnumbered leaf of Oxford University Press Archives, OUP/PR/1/18/2. For the use of sponges at Cambridge University Press, see McKenzie 1966, vol. 2, 82, 299, 313, 343.

<sup>94</sup> See Wilkins et al. 2002.

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BM: *London, British Museum, Department of Prints and Drawings*

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- Fig. 1: Cooke (1773), *The Way to the Temple*, verso of title page, detail. By permission of the Warden and Scholars of Winchester College.
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- Fig. 3: Maitland (1756), *The History and Survey of London*, vol. 1, 26, “London Bridge”. Author collection.
- Fig. 4: University of Reading, John and Griselda Lewis 3/8. Recto and verso of Alderson souvenir, detail. By permission of the University of Reading, Special Collections, John & Griselda Lewis Printing Collection.
- Fig. 5: Verso of part-printed rent receipt slip, October 1786. Author collection.
- Fig. 6: Recto and verso of Robert Hedrington’s book-stamp in St. Catherine of Sienna’s *The Orchard of Syon*, London: Wynken de Worde, 1519, Sig. q3. By permission of the Warden and Scholars of Winchester College.
- Fig. 7: Instructions for the use of Isaac Moore’s cushion. By courtesy of William Zachs, Edinburgh.





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## **Trade, Exchange and Ownership**



Martina Hacke

# Agents as a Connection between the Book Markets of Basle, Paris and Lyon in the Period of the Transition from the Middle Ages to Modern Times

## The Example of Agents of Johann Amerbach 1501–1513

At the beginning of early modern times, the market for printed books was a new area of business, which only organised itself gradually over time. While there was already an established tradition of trade in manuscripts, there were nonetheless considerable changes in moving from manuscript to print.<sup>1</sup> From a quantitative point of view, the printing of books led to an enormous multiplying of the number of objects being traded: over 28 000 to 30 000 incunabula editions still exist today.<sup>2</sup> From a qualitative point of view, the revolution in technology meant that it was no longer a case of individual copyists or scribes making copies, but instead printers who put the letters onto paper using movable type.<sup>3</sup> The demands placed on the works being circulated also grew. This was because authenticity and correctness played an ever greater role in an epoch in which the importance of literacy spread: the methods of humanism required accurate editions of texts, and for that reason philologists who knew Greek and Latin were increasingly involved in the book trade, as were correctors, editors, translators and graphic artists.<sup>4</sup> The differentiation between the various persons also extended to so-called agents, who will be the focus of attention in this chapter: what was an agent of this type in the book trade of that time? How is he to be categorised linguistically? What do the sources have to say about his tasks? What sort of people undertook these tasks and why? How should their importance be assessed?

These questions are here discussed in the context of the concrete example of the agents of the printer Johann Amerbach (1441?–1513), who was well known at that time and was in the middle of a circle of academics, printers and their agents.<sup>5</sup> He belongs to the second great generation of the incunabula era and was active from the end of the 1470s in Basle and then in a printing company with Johann Petri (1441–1511) and Johann Froben (approx. 1460–1527).<sup>6</sup> Amerbach produced one of the most comprehensive volumes of correspondence of his time, which survived and has been carefully

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1 On the example of Paris, see Rouse/Rouse 2000; Fianu 2006.

2 Eisermann 2020, 66.

3 Weichselbaumer 2015.

4 Stein 2006; Turner 2014.

5 Günthart 2020, 444; Johns 2015.

6 Sebastiani 2014b, 80–81; Scarpatetti 1974, 32 (1482); Hieronymus 1997.

edited.<sup>7</sup> Above all, the importance of Johann Amerbach is that he is one of the persons who made Basle into a centre of humanist printing, and his work in this context has been well researched.<sup>8</sup>

The present chapter concerns the activities of agents of Amerbach, although it is of course clear that this only extends to a very small section of the overall topic and that the conclusions that can be drawn only apply to this limited cross-section under examination. A thorough study would have to cover research into the entire book printing trade within a specific epoch with the associated sources.<sup>9</sup> However, such an extensive study would be impossible within the given framework, and the scope has thus been limited to a single case study.

The chapter begins with an examination of the terminology. The second part concerns one of the fields of activity of an agent in the book trade of this time, namely the procurement of texts. In the third part, two agents of Amerbach will be looked at in more detail: Johann Schabeller (Wattenschnee) (approx. 1485–1524?) and Wolfgang Lachner (approx. 1460/1465–1518).<sup>10</sup>

Agents in the circle of the Amerbachs turn up repeatedly in the literature. Percy Stafford Allen, publisher of the letters of Erasmus of Rotterdam (d. 1536), regards Konrad Brunner (d. 1519) as a book-buying ‘agent’. Brunner had originally studied at Basle with Bonifatius Amerbach (1495–1562), one of the sons of Johann Amerbach and his wife Barbara Ortenberg (d. 1513), before he worked in Amerbach’s printing partnership.<sup>11</sup> Furthermore, Allen regarded the bookseller Johann Schabeller as an ‘agent’ of Johann Froben’s.<sup>12</sup> Barbara Halporn, who translated many of Johann Amerbach’s

<sup>7</sup> *Die Amerbachkorrespondenz*. On the exchange of correspondence itself, see e. g., Allen 1932; Jenny 1983; most recently Gehr/Nagel/Reibnitz 2010, 10–11.

<sup>8</sup> *Die Amerbachkorrespondenz*, vol. 1; Steinmann 2010; Vanautgaerden 2010; Leu 2014; Burkart 2016. On Johannes Amerbach, see Geldner 1982; Welti 1985c; “Johannes Amerbach (1440–1513)”, in: *Index typographorum editorumque Basiliensium*, [https://swisscollections.ch/Search/Results?filter%5B%5D=~institution%3A'A116"&filter%5B%5D=~navAuthor\\_full%3A'Amerbach%2C+Johannes+%281440-1513%29"&join=AND&bool0%5B%5D=AND&lookfor0%5B%5D=amerbach+johannes&type0%5B%5D=author](https://swisscollections.ch/Search/Results?filter%5B%5D=~institution%3A'A116) (accessed 30/03/2022); Reske 2015, 66–67; Van der Haegen 2010; Sebastiani 2014b; Günthart 2020.

<sup>9</sup> An example of this is the detailed illustration of book agents by Julia Bangert as part of her dissertation. After arranging and characterising the book agents by era, she concentrates on the network of agents of Duke August II (1579–1666) (Bangert 2019, 306–410).

<sup>10</sup> Schabeller: Benzing 1977, 1291; Bietenholz 1987b; Fau et al. 2003, no. 131, 249–250; Barbier 2011, 662, 666, 668–670; Hacke 2020b. Lachner: Hieronymus 1985; cf. Benzing 1977, 1198; Hieronymus 1982; Bietenholz 1986; Germann 2007; Vanautgaerden 2012, 231, 258–261, 311, 459, 491.

<sup>11</sup> Jacob-Friesen/Jenny/Müller 1995; Erasmus of Rotterdam, *Opvs epistolarvm*, vol. 2, no. 331, 66–67 (01/05/1515), 67; to Brunner cf. Brunner 1959.

<sup>12</sup> Erasmus of Rotterdam, *Opvs epistolarvm*, vol. 5, no. 1508, 566–572 [10/1524], 567 (letter from Erasmus to the town council of Basle) and note to line 5. Cf. also Erasmus’s notes on Franciscus Berkman [Franz Birckmann, d. 1530], from Cologne, who worked as a book dealer and ‘agent’ of book printers in Antwerp and also had dealings with Froben (Erasmus of Rotterdam, *Opvs epistolarvm*, vol. 1, no. 258,

letters into English, named Johann Blumenstock (d. 1500) as ‘agent’ on the basis of a letter from the Nuremberg printer and publisher Anton Koberger (1440–1513) to his business partner Johann Amerbach.<sup>13</sup> There is a final German-language example, from Alfred Hartmann, the publisher of the first volume of the Amerbach exchange of correspondence. He lists the above-named Johann Schabeller as an ‘agent’ in an abstract of letters. It concerns a letter from Bruno Amerbach, another son of the family, in which he accused the professor of canon law Hugues Descousu, of the theft of books that Johann Schabeller and Wolfgang Lachner have recognised when they saw them in Hugues’s house in Lyon.<sup>14</sup>

Historians classify a specific group of persons in the book trade of the period from the end of the 15th century to the beginning of the 16th century as ‘agents’. However, there is no linguistic equivalent in the sources: Anton Koberger calls Johann Blumenstock a “diner”, and Bruno Amerbach calls Johann Schabeller a “famulus”, hence a ‘servant’ in accordance with classical Latin,<sup>15</sup>—a choice of words that reminds us of the German term *Reisediener* (travel servant) from older historical research.<sup>16</sup> The *Reisediener* was understood as follows in the early 19th century: “among the merchants, a person to handle negotiations, who was sent on journeys to deal with the business of the company by offering goods for sale or purchasing them, collecting the money, etc.”<sup>17</sup> Such a definition is not so different from that of an ‘agent’ in the commercial sector in the modern sense: “commercial agent, sales representative, travelling salesman, sales agent, trading representative, (travelling) businessman, com-

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508–509 [03/1512], 509 and note to line 14; no. 263, 514–516 (19/05/1512), 516 and note to line 46; see also vol. 11, 204, note to line 169); vol. 2, no. 437, 277 (09/06/1516) and note to it; Johannes Petri in Paris (vol. 1, no. 263, 514–516 (19/03/1512), 516 and note to line 50); Ioannes Crulli (vol. 2, no. 545, 496–497 (08/03/1517), 496 and note).

**13** Concerning Koberger, see Keunecke 2013. “[...] I also wrote by a merchant and then by a messenger and commended your sons to my agent and asked him to treat them as if they were my own and asked him to see to it that they lack nothing and to offer his services according to his abilities [...]” (Amerbach, *The Correspondence of Johan Amerbach*, no. 160, 236, corresponds to *Die Amerbachkorrespondenz*, vol. 1, no. 125, 118–119 (abstract)).

**14** Cf. Bataillon 1943, 198–199.

**15** “diner”: Die Koberger, “Briefbuch”, no. 35, xxxviii–xl (26/05/1501), xxxix; “famulus”: *Die Amerbachkorrespondenz*, vol. 1, no. 453 (approx. 05/1511), 420, 29–31; *famulus* in Baier 2013, 2071; the word first appeared in the 16th century (especially in the sphere of the universities) with the meaning of “student of the later semesters, who assists a university teacher in his lectures and exercises” (“Famulus”, in *Deutsches Fremdwörterbuch*, <https://www.owid.de/artikel/406353> [accessed 07/06/2021]); cf. also Henrion 1942.

**16** The term *Reisediener* appears in Kapp 1886, as in 1, 479. Cf. also the chapter “Diener”, in: Hase 1885, 369–372, who also uses the term *Handlungsdienner* (negotiating servant). He strictly differentiates between a *Diener* (servant) and *Hilfskräfte* (helpers), *Leute* (people) and *Knechte* (servants or menials) (Hase 1885, 371).

**17** “Reisediener”, in: *Oekonomische Encyclopädie*, [www.kruenitz1.uni-trier.de/xxx/r/kr02527.htm](http://www.kruenitz1.uni-trier.de/xxx/r/kr02527.htm) (accessed 06/07/2021) (translation from German).

mission agent, agent”.<sup>18</sup> The similarities in the definition allow us to understand why historians translate the German *Diener* from the source language as ‘agent’, despite the fact that the term is an anachronism given that the word ‘agent’ with the above meaning does not appear before the middle of the 16th century.<sup>19</sup> Even if the words used for these men in the examples given above do not distinguish them from other servants, their activities still reflect a pattern of employment: Johann Blumenstock was a servant of Anton Koberg who lived in Nuremberg and conducted business for him in another town, namely in Paris, and in this sense he is an ‘agent’ in the sense used today. The same applies to Johann Schabeller as an agent of Amerbach.

When listing the activities of agents in the book trade in Amerbach’s day, procurement of texts appears almost topically, especially in connection with Amerbach.<sup>20</sup> It is well known that the most important person involved in this capacity was Augustinus Dodo (d. 1502).<sup>21</sup> After his entry in 1491 to St. Leonhard, the college of Canons Regular of St. Augustine in Basle, Amerbach entrusted him with the search for handwritten manuscripts for his famous *Editio princeps* of the works of Saint Augustine, as it is called in the preface to the first volume of the edition.<sup>22</sup> On the basis of this commission, he travelled from the mid-1490s to towns on the Rhine and to Zwolle in the present-day Netherlands, a centre for the religious movement of *Devotio Moderna* that had a wide coverage at that time. Dodo searched for manuscripts, copied and collated them and then had messengers bring the copies to Basle.<sup>23</sup> He also commis-

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**18** “Agent”, in: *Deutsches Fremdwörterbuch*, <https://www.owid.de/artikel/405251> [accessed 07/06/2021] (translation from German); cf. the following definition for the English meaning: “A person acting on behalf of another. [...] In commercial use: a person or company that provides a particular service, typically one that involves arranging transactions between two other parties; (also) a person or company that represents an organization, esp. in a particular region; a business or sales representative” (“agent”, in: *Oxford English Dictionary*, <https://www.oed.com/view/Entry/3859?rkey=2dsuPz&result=1&isAdvanced=false#eid> [accessed 07/06/2021]); cf. for the French “agent”, in: *Dictionnaire de l’Académie française*, <https://www.dictionnaire-academie.fr/article/A9A0839> [accessed 07/06/2021]).

**19** Cf. the entries in *Deutsches Fremdwörterbuch*; *Oxford English Dictionary*; *Dictionnaire de l’Académie française*.

**20** Halporn 1988, 158–168. Dodo was not the only one. A number of people offered to provide texts for Amerbach, for example Augustinus of Regensburg, bachelor of theology of the University of Paris, in 1495 under the condition that he personally produced the register and a division of the text (*Die Amerbachkorrespondenz*, vol. 1, no. 37, 47–48 (20/06/1495)). On the procurement of handwritten manuscripts, see also Dill 2004, 123–124.

**21** On the collaboration of Dodo with Amerbach, see also Scarpatetti 1974, in particular 326–327; Dill 2004, 120–122.

**22** On the history of the edition, see Halporn 1988, 136–205; Saar 2013, 62; Visser 2013, 71–72; Backus 2013, 75. “I sent Dodo with enough money to all the libraries in Germany with the commission to compile all the parts of the entire Augustinus [...]” (*Die Amerbachkorrespondenz*, vol. 1, no. 293 (22/01/1506), 276), cf. Scarpatetti 1974, 327, 329–330.

**23** *Die Amerbachkorrespondenz*, vol. 1, no. 33, 43–44 [late 1494?]; no. 68, 77 (23/12/1497), corresponds to Amerbach, *The Correspondence* no. 228, 321; Wimpfeling, *Briefwechsel* no. 78, 277; cf. Mertens 2012, 69.

sioned other persons with the production of copies, such as the famous humanist Jakob Wimpfeling (1450–1528) in 1497.<sup>24</sup> Dodo is to be thanked for the 11-volume edition, of which Petri, Amerbach and Froben published 2200 copies between 1503 and 1517, including 62 Augustine texts that had not been printed until then.<sup>25</sup>

The Augustinian canon not only worked as a travelling agent but was also involved in the editorial work by producing brief details of the contents and copies.<sup>26</sup> He thus combined two different work areas in the publishing house, which was not unusual in that time.<sup>27</sup> Johann Amerbach himself was responsible for intellectual matters and the technical side. He was well qualified in these roles, having studied the arts in Paris and served an apprenticeship as a printer. Since day-to-day business kept him in Basle, it was necessary to make use of other persons to handle his business in more distant locations. While Dodo journeyed to the towns on the Rhine in the last decade of the 15th century, it fell to Wolfgang Lachner and Johannes Schabeller to act as Amerbach's agents in the two centres of French book printing, Lyon and Paris, in the first decade of the 16th century.<sup>28</sup>

Amerbach's connection with Paris had a long history. He had known the city ever since his study of the arts. Later, he also sent his sons Bruno (1484–1519) and Basilius (1488–1535) to Paris for their studies from 1501–1506; Bruno studied theology for two years on top of that.<sup>29</sup> After Johann Amerbach established his business in Basle and set up a printing and publishing house, he maintained close contact with the Parisian book trade.<sup>30</sup> He sold not only conventional literature such as theological or canon law works but also modern (i. e., humanist) works—a combination that Amerbach offered with his publishing programme.<sup>31</sup> The University in Paris, with thousands of students

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**24** *Die Amerbachkorrespondenz*, vol. 1, no. 56, 65 (09/04/1497), corresponds to Wimpfeling, *Briefwechsel*, no. 70, 266–267. In 1497 Dodo had 11 handwritten manuscripts from the Siegburg Benedictines in the Windesheim Marienberg Priory in Bödingen brought to Bonn and copied there. The copies were brought to the Carthusians in Mainz and sent from there to Amerbach in Basle. *Die Amerbachkorrespondenz*, vol. 1, no. 61, 68–70 (15/08/1497), cf. Scarpatteti 1974, 328.

**25** Visser 2013, 71.

**26** Dodo is viewed from this point of view as a predecessor of Johannes Heynlin de Lapide († 1496) (Scarpatteti 2016), Amerbach's most important teacher in Paris, who had introduced printing to the Sorbonne together with Guillaume Fichet and later went to Basle. Heynlin was involved in the early phase of the Augustine edition. Dodo's successor was the Franciscan Konrad Pellikan (Hossfeld 1907–1908, 283–305; Sebastiani 2014b, 88). The edition team for the Augustine edition also included Franz Wiler (1450–1514), the famous academic Konrad Leontorius (approx. 1465–1511), Johannes Reuchlin (1455–1522) and Johannes Trithemius (1462–1516).

**27** Bangert 2019, 280–281.

**28** The basis for these details is Hacke 2022, 363–417. This primarily covers the time between 1501 and 1508. Additional studies were done by me for the years from 1508 to Amerbach's death in 1513, which also fall within the period covered in this article.

**29** On Bruno, see Welti 1985b; Scarpatteti 2001a. On Basilius, see Welti 1985a; Scarpatteti 2001b.

**30** Charon-Parent 1989; Priol 2016.

**31** Saulnier 1973; Gadoffre 1997; Van der Haegen 2010.



as a reading public, was still very important. Interest in getting a higher education was encouraged by the entourage of Francis I (1494–1547), which culminated in the founding of the Collège des Trois Langues in 1530 (later the Collège de France).<sup>32</sup> This specific intellectual situation produced an important market for books. However, in Lyon there were also many people willing to spend considerable sums of money on books. As a centre of the southern European book market with important trade fairs, Lyon was an important link between the French and the German book trade, especially for those from Basle. From Lyon above all law-related literature was making its way to Germany by the end of the 15th century.<sup>33</sup> German printers working in Lyon acted as points of network contact for publishers and book dealers from the Reich.<sup>34</sup>

From 1501 onwards, Amerbach's connections between Basle, Paris and Lyon were essentially maintained by Schabeller and Lachner.<sup>35</sup> Before that, Amerbach had made use of various other agents, such as the priest and printer Peter Metlinger (b. approx. 1440), who represented Amerbach in Paris in 1482.<sup>36</sup> The work of Schabeller and Lachner as agents did not end with the death of Johann Amerbach in 1513 but continued under the subsequent heads of the publishing company.<sup>37</sup>

Schabeller and Lachner transported letters, packages and money, primarily between the cities of Basle, Paris and Lyon, and these activities are documented in correspondence concerning their work for Amerbach. However, when evaluating these findings, it can be impossible to determine whether their trips as messengers were carried out for Amerbach's business or private interests. Amerbach himself never made such a distinction in his letters, a peculiarity that also applies to other commercial correspondence of the period, such as to the letters from Anton Koberger.<sup>38</sup> Furthermore, Amerbach's sons Bruno and Basilius studied in Paris from 1501 to 1506/1508, meaning with regard to Schabeller and Lachner's work as messengers during this period that the fulfilment of family-related communication needs for Amerbach was not always separate from the fulfilment of professional obligations.<sup>39</sup>

Letters were a regular object of transport for Lachner and Schabeller.<sup>40</sup> The first came from Johann Blumenstock, the agent for Anton Koberger in Paris, which Schabeller brought to Basle in 1501.<sup>41</sup> An exchange of letters was the basis for any commer-

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<sup>32</sup> Kouamé 2004; Fumaroli/Lion-Violet 1998.

<sup>33</sup> Rossiaud/Cottin/Lorcin 2007, 265–267; on Lyon as a printing location, see most recently Andreoli 2009; Krumenacker 2017.

<sup>34</sup> On the German printers, see Barbier 2011; Kempf 2020.

<sup>35</sup> Hacke 2022, 376, table 38.

<sup>36</sup> *Die Amerbachkorrespondenz*, vol. 1, no. 5, 5; Geldner 1982, 683 (no source details given); Amelung 2017.

<sup>37</sup> Cf. note 45.

<sup>38</sup> The starting point for this examination is Hacke 2022, 367, diagr. 55; Die Koberger, "Briefbuch".

<sup>39</sup> Hacke 2019. On the family situation of the Amerbachs, see Sebastiani 2014a; Grace 2015, 87–93.

<sup>40</sup> Hacke 2022, 379, table 40.

<sup>41</sup> *Die Amerbachkorrespondenz*, vol. 1, no. 134, 125–127 (27/08/1501), 126, corresponds to Amerbach, *The Correspondence* no. 100, 155–157, 156.

cial communication, but books, texts and copies as promotional objects also played a major role in the book trade.<sup>42</sup> At that time, book dealers mostly sold printed works as printed sheets, and the buyer normally arranged for them to be bound himself. Lachner and Schabeller transported more books from Paris to Basle than they brought from Basle to Paris, which can be explained by Amerbach's business needs. To give an example from 1502, Anton Koberger commissioned Schabeller to transport the *Opera* of Petrarch (1304–1374) and of Dionysius [the Areopagite] (1st century) from Nuremberg to Amerbach in Basle.<sup>43</sup>

Schabeller and Lachner also supplied people other than Johann Amerbach with books.<sup>44</sup> In 1505 Lachner provided Jakob Wimpfeling with a Bible edition and the *Summa* of William of Auxerre (1150–1230). In the same way that Lachner received money from Wimpfeling for this delivery, Amerbach also must have paid Lachner for delivering books or he has offset the amounts with him.<sup>45</sup> Lachner also supplied other persons with books, such as Ulrich Zwingli (1484–1531) and Erasmus of Rotterdam. In the case of Erasmus, also Froben was involved in getting books, as round August 1517 at the Frankfurt book market.<sup>46</sup> Schabeller was given an order around 1524 by Anémond de Coct (d. 1525), who had fled to Basle as a religious refugee, to send two books to Guillaume Farel (1489–1565), a well-known reformer from the circle of Jean Calvin (1509–1564).<sup>47</sup>

Amerbach also resorted to making use of people, like Augustinus Dodo, who were not originally from the book trade. Thus, in 1503 he requested copies of Augustinian texts from the humanist doctor Wilhelm Kopp (1460/1465–1532), who originally came from Basle and taught at the University of Paris and was a personal physician to the French king.<sup>48</sup> Kopp finally sent the two tracts from Augustine, *De vera innocencia* and *Sextum musice*.<sup>49</sup> However, Amerbach complained that the money for them had been wasted because he already had them four times over.<sup>50</sup> Kopp acted more like an amateur than a professional.

42 Hacke 2022, 382, table 41.

43 Die Koberger, "Briefbuch", no. 57, lxviii (30/08/1502), corresponds to *Die Amerbachkorrespondenz*, vol. 1, no. 166, 154 (abstract).

44 Hieronymus 1985, 146, 149.

45 *Die Amerbachkorrespondenz*, vol. 1, no. 268, 254–255 (31/05/1505), 255. Cf. no. 253, 238–239 (10/03/1505), 239, cf. also no. 263, 248–249 (12/05/1505), 249.

46 *Huldreich Zwinglis sämtliche Werke*, no. 17, 43–44 (19/10/1516), no. 19, 47 (25/10/1516), no. 21, 52 (13/12/1516) (Glarean to Zwingli), no. 31, 73 [26/01/1518] (Fonteiuis to Zwingli); cf. Sallmann 1999, 34; Erasmus of Rotterdam, *Opvs epistolarvm*, vol. 3, no. 629, 52–53 [approx. 23/08/1517] (letter from Erasmus to Lachner and Froben); no. 733, 162–163 [approx. 09/12/1517] (Erasmus to Lachner).

47 *Correspondence des réformateurs*, 281 (02/09/1524). The one probably originated from Farel himself and the other one probably from the group from Meaux that was regarded as heretical in France, cf. Neuser 2015, 118, note 272.

48 Fortuna 2012, 156.

49 *Die Amerbachkorrespondenz*, vol. 1, no. 211, 199 (03/11/1503).

50 *Die Amerbachkorrespondenz*, vol. 1, no. 246, 230–232 (02/01/1505), 232.

Books came in some cases from Paris to Basle. The organisation of the shipping was handled by Johann Schabeller, but sometimes his uncle Konrad Schabeller carried out the transport operations. In 1507 a delivery included clothing and books for private as well as for commercial use, not solely for Amerbach, but also for other persons, such as Konrad Pellikan (1478–1556), who collaborated on the Augustine edition, and Franz Ber, the brother of merchant Ludwig Ber.<sup>51</sup> In the package were books from the important Parisian publisher Henry Estienne (approx. 1460–approx. 1520), namely the *Politicorum libri octo* of Aristoteles with commentaries by the humanist Jacques Lefèvre d'Étaples (1460–1536) and the *Theologia* of the religious teacher John of Damascus (approx. 670–approx. 750), together with a shirt.<sup>52</sup>

The work of Schabeller and Lachner as Amerbach's messengers that is visible in the correspondence is largely in their undertakings of agents. The procurement of books and texts would have been preceded by other activities not detailed in the exchange of letters, including making contacts, whether personally or by letter.<sup>53</sup>

More concrete details about Schabeller's and Lachner's work as agents of Johann Amerbach are missing in the correspondence. This can be explained partially by the fact that travelling persons were often given messages orally, even if the exchange of spoken messages can rarely be proved today.<sup>54</sup> Certain topics did not belong to an exchange of correspondence but instead to other written forms, such as settlements of accounts. These admittedly appear in the exchange of correspondence with Schabeller and Lachner, but there is no mention of direct payment from Amerbach to them.<sup>55</sup> For business purposes there were books of accounts, which are no longer available for Amerbach; Bruno and Basilius would also have had to keep a list of expenditures during their course of study.<sup>56</sup> In any case Schabeller and Lachner received money from Amerbach that was to be brought to Bruno and Basilius in Paris, either in Basle or those places where Amerbach and Schabeller met, such as at the Frankfurt book market.<sup>57</sup> It can be assumed from this that Schabeller and Lachner also received payment for their services or business expenses at the time of the handing over of the money for the students.

The agents negotiated business matters, as is known for the above-mentioned Peter Metlinger.<sup>58</sup> Furthermore, they also undertook organisational tasks: in 1508

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51 *Die Amerbachkorrespondenz*, vol. 1, no. 330, 307–309 (24/02/1507). On Pellikan, see note 26 of this article here; on Ber, see Burckhardt 1900, 67–69.

52 *Die Amerbachkorrespondenz*, vol. 1, no. 344 (18/06/1507), 323.

53 *Die Amerbachkorrespondenz*, vol. 1, no. 234, 220–221 (22/09/1504), 220; no. 238, 223–225 (27/10/1504), 224; cf. Halporn 1988, 165–166.

54 Hacke 2022, 391–394.

55 Cf. *Die Amerbachkorrespondenz*, vol. 1, no. 330, 307–309 (24/02/1507), 308.

56 What has been preserved is, for example, “Das Rechnungsbuch des Speyrer Druckhern, Verlegers und Großbuchhändlers Peter Drach”.

57 Hacke 2022, 387, table 43; *Die Amerbachkorrespondenz*, vol. 1, no. 348, 325–326 (23/06/1507), 326; cf. also Pettegree 2007.

58 *Die Amerbachkorrespondenz*, vol. 1, no. 5, 5–6 [26/11/1482?].

Koberger requested Amerbach to send three or four barrels for him to Paris via Lachner, since at that time books were transported in this way, and Lachner ordered carters for this purpose.<sup>59</sup>

Being a local agent also meant being a local contact person for the interests of Amerbach. In 1505 the German printer Johann Klein (d. between 1526 and 1528) established contact with Lachner to offer a book to Amerbach.<sup>60</sup> This presumably concerned a collection of Augustine excerpts from a humanist and theologian of the 14th century, Bartholomaeus of Urbino—corrected and expensive, as Klein wrote.<sup>61</sup> According to Hartmann, Amerbach did not pursue it further;<sup>62</sup> Lachner had not reacted to Klein's enquiry, and that was evidently the reason why Klein himself wrote to Amerbach.

Schabeller and Lachner did not handle all their tasks personally but commissioned other persons, as when Schabeller asked his abovementioned uncle Konrad to transport packages. Lachner and Schabeller both made use of Konrad Resch (end of the 15th century–1552?). He worked for his uncle Schabeller in Paris from 1515 to 1525 as the manager of the book dealing operations and for Lachner in Lyon 1508 in the workshop and as collector of money from his creditors.<sup>63</sup> Later agents of Schabeller were Michel Parmentier (1481–1561) and Jean Vaugris (1480–1562).<sup>64</sup>

The work situation in a publishing house at this time was extremely complex, as has been shown by the valuable research done by Oscar von Hase on the business operations of the Kobergers.<sup>65</sup> This also applies to the work done by Schabeller and Lachner for Amerbach.

Schabeller and Lachner were successful businessmen themselves, and they were working as publishers. Lachner paid for the publication of at least five works of his own between 1495 and 1509.<sup>66</sup> Schabeller had a share in the financing of at least 54 books in the period from 1505 to 1522. He was in a publishing partnership with Jean Petit (d. 1540) and Thielmann Kerver (d. 1557) from the beginning of the 16th cen-

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<sup>59</sup> Die Koberger, "Briefbuch", no. 103, cxxiii–cxxiv (15/09/1508), corresponds to *Die Amerbachkorrespondenz*, vol. 1, no. 394, 360 (abstract); Hase 1869, 359; *Die Amerbachkorrespondenz*, vol. 2, no. 739, 245–247 (13/05/1520), 246, 28.

<sup>60</sup> Fau et al. 2003, no. 251, 251–253.

<sup>61</sup> *Die Amerbachkorrespondenz*, vol. 1, no. 280, 263, 4–9 (23/08/1505).

<sup>62</sup> *Die Amerbachkorrespondenz*, vol. 1, no. 280, 263, note 2.

<sup>63</sup> "Regesten zur Geschichte des Buchdrucks", no. 1835, 38 (20/12/1508); Hieronymus 1985, 147; cf. also no. 1837, 38 (10/01/1509); Bietenholz 1971, 33; *Die Amerbachkorrespondenz*, vol. 1, no. 453 (approx. 05/1511), 420, 29–31; *Die Amerbachkorrespondenz*, vol. 2, no. 643, 146 (20/12/1518).

<sup>64</sup> Cf. for example, "Michiel parmentier, facteur De s<sup>r</sup>. Jehan Vatissine" (*Die Amerbachkorrespondenz*, vol. 2, no. 769 (26/01/1521), 286, 22; cf. Plattard 1926; Davis 1987. For Vaugris, see for example, *Die Amerbachkorrespondenz*, vol. 2, no. 754, 268–269 (23/11/1520); Bietenholz 1987a; Andreoli 2006, 24–25, 34, 36, 38–41.

<sup>65</sup> Hase 1885.

<sup>66</sup> *Gesamtkatalog der Wiegendrucke*, no. M 32 509, M 46 148 (*Incunabula Short Title Catalogue*, no. it00234000, ip00487000) and *Universal Short Title Catalogue*, no. 657 759, 657 760, 660 512, 679 535, 698 423, 749 343. See also Hieronymus 1985, 147.

tury. Kerver printed his books, as well as Berthold Rembolt (approx. 1460–1518) and Jodocus Badius (1462–1535). Schabeller mostly printed literature on canon law, with a focus on parts of the *Corpus Iuris Canonici*, but he also published works by humanists. Lachner was in direct contact with humanists; for example, he wanted to bring Nikolaus Gerbel (approx. 1485–1560) from the circle of Konrad Celtis (1459–1508) to Basle to work as a corrector.<sup>67</sup> Lachner's 'advisory council' included the humanist and philologist Beatus Rhenanus (1485–1547), whom Lachner helped to establish contact with Erasmus of Rotterdam through a recommendation.<sup>68</sup>

Schabeller and Lachner were above all book dealers ("bibliopolae"), who sold books at the book markets such as those in Frankfurt and Strasbourg, and they worked on commission.<sup>69</sup> As travelling book dealers<sup>70</sup> they journeyed twice a year to the big trade fair at Saint-Denis, the Lendi.<sup>71</sup> They had fixed destinations in two important centres of the book trade of the time, Paris and Lyon, connections that they maintained at the same time for Amerbach. Schabeller called his book dealership in Lyon, which he set up in 1485, "Écu de Bâle" (At the sign of Basle); this was followed in 1504 by a branch in Paris in the Rue Saint-Jacques in the heart of the Quartier Latin, which he managed until 1521.<sup>72</sup> In Lyon, where he became resident and acquired civic rights, he became the most important representative of the book market of Basle, which he opened up for the French market.<sup>73</sup>

Lachner owned a composing room in Lyon from 1508 to 1509 and also had representation in Paris.<sup>74</sup> His business contacts were widespread, and he maintained contacts with Venice and the Italian book market, from which he brought the famous prints of Aldus Manutius (1449–1515).<sup>75</sup> From 1495 he managed a book dealership in Basle at the house "Zum roten Ring" (At the sign of the red ring) at the Fischmarkt.<sup>76</sup> He came to the city in 1485 and gained citizenship three years later in his capacity as

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**67** Baudrier/Baudrier 1913, 449; Hacke 2022, 409, diagr. 61; Hacke 2020b, 322, figure 16.2; Erasmus of Rotterdam, *Opvs epistolarvm*, vol. 2, no. 351, 140 (09/09/1515).

**68** Sebastiani 2018; cf. Erasmus of Rotterdam, *Opvs epistolarvm*, vol. 2, no. 581, 557–558 (01/05/1515), 557; cf. Hase 1869, 52.

**69** "Bibliopolae": cf. *Die Amerbachkorrespondenz*, vol. 1, no. 421, 383–384 (01/06/1509), 384; no. 348, 325–326 (23/06/1507), 326 (Lachner, Frankfurt); cf. Hieronymus 1985, 146; cf. Hase 1869, 41 (Lachner, Straßburg 1508). Hase was of the opinion that Lachner appears to have only sold books at the book fairs, cf. Hase 1869, 205–206.

**70** Hase 1885, 301–307 (chapters "Wanderbetrieb" and "Marktverschleiß"); Buske 2017.

**71** Concerning the market there, cf. Billot 1998, 600.

**72** Baudrier/Baudrier 1913, 450f.; cf. Heitz/Bernoulli 1895, no. 24, 27; Andreoli 2006, 29–33; cf. Gültlingen/Badagos 1992, no. 18, 14.

**73** Baudrier/Baudrier 1913, 450; Bietenholz 1971, 27.

**74** Bietenholz 1971, 33.

**75** Hieronymus, 148.

**76** Basle, Hausurkunden zum Storchen, quoted from Heitz/Bernoulli 1895, no. 24, 27; Bietenholz 1971, 33. Cf. Hieronymus 1985, 146.

*Buchführer* (travelling book dealer) and obtained membership of the Saffron Guild.<sup>77</sup> He was affluent, he contributed capital to the publishing house and he also acted as a lender of money.<sup>78</sup> In 1508 he bought together with Koberger the third edition of the *Glossa ordinaria*, one of the most important Bible commentaries of the Middle Ages, for the sum of 5 650 gulden. Amerbach had taken part in its *Editio princeps*, which Johann Petri and Johann Froben now wanted to print it again.<sup>79</sup> When Johann Amerbach died in 1513, Lachner took over the commercial field, after their companion Johann Petri had died two years before.<sup>80</sup> The management remained with Johann Froben. After Lachner's death in 1518, Schabeller finally moved to Basle, where he likewise held citizenship and also entered the Saffron Guild as a *Buchführer*.<sup>81</sup>

There is a peculiarity that distinguishes Lachner and Schabeller from the other booksellers of the time: they had been members of the University of Paris since 1489, when they undertook the office of messenger for the German nation, Schabeller for members of the university who came from the diocese of Regensburg and Lachner for those from the diocese of Brandenburg.<sup>82</sup> These messengers transported letters, packages and money, mostly from parents to their sons studying in Paris, and this is precisely what Schabeller and Lachner did for the Amerbach family between 1501 and 1508.<sup>83</sup> However, it is uncertain if they were still university messengers in the period 1501–1513. In any case their office as messengers gave them direct access to the university and to the academic book market, two worlds they combined, connecting the cities of Basle, Paris and Lyon with their travels.<sup>84</sup>

Apparently, Johann Amerbach did not undertake any longer journeys once he had settled in Basle, only traveling to closer destinations such as the Frankfurt book market. There is no evidence that he visited his sons even once while they were studying in Paris. Sending a letter to Paris in the first decade of the 16th century with the transport

<sup>77</sup> “Regesten zur Geschichte des Buchdrucks”, no. 1261, 36 (24/04/1488); no. 1291, 38 (14/04/1488); no. 1398, 44 (1487–1512).

<sup>78</sup> “Regesten zur Geschichte des Buchdrucks”, no. 611, 92 (04/05/1489); no. 626, 94 (26/09/1489); no. 715, 112 (01/09/1490); no. 737, 115 (30/10/1490); no. 781, 125 (10/02/1491); no. 828, 134 (21/10/1491); no. 829, 134 (22/10/1491); no. 833, 135 (29/10/1491); no. 841, 136 (19/12/1491); no. 858, 141 (22 or 29/03/1492); no. 875, 143 (13/10/1492); no. 949, 152 (1494); no. 997, 159 (10/10/1496); no. 1881, 46 (28/08/1511); cf. also Hieronymus 1985, 147.

<sup>79</sup> Die Koberger, “Briefbuch”, no. 103, cxxiii–cxxiv (15/09/1508), corresponds to *Die Amerbachkorrespondenz*, vol. 1, no. 394, 360 (abstract); cf. Hase 1885, 196; Geldner 1982, 684–687; De Jonges 1975, 72.

<sup>80</sup> Regarding his tasks as organiser and coordinator, see Hieronymus 1985, 149–152.

<sup>81</sup> Concerning the Renckenhof see also the *Baseler Urfehdenbuch*, vol. 4, 210, quoted from Heitz/Bernoulli 1895, no. 24, 27; “Regesten zur Geschichte des Buchdrucks”, no. 1307, 39 (24/01/1495); no. 1376, 43 (28/12/1494); cf. also no. 1272, 36 (24/01/1495); no. 1416, 45 (1499–1512); Grimm 1967, no. 314, 1389.

<sup>82</sup> “Johannes Schabeller pro dioc. Ratisponensi”; “Wolfgangus Lachner pro dioc. Brandenburgensi” (*Liber Procuratorum Nationis Anglicanae (Alemanniae) in Universitate Parisiensi*, 710, 38, 40).

<sup>83</sup> Hacke 2022, 99–108.

<sup>84</sup> Hacke 2019.

options available to the Amerbachs took 11 to 41 days.<sup>85</sup> Amerbach's presence in Basle was evidently more important, and hence he needed to delegate foreign business.

The professional profile of Schabeller and Lachner is characterised by four qualifications, which explain their work as agents for Amerbach. Firstly, they had a standing of their own as successful and wealthy businessmen in the book trade and publishers. Secondly, they were excellent networkers with a wide range of contacts going beyond the book trade, such as the membership of the University of Paris or a specific circle of humanists. Thirdly, they were exceptionally mobile due to their work as *Buchführer* with their long-distance journeys.<sup>86</sup> Fourthly, they connected the book markets of France and Germany, which were important for Amerbach for business and personal reasons. The professional relationship between Schabeller and Lachner and the Amerbachs and Frobens worked so well that it even affected their private lives, with the marriage in 1510 of Lachner's daughter Gertrud (1488–1560) to Amerbach's companion Johannes Froben (d. 1527).<sup>87</sup>

Schabeller and Lachner do not appear on the title pages of the Amerbach editions, but it was their work as agents that made possible the publishing and selling of the books. This was based on their function of connecting important places, persons and institutions of the book market and of arranging business structures within them. This also applies to the transport and mobility factor in their activities of distributing messages, letters and printed books and money. In addition to their know-how, which they possessed due to successful business activities of their own, their special qualifications included the ability to build networks. Going beyond their concrete business relationship, they were of importance because they became bearers of the cultural transfer between France and Germany and thus contributing to the spreading of humanism in Europe in that epoch.<sup>88</sup>

Agents were necessary in the book trade of the late Middle Ages and early modern times because the trade in printed books was often over long distances. There were large markets in the cities of Europe, which the books needed to be brought to. It was a structural condition of medieval and early modern times that all distances had to be overcome by people using the means of travel that were available at that time: on foot, on horse or on a cart, or by carriage, boat or ship. Long journeys required a great deal of time and were dangerous and strenuous. In a company that was as large as that of Johann Amerbach, there was no other option than to use agents to fulfil business mat-

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**85** Hacke 2022, 395, table 44.

**86** Concerning the phenomenon of the mobility of printers, see also Walsby 2013; Kikuchi 2019.

**87** Erasmus of Rotterdam, *Opvs epistolarvm*, vol. 2, no. 419, 250–251 [17/06/1516], 251; after Johann Amerbach's death Bruno Amerbach married Anna, the daughter of Johann Schabeller, in 1518 but both died in the following year; cf. "Regesten zur Geschichte des Buchdrucks", no. 2054, 77 (08/02/1519); *Die Amerbachkorrespondenz*, vol. 2, no. 657, 159–160 (06/06/1519). Anna Lachner, daughter of Wolfgang Lachner, married Hieronymus Froben, the son of Johann Froben (1501–1563), in 1524 (*ibid.*, vol. 1, no. 942, 451–452 (26/12/1523) 452, 41–42).

**88** Hacke 2020b; Hacke 2020a.

ters at distant locations. In addition to the question of labour economics, the problem of difficult transport connections was the reason to delegate their work to agents. If agents such as Schabeller and Lachner were competent and well connected and were also relatives and friends, then they were especially suitable for this work.

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# Manuscript Production in 17th-Century Iceland

## The Case of Hannes Gunnlaugsson

In Ísafjarðardjúp in the last decades of the 17th century, so many books were written that there was hardly more diligent work in that field anywhere else in Iceland at the time.<sup>1</sup>

Even though Iceland has a rich manuscript tradition dating back to the 12th century, Icelanders started using paper as their main writing material later than most other Europeans. The oldest extant Icelandic paper document, Reykjavík, The Árni Magnússon Institute for Icelandic Studies (henceforth R-AMI), AM Dipl. Isl. Fasc. X,6, is from the year 1437 and is, for example, more than 70 years younger than the first Norwegian paper document (dated 1364) and over 90 years younger than the oldest Swedish one (dated 1345). The oldest extant Icelandic paper manuscript, R-AMI, AM 232 8vo, was written in 1540–1548 and is one of only two surviving paper manuscripts from the first half of the 16th century.<sup>2</sup> However, around 33% of surviving manuscripts from the second half of that century are paper manuscripts, which suggests that the usage of paper increased considerably at that time.<sup>3</sup> In the 17th century, paper seems to have taken over completely as the main material for manuscript writing, as around 96% of extant manuscripts from the 1600s are written on paper.<sup>4</sup>

At least 1 267 surviving Icelandic paper manuscripts can be dated to the 17th century.<sup>5</sup> After paper had replaced parchment, a new era in the history of Icelandic manuscript culture began. Passionate collectors started copying texts from older books

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1 Jón Helgason 1955, 7: “Við Ísafjarðardjúp var á síðustu áratugum 17du aldar skrifað svo margt bóka að naumast hefur þá verið unnið af meira kappi í þeirri grein annarsstaðar á Íslandi.” Translations from Icelandic in this article are ours unless otherwise noted.

2 The other one is R-AMI, AM 264 I fol.

3 In his *Íslandslýsing* (Description of Iceland), likely written around 1596, Bishop Oddur Einarsson explains why most Icelandic manuscripts had been written on parchment up until then: “There has always been a scarcity of paper [...] But now, a considerable amount of paper is imported annually.” (Oddur Einarsson 1971, 147).

4 Arna Björk Stefánsdóttir 2013, 227, 231.

5 These figures are from Arna Björk Stefánsdóttir’s BA-thesis “Pappír sem ritfang. Yfirtaka pappírs á Íslandi á 16. og 17. öld”, table on p. 25. Arna Björk’s research includes manuscripts preserved at the National and University Library of Iceland, The Árni Magnússon Institute for Icelandic Studies in

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written on vellum, and some had several scribes in their service. Árni Magnússon (1663–1730), who assembled the Arnamagnæan Manuscript Collection, was the most active and well known of these collectors, but he was by no means the only one.<sup>6</sup> At the end of the 17th century, there was a lively community of scribes in the Westfjords, especially in an area close to the small island of Vigur in Ísafjarðardjúp. There, Magnús Jónsson of Vigur (1632–1702) collected books and manuscripts and employed several scribes. Much has been written on Magnús, his manuscripts and patronage.<sup>7</sup> In recent years, the focus of such scholarship has shifted from textual criticism to material philology, with the physicality and production of manuscripts becoming a focal point of research.<sup>8</sup>

The subject of this paper is Hannes Gunnlaugsson (1640–1686), one of the people known to have transcribed manuscripts in the 17th-century Westfjords. Although there are at least 11 extant manuscripts either written or illuminated by Hannes, scant attention has been paid to him in the historiography of manuscript production in the area. Passing remarks on Magnús in Vigur and his scribes exist in books and articles; there is a comparatively brief entry on Hannes in Hannes Þorsteinsson's unpublished biographical lexicon of learned men in Iceland, *Æfir lærðra manna* (1912–1934), stored at the National Archives of Iceland in Reykjavík; and philologist Jónas Kristjánsson wrote a short article in 1971 where he proved that Hannes had not, as had previously been stated, written the text in the manuscript Reykjavík, National and University Library of Iceland (henceforth NULI), JS 27 fol., but only illuminated it.<sup>9</sup> Hannes has mainly been discussed in the context of his work for Magnús of Vigur, where he played a relatively small role in comparison to other scribes. He did, however, also work as a scribe for another powerful man in the area, Magnús Magnússon of Eyri, as well as writing manuscripts for himself.

Our aim is therefore to examine Hannes on his own merits: to find out what kinds of texts he transcribed and for whom, and to better locate him within the scribal community in late 17th-century Ísafjarðardjúp. To achieve that goal, we will look for references about Hannes in contemporary sources, analyse the watermarks in his manuscripts and explore paratextual evidence of the writing process in his works. By focusing on this one particular scribe, we hope that further light can also be shed on the scribal community to which he belonged. In the first and second parts of this paper, respectively, we will explore Hannes's life and the scribal community of which he was a part. The third section focuses on Hannes's work, where we will discuss his corpus of manuscripts, the types of texts he wrote, the people for and with whom he

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Reykjavík and the Arnamagnæan Collection in Copenhagen. There are, however, a number of manuscripts kept in institutes overseas that were not included in her study.

<sup>6</sup> On Árni Magnússon's life and collection, see Már Jónsson 2012.

<sup>7</sup> See, e. g., Jón Helgason 1955; Jóhann Gunnar Ólafsson 1956.

<sup>8</sup> See, e. g., Davíð Ólafsson 2010; Driscoll 2013; Sigurður Gylfi Magnússon/Davíð Ólafsson 2017.

<sup>9</sup> Jónas Kristjánsson 1971.

wrote them and his role as an illuminator. In the fourth part, we examine the paper and watermarks used in these manuscripts with a special focus on a peculiar law miscellany, NULI, Lbs 228 fol. Conclusions and final remarks are in the fifth section.

## 1 Life

Hannes Gunnlaugsson's exact date of birth is uncertain, but scholars have dated it around 1640 since he graduated from the Latin school in Skálholt in either 1660 or 1661.<sup>10</sup> The curriculum at Skálholt in the 17th century was designed to prepare students for the pastorate and consisted mainly of Latin along with Danish, theology and some Greek. Hebrew was taught sporadically, depending on how knowledgeable the teacher was.<sup>11</sup> However, arithmetic, geometry and astrology were taught there while Gísli Einarsson (1621–1688) was rector in 1651–1661, and therefore Hannes will likely have studied those subjects.<sup>12</sup>

Hannes was the son of Gunnlaugur Snorrason (c. 1610–1682), a minister who owned a considerable amount of land, and Kristín Gísladóttir (b. 1620). Kristín's father, Gísli Einarsson (c. 1570–1660, not to be confused with the rector at Skálholt during Hannes's years there), was a minister of Vatnsfjörður from 1596–1636 and of Staður in Reykjanes, Barðastrandarsýsla (the southern part of the Westfjords) from 1636 to c. 1565, and rector of the Latin School in Skálholt in 1595–1596. The very fact that Hannes was sent to the Latin school demonstrates that he came from a family of some stature. It should be mentioned that his great-uncle, Oddur Einarsson (1559–1630), had been the bishop of Skálholt in 1589–1630 and collected manuscripts.<sup>13</sup>

While at school, Hannes fathered two children out of wedlock and therefore lost his ministerial rights in 1661, but he was acquitted by Bishop Brynjólfur Sveinsson (1605–1675) in 1667.<sup>14</sup> He never became a minister, however, and lived as a farmer on his land in Reykjarfjörður in Ísafjarðardjúp and worked as a barber surgeon (see below). At Reykjarfjörður, he transcribed and illuminated manuscripts. Hannes was married to Anna Þorkelsdóttir (b. 1653) and they had one son, Jón Hannesson, who was born in 1678 and died sometime after 1735.<sup>15</sup>

Hannes's next-fjord neighbour in Vatnsfjörður was pastor Jón Arason (1606–1673), father of the previously mentioned Magnús Jónsson of Vigur. Gunnlaugur, Hannes's father, stayed with Jón Arason in 1636–1637 and seems to have served as an assistant

<sup>10</sup> Páll Eggert Ólason 1948–1952, vol. 2, 331.

<sup>11</sup> Guðlaugur R. Guðmundsson 2000, 114, 127–197.

<sup>12</sup> Jón Halldórsson [1719] 1916, 140. See also the chapter by Gunnar Marel Hinriksson in this volume.

<sup>13</sup> A part of his collection was lost in a fire in 1630. See Páll Eggert Ólason 1948–1952, vol. 4, 7–8. On Gísli Einarsson and his family's stature, see: Þórunn Sigurðardóttir 2017 and 2021.

<sup>14</sup> Már Jónsson 2005, 270–271.

<sup>15</sup> Páll Eggert Ólason 1948–1952, vol. 3, 311.





Fig. 1: Map of the Westfjords.

minister to Jón during that time, and as mentioned above, Hannes's maternal grandfather, Gísli, had also been a minister there.<sup>16</sup> Hannes was therefore connected to this powerful family through his father and grandfather.

Regarding Hannes himself, there are sporadic mentions of him in textual sources. In 1670, his father's land was divided amongst his sons, and Hannes gained ownership of Reykjarfjörður, where he henceforth lived (it is unclear whether he had also been living there before this time); he also inherited part of Eyri in Ísafjörður and part of Arngerðareyri in Ísafjörður.<sup>17</sup> In the early 1670s, then probably in his 30s, Hannes was in the service of Gísli Þorláksson (1631–1684), Bishop of Hólar, the northern diocese of Iceland, and he accompanied him on visitations in north Iceland in 1672 and 1674. Although Hannes lived in Reykjarfjörður, he did travel around Iceland—at the very least, he went to the synod at Þingvellir in 1667 for his restitution and travelled around north and east Iceland in the 1670s. Hannes also worked as a barber surgeon.

<sup>16</sup> Páll Eggert Ólason 1948–1952, vol. 3, 218.

<sup>17</sup> Gunnar F. Guðmundsson 1993, 167.

Two mentions of this can be found in annals in 1671 and 1673, and amongst Hannes's manuscripts are two medical books. In addition, he must have been a religious man, as there are hymns attributed to him in at least two manuscripts.<sup>18</sup> In 1679, Hannes was commissioned by Þórður Þorláksson (1637–1697), Bishop of Skálholt, to collect tithes for the bishop in the northern part of the county of Ísafjörður. This commission was renewed in 1681, 1682 and 1683. It is therefore clear that Hannes was a respected member of the community during his life and that he gained stature in the 1670s and 80s, when he was in his 30s and 40s.

However, Hannes died in late 1686 from leprosy, when he was only around 46 years old. His son would have been around eight years old at the time, and his father, Gunnlaugur, had died only four years earlier. Anna, Hannes's wife, continued living in Reykjarfjörður after his death, and she was still living there at the age of 50 with her 25-year-old son, Jón, in 1703.<sup>19</sup> It is unknown when she died.

## 2 The Scribal Community

A prolific community of scribes was in place in Ísafjarðardjúp in the latter half of the 17th century. The patron of Vigur, Magnús Jónsson—often nicknamed *digri* or ‘the Stout’—was an influential and wealthy man who came from a powerful family whose cultural influence at the time is undisputed. Born in 1637, Magnús was around the same age as Hannes and grew up in Vatnsfjörður, the fjord next to Reykjarfjörður where Hannes lived. Like Hannes, Magnús studied at the Latin school in Skálholt, but their time at the Latin school probably did not overlap, as Magnús dropped out of school around 1653.<sup>20</sup>

Magnús Jónsson had a major influence on Icelandic manuscript culture in the second half of the 17th century. He collected books and commissioned manuscripts, and by the time of his death he had an extensive library. A network of scribes worked for him at any given time, and in many of the manuscripts connected to him, the hands of several scribes can be found. They were commissioned to copy texts from older manuscripts, although in some cases, Magnús copied texts himself. Some of Magnús's scribes are known by name, while others are anonymous. Four men have been identified as Magnús's main scribes: Þórður Jónsson, Magnús Þórólfsson (d. 1667), Jón Þórðarson (c. 1650–1702/3) and Magnús Ketilsson (1675–1709).<sup>21</sup>

<sup>18</sup> NULI, Lbs 2057 8vo, f. 30r–v and Lbs 957 8vo, f. 16r–v.

<sup>19</sup> “Reykjarfjörður”, in: *National Archives of Iceland* (s. d.), [https://www.manntal.is/leit/Reykjarfjörður/1703/1/1870](https://www.manntal.is/leit/Reykjarfjorður/1703/1/1870) (accessed 01/04/2022).

<sup>20</sup> On Magnús and his and his family's influence, see, e. g., Jóhann Gunnar Ólafsson 1956; Jón Helgason 1955; Springborg 1977; Þórunn Sigurðardóttir 2017; McDonald Werronen 2020.

<sup>21</sup> McDonald Werronen 2020, 43.

Another influential man in Ísafjarðardjúp in Hannes's day was Magnús Magnússon (1630–1704), a county magistrate (*sýslumaður*) living at Eyri in Seyðisfjörður, a neighbouring fjord to the island of Vigur. Magnús was a scholar, and he collected manuscripts—some of which ended up in Árni Magnússon's collection—and compiled texts, mostly legal material. The work for which he is most known however, is *Eyrarannáll*, an annal covering both Icelandic and foreign events up to the year 1703.<sup>22</sup> Hannes seems to have had ties to Magnús of Eyri. Magnús was, for example, instructed to assist Hannes when he was collecting tithes for Bishop Þórður Þorláksson in 1679.<sup>23</sup>

It is clear that Hannes worked for, or with, both Magnús of Vigur and Magnús of Eyri, as well as other scribes connected to these men. He wrote the first four leaves of the famous *Kvæðabók úr Vigur* (*The Vigur Book of Poetry*), R-AMI, AM 148 8vo, which also bears the hands of the aforementioned Magnús of Vigur and Þórður Jónsson.<sup>24</sup> Another one of Magnús of Vigur's scribes, Magnús Þórólfsson, worked together with Hannes on at least one manuscript: NULI, JS 27 fol. was written by Magnús Þórólfsson and illuminated by Hannes, as will be discussed further in section 3.4 below. However, this manuscript cannot be linked to Magnús of Vigur with certainty since the original title page, which may have stated its ownership, has not survived, although it is quite possible it belonged to him.<sup>25</sup>

Some manuscripts have a connection to both Hannes and Magnús of Eyri. One of them, NULI, Lbs 236 fol., was written for Magnús by Þórður Jónsson (the same scribe who worked for Magnús of Vigur) and illuminated by Hannes. Another one, NULI, Lbs 812 4to, was written by three scribes, Hannes and Magnús of Eyri being two of them. Hannes was therefore a part of the active community that existed around manuscript production in Ísafjarðardjúp in the 17th century. Exactly how these men operated and worked is not clear, but at least in the case of Magnús of Vigur's manuscripts it is known, as Sheryl McDonald Werronen has established, that often a few scribes worked concurrently on the same project.<sup>26</sup> In the hopes of shedding a little more light on manuscript production in the second half of the 17th century, we will now take a closer look at Hannes's corpus of manuscripts.

<sup>22</sup> On Magnús Magnússon, see e. g., *Annálar 1400–1800*, vol. 3, 225–251.

<sup>23</sup> Reykjavík, National Archives of Iceland, Bps. A IV-1, 3.

<sup>24</sup> Jón Helgason 1955, 17–18.

<sup>25</sup> This idea has been put forward before; see e. g., Lansing 2017, 329–330; McDonald Werronen 2020, 40, fn. 3.

<sup>26</sup> McDonald Werronen 2020, 42–43.

### 3 Corpus of Manuscripts

#### 3.1 Overview

There are 11 extant manuscripts known to be written or illuminated by Hannes. Eight are in the collection of the National and University Library of Iceland in Reykjavík: ÍB 144 8vo, JS 27 fol., JS 6 4to, JS 149 4to, Lbs 228 fol., Lbs 236 fol., Lbs 812 4to and Lbs 2261 8vo. Two are at The Árni Magnússon Institute for Icelandic Studies in Reykjavík: AM 148 8vo and SÁM 42 I–II. One is at the Royal Danish Library in Copenhagen: NKS 1945 4to.<sup>27</sup> In addition, there are two manuscripts that might have been illuminated by Hannes, NULI, Lbs 235 fol. and R-AMI, AM 426 fol.,<sup>28</sup> and two manuscripts for which his involvement is contested, NULI, Lbs 70 8vo and Lbs 1248 4to.<sup>29</sup>

The oldest example of Hannes's writing can be found in the miscellany Lbs 2261 8vo, also known as *Hrapsodia*. Hannes's item in the manuscript is a 1657 transcript of *Den Grønlandske Chronica* (*The Greenland Chronicle*), a Danish poem written by Claus Lyschander (1558–1623/1624) in 1608 and translated into Icelandic by one "G. P.s". In 1657, Hannes was around 17 years old and would have been at the Latin school in Skálholt, in which case he might have written this manuscript while studying there. It is also possible that he wrote it at Staður in Reykjanes in the Westfjords, where his father was a minister, since he signs as "Hannes Gunnlaugsson of Staður in Reykjanes";<sup>30</sup> this might either imply that he was there at that time, or that he was simply from there.

This manuscript stands out from other extant work by Hannes. It is the only manuscript written before he graduated from the Latin school, and the material is different from the other manuscripts he wrote. Surviving manuscripts from the following decade, the 1660s, all contain (mostly) legal material. From the 1670s the only extant manuscripts

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<sup>27</sup> Most of Hannes's manuscripts have been catalogued and digitised in the online database *Handrit.is* (2009–).

<sup>28</sup> Furthermore, we have noticed similarities between Hannes's illuminations and the illuminations in at least four other manuscripts (NULI, Lbs 1192 8vo, JS 385 8vo, Lbs 229 fol. and JS 1 fol.), all of whose creators are unknown. As further research on this is necessary, we let it suffice to mention these manuscripts, but will not include them in Hannes's corpus of manuscripts here. One additional manuscript, possibly illuminated by Hannes, NULI, Lbs 1544 4to, came to our attention after this article was written and is therefore not included in his corpus here.

<sup>29</sup> In the printed catalogues for the manuscripts kept at the National Library of Iceland, both of these manuscripts are said to have been mostly written by one scribe. The catalogue attributes Lbs 1248 4to to Hannes without question. The hand considered to be Hannes's is on ff. 1r–92v. Regarding Lbs 70 8vo, there is a disclaimer in the catalogue: Hannes is named as the scribe of Lbs 70 8vo, "as it seems" (Icel. "að því er virðist"). Jónas Kristjánsson 1971, 96 states that neither of these manuscripts is written by Hannes. Further research on the hands of these manuscripts might be necessary to determine this, but for now we agree with Jónas and do not include these manuscripts in Hannes's corpus. See Páll Eggert Ólason 1918, 483; Páll Eggert Ólason 1927, 18.

<sup>30</sup> "En ad niju endurbætt og uppskrifad [...] af Hannese Gunnlaugssyne a Stad a Reikianese 1657." Lbs 2261 8vo, f. 146v.

he wrote are medical books, with the exception of a few leaves in a poetry book—he became more prominent as an illuminator from around 1670 until his death in 1686.

### 3.2 1660s: Law Manuscripts

In the years 1663–1667, Hannes wrote at least three manuscripts, all of which contain laws or judgements: Lbs 228 fol., NKS 1945 4to and JS 149 4to. In addition, Hannes contributed to a fourth manuscript, Lbs 812 4to, the style of which is quite similar to the aforementioned three, although its time of writing is unknown.

NKS 1945 4to was written in 1666, but some additions were contributed later by another scribe. The title page states that it contains “Codex juris politici Islandorum”. Upon restoration in 1972, an additional title page was found in the binding. On the back paste-down, Hannes states his ownership of the manuscript and locates himself at “Eyri”, which could refer to two or three different places in Ísafjarðardjúp. The name Jón Magnússon *yngrri* (“the Younger”) also appears here—probably referring to Jón Magnússon (1601–1696), a minister in Eyri in Skutulsfjörður—but his connection to this manuscript is unclear. Finally, there is a statement about the book being bound in 1671.

JS 149 4to was written in 1666–1667 and contains letters, laws and judgements. At least one other hand appears in the manuscript, but the majority was written by Hannes, who also drew a picture of a hand in one place where it is described how to swear an oath properly. At the end of that passage, it says, “Translated from Danish in 1666 by H. G. S. [Hannes Gunnlaugs Son]”.<sup>31</sup> It is unknown for whom Hannes wrote this manuscript, and nothing is known about its provenance except that it ended in the collection of Jón Sigurðsson (1811–1879) in the 19th century.

As mentioned before, the exact time of writing of the law manuscript Lbs 812 4to is unknown. It was written by three scribes: Hannes, Magnús Magnússon of Eyri and an unknown scribe. It contains judgements, laws and letters. It is also similar in style and arrangement to JS 149 4to and contains the same material in some instances, such as the *Búalög*, which were an ancient body of laws specifying agricultural prices and measurements. These two manuscripts could have been owned by the county magistrate Magnús of Eyri, since he would have had use for such legal material in performing his duties, but that is mere guesswork. Little is known about the provenance of Lbs 812 4to. In 1898, the National Library bought this manuscript, along with 127 other manuscripts and documents owned by chief justice (*háyfirdómari*) Jón Pétursson (1812–1896); these include Lbs 228 fol., the subject of section 4.2.<sup>32</sup>

Why was Hannes writing these manuscripts with laws and judgements in the 1660s? One could imagine that, since he did not hold an official position and therefore did not have practical use for such material, he was commissioned to write them. But

<sup>31</sup> JS 149 4to, f. 244r–v. Regarding other scribes in this manuscript, see e. g., ff. 239r–243v and 267r–268v.

<sup>32</sup> Jón Jacobson 1919–1920, 162.

at least one of the law manuscripts, NKS 1945 4to, was privately owned by Hannes. This can be deduced from the title page, where it is explicitly stated on several occasions that Hannes Gunnlaugsson is the owner of the book. A clear purpose of writing these manuscripts is therefore difficult to establish. At the same time, we do know that this sort of material would mainly have been useful for individuals who held official positions or were involved in litigations of some sort. It is possible that Hannes was hoping for an official position in the future and therefore also transcribed law manuscripts for himself, in addition to producing such material in cooperation with officials and other scribes in the area. Furthermore, Hannes wrote these manuscripts when he was out of favour—he had not regained his ministerial rights after his punishment in 1661 for having a child out of wedlock, and his absolution did not happen until 1667, the same year he finished the last dated law manuscript. Possibly there is a connection, but without further information it is impossible to be certain.

### 3.3 1670s: Medical Books

After 1667, there seems to be a change in Hannes's editorial policy—although of course this observation is only based on extant manuscripts. He stopped writing law manuscripts, and in the years 1669–1673 he wrote two medical manuscripts that were bound together, SÁM 42 I–II. The content was taken from several other medical manuals, both Icelandic and foreign. Hannes finished writing the first part in 1669, while the latter part was finished in 1673. The manuscripts were bound in reverse order, and the debossing on the bookbinding dates it at 1671.<sup>33</sup> The title page states that the manuscript derives from a medical manual composed by the minister Oddur Oddsson (1565–1649) of Reynivellir in southwest Iceland and his stepson Jón Sigurðsson (1610–1670). Oddur had learnt medicine from “an Englishman” in Skálholt, and he taught Jón the ropes.<sup>34</sup> Oddur's original manual was in Latin, but Hannes's manuscript is in Icelandic, and its text is similar to another 17th-century medical manual, R-AMI, AM 701 a 4to.

Interestingly, SÁM 42 I–II was written at the same time as an annal that mentions Hannes's activity as a barber surgeon for his area in the south of Ísafjarðardjúp. There are two references to this in the annal *Eyrarannáll*, which was written by the county magistrate Magnús Magnússon of Eyri. In 1671, Hannes is said to have healed “með nákvæmd” (with precision) the arm of Andres Matzson, a crew member of a ship who had shot himself in the arm.<sup>35</sup> In March 1673, Hannes tended to two of his neighbours, Guðmundur Magnússon (c. 1640–1673) and Jón Þorláksson, who were suffering from

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<sup>33</sup> There does not seem to be any logical explanation for this discrepancy between the year on the binding (1671) and the year the younger manuscript was written (1673), as the two manuscripts seem to have been bound together from the beginning.

<sup>34</sup> Páll Eggert Ólason 1948–1952, vol. 3, 259; Páll Eggert Ólason 1948–1952, vol. 4, 17–18.

<sup>35</sup> *Annálar 1400–1800*, vol. 3, 286.

frostbite after an attempt to pass a difficult mountain road in the Strandir area of the Westfjords. Hannes amputated the lower part of Guðmundur's legs, while Jón lost his toes. Initially the outlook was good for them both and Jón did survive, but Guðmundur died in the summer.<sup>36</sup>

The fact that Hannes wrote these medical manuscripts at the same time as he was practicing medicine indicates a clear purpose behind the writing. In 1678, Hannes wrote another medical book, ÍB 144 8vo, *Medicinæ cornu-copiæ alphabeticum*. Although there are no sources mentioning him practicing medicine at this time, it seems that he wrote this manuscript for himself to use for that purpose, as he states on the title page that it is written and bound by him for better and faster treatment.<sup>37</sup> This book is a manual for common ailments and how they can be treated. Ailments are listed in alphabetical order, with the appropriate treatment following each condition. The last part of the book contains recipes for plasters and potions and information about other instruments mentioned in the main part of the manual. The state of medicine in Iceland in the 17th century was quite primitive and unorganised: only two university-educated doctors are known to have been practicing in the country in the second half of the 17th century. A few foreign barber surgeons served in Iceland, and Icelandic barbers either learnt from them or went abroad and studied.<sup>38</sup> There is no evidence of Hannes sailing abroad to study medicine, and most likely he learnt what he knew from reading books such as those he transcribed as well as receiving guidance from other barber surgeons.

### 3.4 Illuminator of Manuscripts

In the 1670s, Hannes also assisted other scribes in the region. He contributed the first four leaves in the aforementioned collection *Kvæðabók úr Vigur* (*The Vigur Book of Poetry*), AM 148 8vo, which contains Hallgrímur Pétursson's (1614–1674) 1663 poem *Aldarháttur* (*Signs of the Times*). The book was written by Magnús Jónsson of Vigur and 12 other scribes. Hannes's contribution would have been written in 1676–1678 at the latest.

In addition to this, as mentioned above, Hannes drew and illuminated the initials in the manuscript JS 27 fol., which was likely written by Magnús Þórólfsson around 1670 and contains sagas. Magnús Þórólfsson was one of Magnús of Vigur's scribes, and this manuscript was possibly written for him. In the printed manuscript catalogue of the National Library of Iceland, Páll Eggert Ólason says that the manuscript, except for a few pages added later, was written by Hannes.<sup>39</sup> This assumption was based

<sup>36</sup> *Annálar 1400–1800*, vol. 3, 286.

<sup>37</sup> "Samanskrifadur og innebundinn J Bæklinga korne þessu til hægre og fljótare Eptertekta og Medferdar Aff mior." ÍB 144 8vo, f. 1.

<sup>38</sup> Helgi Þorláksson 2004, 95. The two university-educated doctors were Þorkell Arngrímsson Vídalín (1629–1677) and his son, Þórður Þorkelsson (1661–1742).

<sup>39</sup> Páll Eggert Ólason 1927, 458.

on text written inside an ornamental tailpiece on f. 314r: “Hannes Gunlógs Son braut stafena”, which can be translated as “Hannes Gunnlaugsson fractured the letters”. Jónas Kristjánsson has demonstrated that this means Hannes drew and illuminated the initials in the manuscript, not that he wrote the text itself.<sup>40</sup> The illuminations are in red, yellow, green and blue and take the form of vines that wrap around the initial letters, as well as ornamental tailpieces.

A similar statement by Hannes can be found in a law manuscript, Lbs 236 fol., written mostly by Þórður Jónsson for Magnús Magnússon of Eyri (in Seyðisfjörður, Ísafjarðardjúp) in 1674.<sup>41</sup> On f. 49r Hannes has written inside an illumination, “Anno 1674 Braut Hannes Gunnlaugs Son Stafe og hnwta þessarar logbogar: Victurus Genium debet Habere Liber”, which can be translated to “Anno 1674 Hannes Gunnlaugsson fractured the letters and knots [i. e., tailpieces] of this lawbook. A book, to endure, must have genius”.



**Fig. 2:**  
A tailpiece  
by Hannes in  
Lbs 236 fol.  
(f. 49r). For a  
colour image,  
see Appendix,  
p. 444 of the  
print version.

In 1673, Hannes illuminated another law manuscript, JS 6 4to, which was also written by Þórður Jónsson.<sup>42</sup> The ownership of the manuscript is unknown, but it is not unlikely that it was written for Magnús of Eyri. Hannes’s name is not written in this

<sup>40</sup> Jónas Kristjánsson 1971, 93–94.

<sup>41</sup> According to the printed manuscript catalogue, the majority of the book was written by Þórður Jónsson, but ff. 167v–175v are in another hand; this might have been Jón Magnússon the older of Eyri, Magnús Magnússon’s son (Páll Eggert Ólason 1918, 81).

<sup>42</sup> The printed manuscript catalogues do not mention Hannes’s name in connection with the two law manuscripts, Lbs 236 fol. and JS 6 4to, but they do mention Þórður as the scribe; see Páll Eggert Ólason 1918, 81; Páll Eggert Ólason 1927, 492. Halldór Hermannsson 1940, 23–24 claims they are written by Hannes.





Fig. 3a: Title page (f. 1r) in JS 6 4to. For a colour image see Appendix, p. 445 of the print version.

manuscript, and he is not mentioned in the printed catalogue, but he wrote his initials and the year 1673 inside an illumination on f. 11r.<sup>43</sup> Also, there is no doubt that these illuminations are made by the same man as the ones in Lbs 236 fol., as the distinctive style includes, for example, Latin mottoes inside the illuminations.

<sup>43</sup> Páll Eggert Ólason 1927, 492.

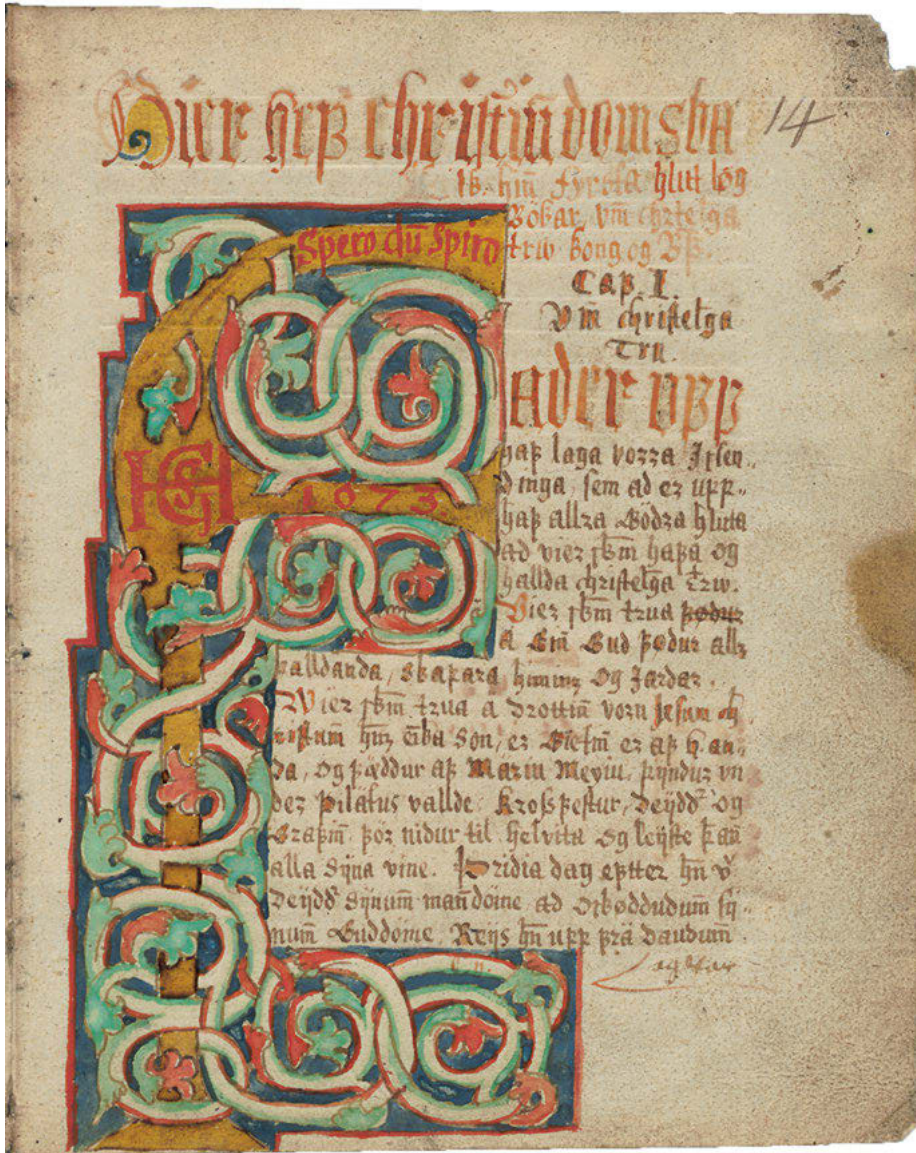


Fig. 3b: Illuminated initial (f. 11r) in JS 6 4to. For a colour image see Appendix, p. 446 of the print version.

It is clear that Hannes illuminated the three manuscripts Lbs 27 fol., Lbs 236 fol. and JS 6 4to, as he marks the illuminations with his name or initials. However, there are two additional manuscripts, Lbs 235 fol. and AM 426 fol., with illuminations that might be his. Most likely, the title pages in these two manuscripts were made by the same man, and there are certainly features that are reminiscent of Hannes's work. For example,

the ornaments on these title pages are quite similar to tailpieces in JS 6 4to and Lbs 236 4to. Still, it cannot be ruled out that these decorative features were made using some sort of template used by more than one illuminator. There is, however, certainly evidence pointing to Hannes as the illuminator of these manuscripts, such as the fact that AM 426 fol. was written by Magnús Þórólfsson—the same scribe who likely wrote JS 27 fol., which Hannes illuminated.<sup>44</sup>

Possibly, Hannes's corpus of manuscripts can be further enlarged. A comparison of watermarks in Lbs 236 fol. and another well-illuminated manuscript, NULI, Lbs 229 fol., shows the use of exactly the same paper in the two manuscripts (see section 4.1). Furthermore, the two manuscripts both have a link to Magnús Magnússon of Eyri. As stated above, Lbs 236 fol. was written for Magnús, and possibly in part by his son, Jón. In 1707 Lbs 229 fol. was in the possession of Jón Magnússon the Younger, Magnús's son.<sup>45</sup> In this manuscript, it is also clear that the illuminations were added after the text was written, as there are many empty spaces intended for illuminations.

In medieval times, when Icelandic manuscript culture is thought to have been at its peak, most illuminations were made by someone other than the scribe. The scribe left room for illuminations, most often initials and chapter headings, which were added by someone who might be called an illuminator. This, however, changed after the arrival of print in the 15th century.<sup>46</sup> In her research on illuminations in 17th- and 18th-century Icelandic poetical miscellanies, Drífa Kristín Þrastardóttir has concluded that in most cases initials were likely drawn by the scribes themselves—not by someone else (an artist), as in medieval manuscripts.<sup>47</sup> However, in the case of Hannes Gunnlaugsson, the work process seems to have been similar to medieval practices. Even though he did transcribe some manuscripts, his role often seems to have been that of an artist rather than a scribe. He illuminated at least three manuscripts that were written by one or more scribes who left space for his illuminations. Most often he drew initials and tailpieces in the manuscripts he decorated, but some title pages have also been attributed to Hannes.<sup>48</sup>

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**44** It is only suggested here that Hannes made the title page in AM 426 fol. and some illuminations, such as a tailpiece on the last leaf. Drawings of Egill Skallagrímsson, Grettir Ásmundarson and Guðmundur Eyjólfsson were most likely made by Hjalti Þorsteinsson, as Agnete Loth 1967, 94–95 has demonstrated.

**45** This cannot be the same Jón Magnússon the Younger as the one whose name appears on the back board paper in NKS 1945 4to, mentioned in section 3.2 above, since he died in 1696. Jón Magnússon the Younger, Magnús's son, was born in 1662. It is unknown when he died, but he was alive in 1713. See Einar Bjarnason 1952–1955, 314.

**46** Soffía Guðný Guðmundsdóttir/Laufey Guðnadóttir 2002, 58–59; Drífa Kristín Þrastardóttir 2000, 5; Matthías Þórðarson 1931, 454.

**47** Drífa Kristín Þrastardóttir 2000, 35.

**48** On the website *Icelandic Scribes*, Sheryl McDonald Werronen attributes these title pages to Hannes; see: "Focus on Scribes" (26/03/2018), <https://icelandicscribesproject.com/2018/03/26/focus-on-scribes/> (accessed 01/04/2022).

## 4 Paper and Watermarks

### 4.1 Overview

The watermarks in Hannes's manuscripts were examined for this study with the goal of investigating the origin of the paper and, where possible, dating the manuscripts more precisely. These attempts were met with some difficulty. Eight of the 11 examined manuscripts are in their original binding. Others have been re-bound—some multiple times. Thus, the paper has been transformed, and edges have been cut and coloured. Strips of paper have been glued to some edges. Through re-binding and repair, the paper has been put under pressure, and its texture has thus changed. None of the examined manuscripts contains uncut sheets, and one can therefore only guess as to what their original size was.

A summary of the watermarks found in the manuscripts can be seen in Tab. 1.<sup>49</sup>

**Tab. 1:** Watermarks found in Hannes Gunnlaugsson's manuscripts, arranged by catalogued time of writing.

Manuscript	Date	Role	Watermark//Countermark
<i>Lbs 2261 8vo</i> Greenland Chronicle	1657	scribe	Coat of arms, lily//none
<i>Lbs 228 fol.</i> Law book	1663–1667	scribe	Coat of arms with letter R, crowned//none
<i>NKS 1945 4to</i> Codex juris politici Islandorum	1666	scribe, owner	1: Foolscape, uncertain type, 5-pointed collar//unclear 2: Undefined//unclear
<i>JS 149 4to</i> Law book	1666–1667	scribe	1: HM in double circle, undefined letters between circles//none 2: Foolscape, type 1, 7-pointed collar// none 3: Initials SB? (countermark?) 4: Town/fortress?//none 5: Horn with baldric//none 6: Foolscape, type 1, 5-pointed collar//none 7: Lion, arms of Norway//none 8: Eagle//none 9: Undefined coat of arms with lily?//none 10: Undefined coat of arms with dragon//none 11: Foolscape, type 1, 7-pointed collar//Initials PM

<sup>49</sup> The table only includes manuscripts that Hannes is known with certainty to have written or illuminated. For manuscripts that Hannes completed in collaboration with other scribes, the scope of the investigation is limited to watermarks found in those parts written by Hannes.

Manuscript	Date	Role	Watermark//Countermark
<i>Lbs 812 4to</i> Law book	After 1660	scribe	1: Monogram F3 in wreath// 2: Monogram SA in wreath// 3: Foolscape, type 2, 5-pointed collar//Letters MLI in cartouche
<i>SÁM 42 I-II</i> Medical books	1669–1673	scribe	1: Foolscape, type 1, 7-pointed collar//none 2: Foolscape, type 2, 5-pointed collar//none 3: Coat of arms, letter F, crowned//none 4: Undefined double circle//none 5: Undefined flower//none 6: Undefined flower, border with letters MLO//none 7: Coat of arms, Amsterdam//none 8: Double circle with Hermes cross, monogram//none
<i>JS 27 fol.</i> Book of sagas	Around 1670	illuminator	Foolscape, type 2, 5-pointed collar//Letters ICO in cartouche
<i>JS 6 4to</i> Law book	1673	illuminator	Foolscape, type 1, 7-pointed collar//none
<i>Lbs 236 fol.</i> Law book	1674	illuminator	1: Coat of arms, Rantzau//Monogram CH 2: Coat of arms, Amsterdam//none 3: Horn with baldric//none 4: Coat of arms, letter F, crowned//none 5: Stag//none 6: Double circle with Hermes cross, monogram//none
<i>AM 148 8vo</i> Poetry	1676–1677	scribe	Foolscape, type 2, 5-pointed collar//none
<i>ÍB 144 8vo</i> Medical book	1678	scribe, owner	1: Coat of arms, Amsterdam//none 2: Foolscape, type 1, 5-pointed collar//none 3: Foolscape, type 1, 7-pointed collar//none 4: Foolscape, type 2, 5-pointed collar//none 5: Double circle with Hermes cross, monogram//none 6: Undefined banner with letters (countermark?)

The paper in the examined manuscripts is rather homogenous in quality and texture.<sup>50</sup> Five of the manuscripts were written on paper with only one type of watermark; two of these are in folio size, one in quarto and two in octavo. The largest number of watermarks was found in the law book JS 149 4to, which contains a total of 12 different watermarks, including one countermark.

We were only able to identify the location and time of production of a few of the watermarks. Research on paper import to Iceland is at an early stage, but it is most

<sup>50</sup> Fibre analysis was not conducted, nor was a comparison of the paper between manuscripts. Further research of this type could possibly reveal more information on the origin of the paper.

likely that paper was imported and used on demand, and thus usually used soon after it arrived.<sup>51</sup> One exception to this, however, is the law book Lbs 228 fol., which we will discuss in section 4.2.

The watermarks that were most often found were two types of foolscap, type 1 and type 2, with a five- or seven-pointed collar.<sup>52</sup> The origin of this paper is hard to pinpoint. Even though the five-pointed collar was mostly replaced by the seven-pointed collar from 1651, it was still being produced in Normandy until at least 1685. It has also been noted that from 1651 onwards, Dutch papermakers in the Veluwe began competing with French producers. The Dutch paper did not match the quality of the French, and therefore they started making copies of watermarks commonly used in France.<sup>53</sup> The origin of the foolscap paper in Hannes's manuscripts has proven to be difficult to analyse, especially as none of it has initials. Furthermore, only three countermarks were found: in JS 149 4to, the letters PM;<sup>54</sup> in Lbs 812 4to, the letters MLI in cartouche;<sup>55</sup> and in JS 27 fol., the letters ICO in cartouche.<sup>56</sup> Based on this, it is almost certain that the paper in these manuscripts originated in either France or the Netherlands, but further comparison of the different types of the foolscap watermark is needed.

Three watermarks can be traced to Denmark. They were found in the quarto-sized law books JS 149 4to (from 1666–1667) and Lbs 812 4to, written some time after 1660. In the latter manuscript, two watermarks were found: the royal monograms of King Frederik III and Queen Sofie Amalie. It has been suggested that these two watermarks, which originated from the Strandmøllen papermill, form a pair.<sup>57</sup> They have been found in paper from 1662–1665, which gives us the opportunity to date the manuscript with more certainty. Based on the watermarks, therefore, the manuscript was most likely not written before 1662 and not long after 1665, if the assumption is correct that people usually used paper immediately after acquiring it. The watermark in JS 149 4to is the arms of Norway, but quite different from the ones registered by Rottensten/Waaben and Lindberg.<sup>58</sup>

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51 See, e. g., Arna Björk Stefánsdóttir 2013; Hufnagel 2021. This fits well with Rottensten/Waaben's conclusions on paper used by the Danish state administration in the 16th and 17th century. The administration bought paper regularly and did not collect stocks (Rottensten/Waaben 1986–1987, vol. 2, 48).

52 *International Association of Paper Historians* (2013), no. A7/1/3/1 and A7/1/3/2.

53 Laurentius/Laurentius 2008, vi–vii.

54 Laurentius/Laurentius 2008, no. 580, found in paper dated 1669, Angoumois.

55 Lindberg 1998, no. 798, found in paper dated 1666–1684, M. Lejeune, France.

56 Lindberg 1998, no. 420–421, found in paper dated 1672–1673, Normandy.

57 Rottensten/Waaben 1986–1987, vol. 2, 137.

58 See Lindberg 1998, no. 131, found in paper dated 1664, Turku/Åbo; Rottensten/Waaben 1986–1987, vol. 1, no. 205, found in paper dated 1665, place unknown. According to Rottensten/Waaben 1986–1987, vol. 2, 124, the watermark was used by the Danish Kancelli in 1649–1653, but not again until 1674. The origin of this watermark is disputed; Rottensten/Waaben assume that it comes from the Stackerup mill in Skåne, founded in 1637, but Lindberg 1998, A 160 argues that this type of paper was produced in Holstein.

In the late 17th century, the Duchy of Schleswig-Holstein had close relations with Denmark. Geographically, Schleswig-Holstein is ideal for papermaking, in terms of the availability of water, waterpower and water transport. A watermark found in Lbs 236 fol., the Rantzau family coat of arms with the letters GDRHABVR—an abbreviation of Count Ditlev Rantzau’s name and title (*Graf Ditlev Rantzau Herr Auf Breitenburg Und Rantzau*)—is traced to this area. The watermark has been attributed to the Winseldorf mill near Breitenburg, founded by the Rantzaus; the watermark was used by the Rantzau family members.<sup>59</sup>

#### 4.2 The Paper of Lbs 228 fol.

The oldest of the law manuscripts written by Hannes is Lbs 228 fol. from the years 1663–1664. The manuscript is not in its original binding, and the original title page, if it ever existed, has not survived. In 1899, Guðmundur Þorláksson (1852–1910) compiled a detailed table of contents on 11 pages, which is bound with the manuscript along with a title page also written by Guðmundur.<sup>60</sup> The binding seems to be the work of bookbinder Runólfur Guðjónsson (1877–1942), who started working at the National Library of Iceland in 1908. Runólfur also did some conservation work on the manuscript. The provenance of this manuscript is unknown, except that it was owned by chief justice Jón Pétursson in the 19th century (see above).<sup>61</sup>

In the printed manuscript catalogue of the National Library of Iceland from 1918, the book is said to have been written by two scribes, the other named as Magnús Magnússon of Eyri.<sup>62</sup> This is also stated on the title page, which was written by Guðmundur Þorláksson. Hannes Þorsteinsson, the national archivist of Iceland, later questioned this, as he did not think Magnús’s hand was in the manuscript.<sup>63</sup> It also seems that more than two scribes contributed to the manuscript.<sup>64</sup> However, it is clear that Hannes was the principal scribe, as he states himself on f. 151r, where he says that he started writing it in 1663 and finished on the 13th of January the following year.<sup>65</sup>

<sup>59</sup> Lindberg 1998, 61, 64.

<sup>60</sup> Guðmundur Þorláksson worked for the National Library of Iceland in 1899–1906, mostly copying texts from older manuscripts. It is likely that the manuscript was unbound when it arrived at the National Library. This is suggested by a note in the manuscript written by Jón Þorkelsson, archivist at the National Archives of Iceland, which states that before it is bound the book must be carefully read through (“Þessa bók þarf að lesa vendilega saman áður en hún verður bundin inn”) (Lbs 228 fol., Add. Mat. 2r).

<sup>61</sup> Jón Jacobson 1919–1920, 162.

<sup>62</sup> Páll Eggert Ólason 1918, 79.

<sup>63</sup> *Annálar 1400–1800*, vol. 3, 235, fn. 1.

<sup>64</sup> Hannes’s distinct hand can for instance be seen from ff. 25r to 36r, line 4. In line 5 on f. 36r, it is clear that another scribe takes over after the first word. This scribe does not seem to be the same as the one whose hand is on ff. 58r–64v, for example.

<sup>65</sup> “Ender Bökkarennar, Hvorrar Meste parttur skrifadur var af HG: [intertwined] Anno Chris[t]ogonias.: M.D.LXIV. [probably a miswriting of M.D.C.LXIV] og tók sinn Enda Idibus Januarii.”

Lbs 228 fol. mainly contains legal material, both secular and ecclesiastical, such as judgements, ordinances and royal mandates.<sup>66</sup> Hannes Þorsteinsson suggested that Hannes's father, Gunnlaugur, might have collected much of the material in the book, since many judgements in it are from the area around Rangárvallasýsla, where Gunnlaugur was from and where he served as a minister's assistant for a period of time at Breiðabólstaður in Fljótshlíð.<sup>67</sup> The manuscript also contains mathematical instructions, calendars and other useful material. Its contents do not appear to be in any specific order, especially on the first pages, where astronomical material is interspersed with copies of various laws and judgements. On the last page (f. 151r), there is a peculiar receipt or memorandum:

Bókarennar arker	90 – 20 alner
Skriftenn	– 90 alner.

This translates as:

The book's sheets	90 – 20 ells
The handwriting	– 90 ells.

This indicates that someone was keeping track of the costs that went into the book, but the handwriting in the memorandum does not resemble Hannes's. The price for paper makes sense if compared to the prices the Danish-Icelandic Trading Company paid for paper imported to Iceland in 1635.<sup>68</sup> The book seems to have been written by two or more scribes working together at the same location, as the hands in the manuscript interchange frequently. As stated before, the manuscript was written in 1663–1664, but it is not clear where Hannes was living at this time. He had graduated from the Latin school in Skálholt two or three years earlier and did not gain ownership of Reykjarfjörður until 1670, so possibly he was still living with his parents at Staður in Reykjanes. His father, however, was the owner of Reykjarfjörður, so Hannes might have already moved there at the time.

Another interesting aspect of this manuscript are ff. 79v and 80r, which contain receipts in a Dutch dialect with the date 1614 (Fig. 4). They are written with distinctive black ink, and the handwriting is unlike anything else in the manuscript. The two receipts are titled “Harmen von Brullen debitur” and “Harmen von Brullen creditur”; these titles stretch over the top half of the two pages, and the text of the manuscript is

<sup>66</sup> Lbs 228 fol., f. 1r.

<sup>67</sup> Hannes Þorsteinsson 1912–1934, 141; Páll Eggert Ólason 1948–1952, vol. 2, 218.

<sup>68</sup> The price for new paper was, roughly estimated, 5.3 ells per sheet on average for the paper imported in 1635, while in Lbs 228 fol. the price would be 4.5 ells per sheet of the old paper. For the 1635 rates, see NULL, Lbs 85 fol., p. 185. At the time, one Danish *rigsdaler* was the equivalent of 24 ells. Originally, an ell as a price unit was based on the value of one ell's length of Icelandic wadmál (woollen cloth). See Gunnar Marel Hinriksson 2008, 318.



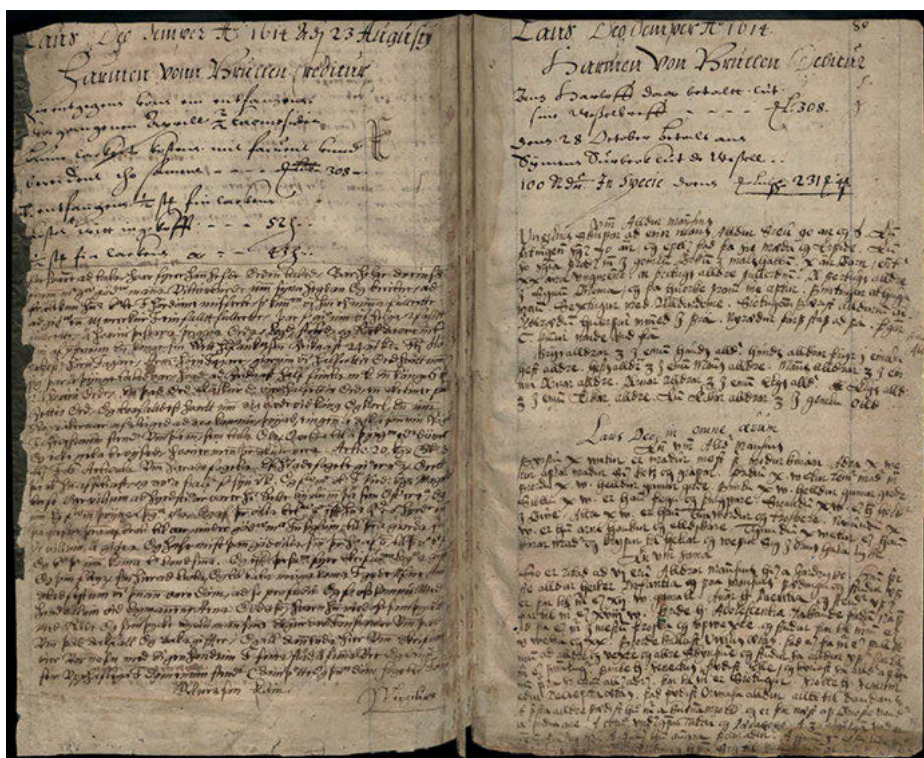


Fig. 4: The main text has been written around two receipts, debit and credit, stretching over the top half of ff. 79v and 80r in Lbs 228 fol. For a colour image, see Appendix, p. 447 of the print version.

written around them. The name Harmen von Brullen is found in the title of both the receipts, and on the second one are also found the names of two men, Simon Surbeck and Herluf Daa, in the main text. Herluf Daa (1565–1630) was the royal governor of Iceland in 1606–1619. He was quite unpopular and was eventually deprived of his office by the King of Denmark and fined heavily for mismanagement of his administrative duties.<sup>69</sup> Simon Surbeck (d. 1644) was a merchant and a mayor (Dan. *borgmester*) of Copenhagen.<sup>70</sup> The identity of Harmen von Brullen, however, remains a mystery.

Obviously, these receipts are out of place, and they are not in line with the content of the manuscript. The arrangement of the text resembles that of other merchants' books from the early 17th century stored at the National and University Library of Iceland.<sup>71</sup> The question therefore arises whether the paper in the manuscript was at least

<sup>69</sup> Kristjana Kristinsdóttir 2021, 171–176.

<sup>70</sup> Simon Surbeck's father had the same name and was also a merchant and a mayor of Copenhagen. The older Surbeck was involved in the Iceland trade but died in 1583. See Páll Eggert Ólason 1924, 101; Nielsen 1884, 111.

<sup>71</sup> Lbs 88 fol., Lbs 89 fol., Lbs 90 fol.



Fig. 5: The watermark from Lbs 228 fol., shown with the marks from Windsbach (1614) and Dorpat (1613). For a colour image, see Appendix, p. 447 of the print version.

49–50 years old at the time of writing, given that the receipts are dated 1614. If this is the case, was the paper left over from an older book—a book of accounts of some Dutch, German or Danish merchant from around 1614—that was later used as part of a law manuscript in the Westfjords?

One way to establish this could be to look at the watermarks in the manuscript. In Lbs 228 fol., there are two watermarks: a coat of arms with a crown and the letter R inside a shield.<sup>72</sup> The papers would have been made using a pair of moulds, since one of the watermarks is mirrored.<sup>73</sup> The watermarks on the two leaves mentioned above, ff. 79 and 80, are identical to the watermarks on other leaves of the manuscript. As mentioned before, the receipt on these leaves was dated 1614. Using the online *Bernstein* (s. d.) watermark catalogue, we were not able to find any watermarks identical to the ones in Lbs 228 fol. However, there are other watermarks of this type in manuscripts dated from 1613 to 1641, with most from the 1610s (Fig. 5). It is therefore likely that the paper is from that time.<sup>74</sup>

Another feature that suggests that Hannes was using an old book is the fact that the entirety of Lbs 228 fol. (Fig. 6a) has been pre-ruled with a pencil, with a layout

<sup>72</sup> The watermarks were analysed by Silvia Hufnagel as part of the *Paper Trails* project. We thank Silvia for sharing her analysis with us.

<sup>73</sup> On the production of watermarks, see, e. g., Rückert et al. 2009, 12–14; Holt Larsen 1982, 483–485.

<sup>74</sup> See, for instance, the following watermarks: “DE6300-PO-29256” (Windsbach, 1614), in: WZIS, <https://www.wasserzeichen-online.de/wzis/detailansicht.php?id=52658>; “EE7185-PO-29221” (Dorpat, 1613), in: WZIS, <https://www.wasserzeichen-online.de/wzis/detailansicht.php?id=88335>; “DE6405-PO-29259” (Bamberg, 1617), in: WZIS, <https://www.wasserzeichen-online.de/wzis/detailansicht.php?id=56837>; “DE6405-PO-29260” (Altdorf, 1636), in: WZIS, <https://www.wasserzeichen-online.de/wzis/detailansicht.php?id=56838> (all accessed 29/07/2021).

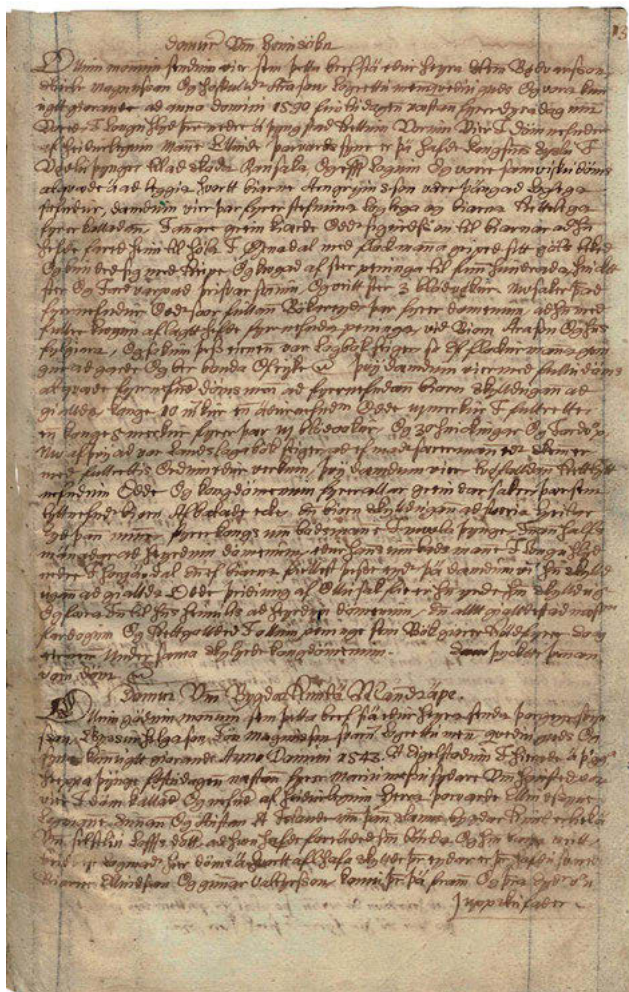


Fig. 6a: The law book Lbs 228 fol. has been pre-ruled with a pencil, much like a merchant's account book such as Lbs 89 fol. (Fig. 6b). For a colour image, see Appendix, p. 448 of the print version.

much like a merchant's account book (Fig. 6b). It is quite obvious that this ruling served no purpose for the scribes' work, since they frequently wrote over and completely ignored these pre-ruled lines at the edges of the pages.

There is therefore strong evidence that Lbs 228 fol. was written on paper that was a half-century old at the time of writing. First, the leaves with the receipts were not removed, and the entire book had been pre-ruled much like a merchant's account book, which suggests that the book had already been bound when Hannes and his co-scribes started writing in it. Second, the watermark type found in the manuscript was mostly used in the 1610s. Finally, there is an old receipt in the middle of the book dated 1614.<sup>75</sup> It would be a remarkable coincidence if the timing of the almost iden-

<sup>75</sup> Lbs 228 fol., ff. 79v–80r.



## 5 Conclusions

Hannes Gunnlaugsson's corpus of extant manuscripts and various mentions of him in contemporary sources bear witness to his character. As a self-educated doctor, he would have been a person whom people in neighbouring farms consulted and sought help from when facing illness or injury. And as an illuminator of manuscripts and an author of hymns, he must have had artistic talents. He worked with other scribes in his area in writing manuscripts, travelled with Bishop Gísli Þorláksson on visitations and was entrusted by Bishop Þórður Þorláksson to collect tithes. He could translate from Danish and could write and read Latin.

Looking at Hannes's corpus of manuscripts, it is clear that he worked in collaboration with prominent men of his time. Until now, Hannes has mainly been connected to Magnús Jónsson of Vigur in terms of his scribal and illuminating activity, and it is clear that Hannes was a part of the circle of men who worked for Magnús of Vigur. Hannes's collaboration with well-known scribes, such as Þórður Jónsson and Magnús Þórólfsson, bears witness to this. A closer look at his work, however, suggests that Hannes worked more in collaboration with and for Magnús Magnússon of Eyri. The two men wrote manuscripts together (such as Lbs 812 4to) and Hannes illuminated manuscripts for Magnús.<sup>77</sup>

An analysis of watermarks in Hannes's manuscripts shows that the paper he used was usually produced shortly (not more than a few years) before his manuscripts were written. This supports the theory that paper was imported and sold on demand and usually did not lie unused for many years. However, an exception to this seems to be the law miscellany Lbs 228 fol., the paper in which seems to have been produced decades before Hannes used it. Furthermore, Hannes's paper came from far and wide. In his manuscripts, paper produced in Denmark, Schleswig-Holstein, the Netherlands and France has been identified. As Hannes has been given scant attention in the historiography of 17th-century Icelandic manuscript culture, we suspect that more manuscripts containing his contributions lie unidentified in archives. Hopefully, the future will prove us right in that respect.

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<sup>77</sup> Reykjavík, National Archives of Iceland, Bps. A IV-1, 3.

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## Photo Credits

Fig. 1: A map of the Westfjords. Author: Kjartan Hreinsson.

Fig. 2: Lbs 236 fol. National and University Library of Iceland. Source: Handrit.is.

Fig. 3: JS 6 4to. National and University Library of Iceland. Source: Handrit.is.

Fig. 4: Lbs 228 fol. National and University Library of Iceland. Source: Handrit.is.

Fig. 5a: Photograph by the authors.

Fig. 5b and c: [Wasserzeichen-online.de](https://www.wasserzeichen-online.de) (reference numbers: DE6300-PO-29256 and EE7185-PO-29221) © Landesarchiv Baden-Württemberg.

Fig. 6a: Lbs 228 fol. National and University Library of Iceland. Source: Handrit.is.

Fig. 6b: Lbs 89 fol. Photograph by the authors.

Beeke Stegmann

# Paper Use and Reuse in Early 18th-Century Iceland and Denmark

## 1 Introduction

The manuscript collecting activities of Árni Magnússon (1663–1730), an Iceland-born professor at the University of Copenhagen in Denmark, involved a substantial amount of paper.<sup>1</sup> His library with thousands of books and charters, made of both paper and parchment, would later become one of the most important Scandinavian manuscript collections. Árni used paper for the accumulation, organisation and modification of his collection. He regularly sent letters to friends and acquaintances inquiring about manuscripts and the possibilities of obtaining them. Once he came in possession of a new manuscript, he provided most of his acquisitions with paper slips carrying notes about their content, origin and provenance. If he was unable to acquire a given manuscript or charter, Árni often had it copied, and he regularly provided his scribes with writing paper.<sup>2</sup> Finally, he used pieces of paper to organise the hundreds of charter copies in his collection and also employed paper in connection with structurally altering manuscript books to facilitate his own scholarly work on the texts they contained.<sup>3</sup>

This article focuses on Árni Magnússon's use of paper when curating his collection. As some pieces of paper are found to have been over 100 years old when he employed them, Árni's paper use is investigated with regard to reuse. Selected leaves are analysed in detail for their production, primary and secondary use, and the percentage of paper reuse is shown to differ depending on the purpose. While some research has previously been conducted on the nature, age and function of the note slips Árni Magnússon included in (mostly paper) manuscript books of his collection,<sup>4</sup> the present contribution considers Árni's use of paper from a material point of view. It analyses the material by means of watermarks and is not limited to note slips but considers a variety of contexts, including the curation of parchment manuscripts and charter copies. As a whole, this study provides insight into the modes of paper usage and ownership by an educated and well-connected scholar in early 18th-century Iceland and Denmark. Despite the collector's extensive use of paper, the study suggests that it was considered a valuable resource at the time and was employed with care.

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1 Thanks are due to Silvia Hufnagel for many fruitful discussions leading up to this article and valuable feedback, as well as to Natasha Fazlic for her help researching the watermark in Copenhagen, The Arnamagnæan Institute, AM 243 g fol.

2 Már Jónsson 2012, 160–161; Guðvarður Már Gunnlaugsson 2001, esp. 105.

3 Stegmann 2016; 2018.

4 Stegmann 2018, esp. 23–29; see also Már Jónsson's unpublished collection of transcriptions of many of Árni's note slips accompanied by some reflexions (Már Jónsson 1995).

## 2 The Arnamagnæan Collection

The Arnamagnæan Collection today consists of more than 3 000 medieval and post-medieval manuscript codices, of which the majority are written on paper. It also contains numerous charters, both originals and copies, the latter of which were mainly copied in the early 18th century. Most of the texts contained in the handwritten books and documents concern Scandinavian history and literature, but manuscripts originating from other countries such as Germany and Spain are also present.

Árni Magnússon spent considerable amounts of time and money to extend in particular the manuscript section of his library. In addition, he carefully curated the artefacts in his possession and researched their content in detail. Upon his death, he bequeathed the entire collection of both manuscripts and printed books to the University of Copenhagen. After Iceland became independent of Denmark, the Arnamagnæan Manuscript Collection was physically divided in the 20th century and is now jointly housed by two sister institutes in Copenhagen and Reykjavík.

## 3 Usage of 100-Year-Old Paper

At times Árni Magnússon used surprisingly old pieces of paper for his custodial activities. Two examples, both aged over 100 years when he first wrote on them, are found in his collection. One is now part of an Icelandic parchment manuscript housed at The Arnamagnæan Institute in Copenhagen (henceforth C-AMI) with the shelfmark AM 243 g fol., while the other is located among 18th-century copies of Icelandic charters at The Árni Magnússon Institute for Icelandic Studies in Reykjavík (henceforth R-AMI), more precisely surrounding AM Dipl. Isl. Apogr. 116–129.

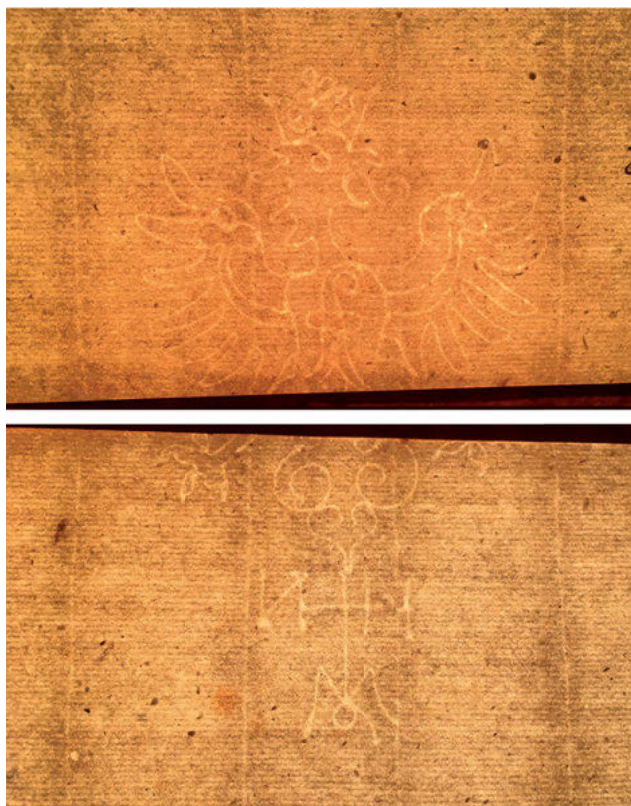
The manuscript AM 243 g fol. contains ten individual parchment leaves that have been dated to the middle of the 14th century and appear to be fragments of one original manuscript containing *Speculum Regale* (*Konungs skuggsjá*).<sup>5</sup> Additionally, there are two paper leaves, one located in front and one in the back. These two singletons are made of the same paper and apparently once formed a bifolium that Árni presumably put in place to hold the parchment fragments together.<sup>6</sup> His hand is found on the recto side of the first leaf, describing the contents of the gathered fragments: “From *Speculum Regale* (if I am not mistaken). I should research it more closely”.<sup>7</sup>

The two singletons show matching parts of an eagle watermark (see Fig. 1). It depicts a crowned one-headed heraldic eagle with a Basle crozier on its chest and the initials “NH” as well as a merchant’s mark consisting of a *Doppelsparren* and a loop underneath the eagle’s feet. The chain lines are 31 mm apart. Thanks to the initials

<sup>5</sup> Holm-Olsen 1952, 51.

<sup>6</sup> Stegmann forthcoming.

<sup>7</sup> “Ex Speculo Regali (nisi fallo) inspiciam accuratius”, translation by Astrid Marner.



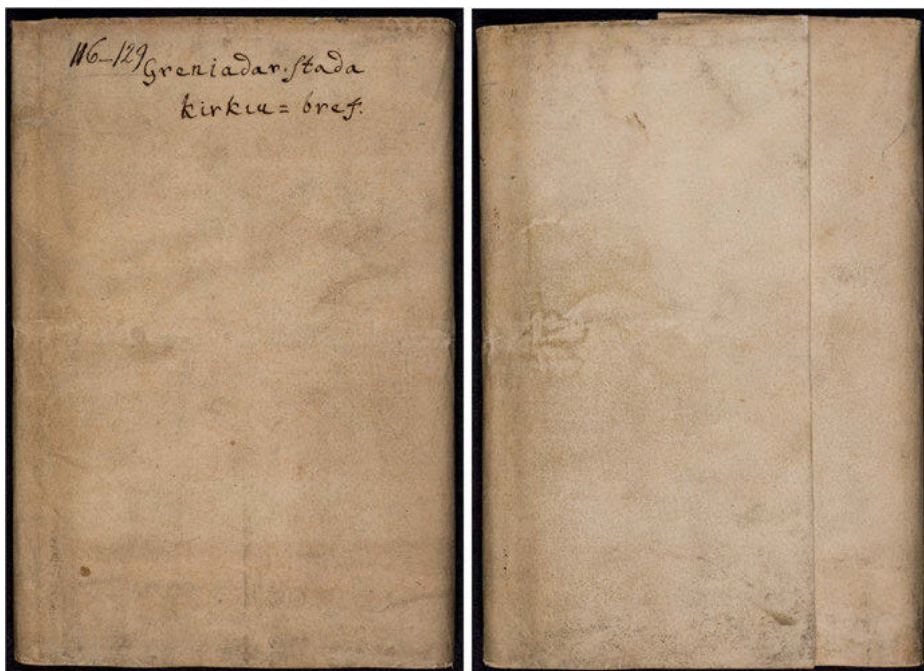
**Fig. 1:** Heraldic eagle watermark with Basle crozier, initials “NH” and merchant’s mark found in the two paper leaves of Copenhagen, The Arnamagnæan Institute, AM 243 g fol.

and the merchant’s mark, the watermark can be traced to a Basle paper maker with the name Niklaus (Nicolas/Claus I) Heusler (Hüsler), who is mentioned as a paper maker in St. Alban-Tal near Basle from 1574 on.<sup>8</sup> Highly similar watermarks—potentially variants showing slightly more damage—are registered in the database *Wasserzeichen-Informationssystem* (s. d.; hereafter WZIS) as no. DE4200-Tennenbach1\_1, which occurs in a document from c. 1584–1588, and no. DE4200-PO-33684, dated to 1585.<sup>9</sup> Paper with watermarks of the same motif from this paper maker that are registered in WZIS were used predominantly in the 1580s.

This particular combination of a heraldic eagle of Frankfurt/Main and the Basle crozier on its chest is considered to be an invention of Niklaus Heusler. He had a contract to produce paper for a Frankfurt paper maker called Samuel Hildebrandt using the eagle of that city as a watermark. When the contract expired, Heusler continued to

<sup>8</sup> Briquet 1907, vol. 1, 108; Geering 1886, 525–530. See also Tschudin 1991, 36–37.

<sup>9</sup> In all three marks, the eagle’s head turns towards the H and the layout is rather narrow, only touching two chain lines. Both registered marks also appear to be missing individual parts of the wiring, such as one of the strokes of the H and a feather in the wing as well as some loops. This, however, might be due to the tracing.



**Fig. 2:** Front and back of the organising wrapper surrounding charter copies with the shelfmark Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM Dipl. Isl. Apogr. 116–129. For a colour image, see Appendix, p. 450 of the print version.

use the eagle mark and added a Basle crozier to its chest—much to the displeasure of Hildebrandt.<sup>10</sup> A legal dispute followed, and it is documented that in 1588, Hildebrandt confiscated some of Heusler’s paper with the troublesome watermark.<sup>11</sup> Based on this, Heusler produced paper with such watermarks in the 1580s, further supporting the datings suggested by the watermark catalogue. Together, there is little doubt that the sheet of paper Árni Magnússon included in the Icelandic manuscript in the early 18th century had been produced more than 100 years earlier in a Basle paper mill.

The case of the second example is similar. The piece of paper Árni used for wrapping the charter copies AM Dipl. Isl. Apogr. 116–129 carries an explanatory note in his hand (as well as a later archival note), but no earlier writing (see Fig. 2). It has clearly been trimmed on all edges, though, which leaves the possibility that there once was older writing on part of the original sheet. The current piece of paper measures c. 335 × 280 mm and was folded in half before being wrapped around the small-sized leaves of the charter copies (c. 167 × 116 mm). There is a watermark, which does not

<sup>10</sup> Briquet 1907, 111. For an English summary see *Gravell* 1996–, <https://www.gravell.org/record.php?RECID=4262> (accessed 06/01/2021).

<sup>11</sup> Geering 1886, 531.



**Fig. 3:** Coat of arms of Thann watermark, held by two lions with the initials “HS” below, found in a paper surrounding Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM Dipl. Isl. Apogr. 116–129.

have a counter mark, depicting two lions holding a coat of arms with the initials “HS” underneath, connected by a Hermes cross. The coat of arms is divided vertically into two fields; one shows two horizontal bars and the other one depicts a fir tree with its roots (see Fig. 3).

The coat of arms can be identified as that of Thann in Alsace, and watermarks with the elements named here have been traced to the paper mill there.<sup>12</sup> Churchill registered a watermark of this kind in a document dated to 1612 (no. 270), and the database *Gravell* (1996–) shows an example from as early as 1602 (no. 3427), agreeing with one of the dates Briquet mentions.<sup>13</sup> The initials “HS” might refer to a certain Hans Meyer from Sempach, who worked at the mill in Thann.<sup>14</sup> Geering found that already in 1559 the owner, Wiegand Han, wanted Meyer to take over his mill, but the latter

<sup>12</sup> Briquet 1907, 117–118.

<sup>13</sup> Briquet 1907, 117–118; Churchill 1935, 78; The state of the watermark found in the sheet discussed here is rather poor, and the two registered examples also appear to be hand-tracings of partially unclear watermarks, precluding any analysis of their precise relationship. The one registered as no. 3427 in *Gravell* 1996–, though, is possibly more similar to the present specimen, and the distance of the chain lines matches (c. 25 mm each).

<sup>14</sup> Briquet 1907, 118.

appears to have been hesitant due to the proposed conditions.<sup>15</sup> While it is unknown how the matter ended, it seems likely that the paper in question was produced in Thann at some point after 1560, also making the aforementioned dating to the beginning of the 17th century plausible.

While both examples leave little doubt that Árni Magnússon used over 100-year-old paper during his custodial activities, this fact requires an explanation. It seems unlikely that in the early 18th century in Denmark or Iceland paper would regularly age this much before use. Indeed, abundant examples exist of late 17th- and early 18th-century writing carried out in Iceland on paper produced only a few years earlier.<sup>16</sup> Instead, it is more plausible that Árni's use of these leaves was not their first. Neither of the two pieces of paper preserve earlier writing, but all edges show signs of trimming. Based on the location of the watermarks, neither of them are a full sheet anymore. In AM 243 g fol., the watermark is split between the two singletons, indicating that the pieces together equal roughly one half of the original sheet of paper. The piece of paper surrounding AM Dipl. Isl. Apogr. 116–129 shows the watermark in an off-centred position in its half-sheet, suggesting that strips between 4 and 6 cm wide are now missing from the top edge as well as on both sides.<sup>17</sup> It therefore cannot be ruled out that the sheets had been employed for writing much earlier and that Árni reused blank parts of the sheets for his purposes.

#### 4 Reuse of Available Material

Further examples in the Arnamagnæan Collection provide evidence that Árni Magnússon frequently reused paper for his custodial activities. Older paper, to which Árni Magnússon gave a second life, features mainly singletons and bifolia. A survey of note slips and comparable notes written by Árni Magnússon in 114 paper manuscripts from the 17th and early 18th centuries reveals that 29 out of 151 added slips were made from reused paper.<sup>18</sup> The collector's reuse of writing support, however, is not limited to paper manuscripts or note slips only, but is found in all parts of the collection.

A reused bifolium is, for example, found in the 17th-century manuscript R-AMI, AM 409 a 4to, which contains six copies of the prophecies known as *Krukkspá*. The added bifolium with a note by Árni encloses the leaves of the current second codi-

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<sup>15</sup> Geering 1886, 526–527.

<sup>16</sup> See, for instance, paper preserving the dated watermark by Hans Heuser from 1692 as well as Abraham Janssen's Pro Patria watermark discussed below.

<sup>17</sup> Estimations based on the registered size of the sheet in *Gravell* 1996–, no. 3427.

<sup>18</sup> The numbers presented here are slightly different from the ones in Stegmann 2018, 10 where at least 26 (c. 17 %) of 150 slips were counted as being reused. When reviewing the corpus again in preparation for the present article, I counted one additional note slip and identified three more as being made from reused paper.

colological unit, which is of a smaller size than the rest of the manuscript, and it both served to keep those leaves together and to provide space for an identifier for the text contained inside.<sup>19</sup> The piece of paper was previously part of the current fifth unit of the same composite manuscript, as it shows the lower half of a countermark reading “H HEVSER” and the year “1692” underneath. The upper half of this countermark is preserved in the first of the two current leaves of the manuscript’s fifth unit (foliated as f. 1 of AM 409 a 4to V) and once formed a bifolium together with the repurposed piece of paper.<sup>20</sup>

The countermark belongs to a large crowned C5 watermark with “GOTT BEWAHR KÖNICH” on top (partially found in f. 2 of AM 409 a 4to V). Such crowned C5 watermarks were used by the paper maker Hans Heuser before November 1693, who worked at two Danish paper mills under Queen Charlotte Amalie (1650–1714).<sup>21</sup> The present watermark seems to be similar — though only half is preserved — to the mark registered as no. 156 by Rottensten/Waaben, and the countermark is comparable, but not identical, to the one belonging to no. 157.<sup>22</sup> Thanks to the exact dating provided by the watermark’s countermark, it is clear that this paper was produced in Denmark in 1692 (or shortly before/after). Its primary use, for the copying of a short part of *Krukksþá*, likely took place during that same decade in Iceland. In the early 18th century, Árni Magnússon removed and repurposed the previously blank quarter of the original sheet, which at the time formed a leaf presumably located in the back of the short quire.<sup>23</sup> He thus took a suitable piece of paper from one part of a composite manuscript and employed it in his care of another.

Another example of Árni’s reuse of paper is found in the 17th-century paper manuscript R-AMI, AM 156 fol., which contains different sagas of Icelanders. Árni formed that manuscript by combining five manuscript parts he took from a much larger book he disassembled.<sup>24</sup> During the process of separating the larger book into smaller parts, he forcefully divided several gatherings and had overlapping beginnings and endings that shared a leaf with a different saga copied onto new pieces of paper. He also treated the original sections as superfluous once recopied: they were heavily crossed out and pasted over with additional paper that appeared to be blank. The pasted-on leaves have now been removed and may be examined from both sides and checked for watermarks. The leaf that once covered a crossed-out section on f. 7av (presently foliated as f. 7b) carries an old foliation number on its formerly glued-on side: 191. This

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<sup>19</sup> Stegmann 2018, 26.

<sup>20</sup> Stegmann 2018, 26, 32.

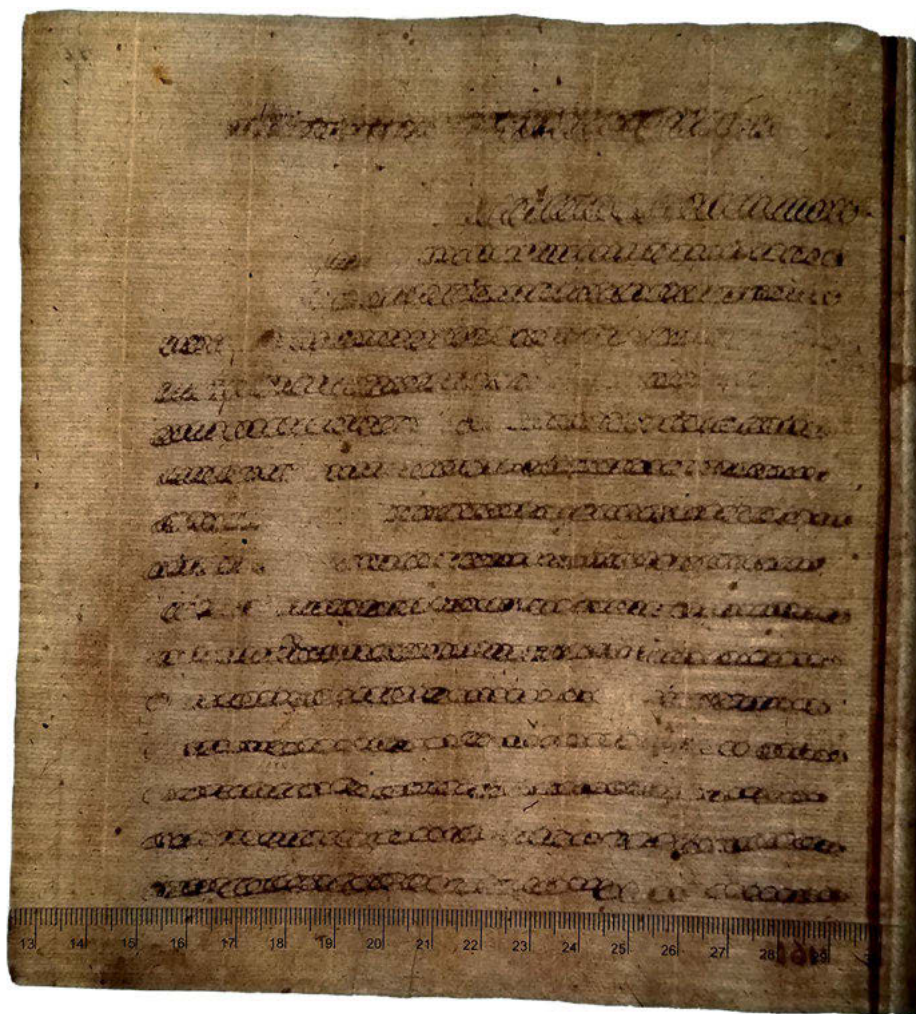
<sup>21</sup> Hufnagel 2019, 21–24.

<sup>22</sup> Rottensten/Waaben 1986–1987, vol. 1, 69, 146, 148; Among the differences, the letters of the countermark are positioned differently in the present example.

<sup>23</sup> I am not aware of the second half of this leaf (carrying the other half of the main watermark) being preserved anywhere.

<sup>24</sup> Stegmann 2016, 64–68.



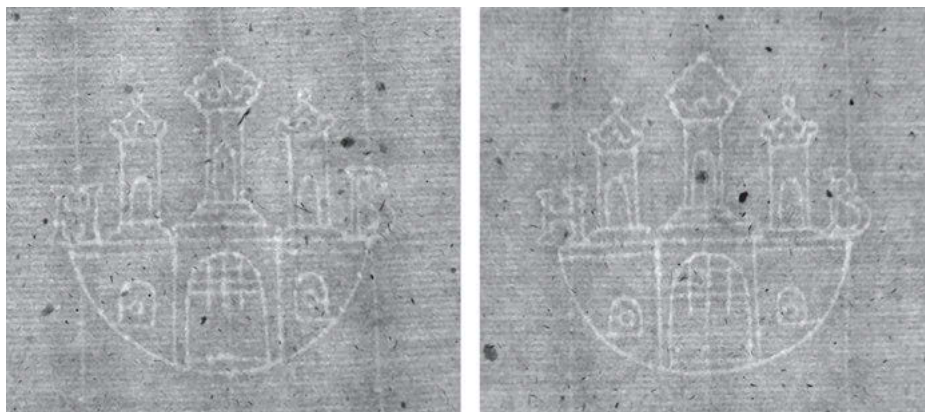


**Fig. 4:** Regularly spaced chain lines found in f. 7b of Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM 156 fol. For a colour image, see Appendix, p. 451 of the print version.

number matches the partially erased old foliation in other parts of the current AM 156 fol. and can be shown to have come from the larger manuscript to which all parts previously belonged.<sup>25</sup> The current f. 7b was, thus, once a mostly blank leaf (foliated but without other writing or marks) in front of the current f. 29 of AM 156 fol. (old foliation 192), at the top of the recto-page of which a new text begins.

Folio 7b of AM 156 fol. has no visible watermark and has regular chain lines spaced 23–24 mm apart (Fig. 4). This agrees with the countermark-less watermarks

<sup>25</sup> Stegmann 2016, 54–59.



**Fig. 5:** Pair of watermarks depicting two towers and a gate with the initials “HB”. For reasons of clarity, the images are of the identical watermarks found in f. 20 (left) and f. 19 (right) of Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM 158 fol. instead of the discussed AM 156 fol.

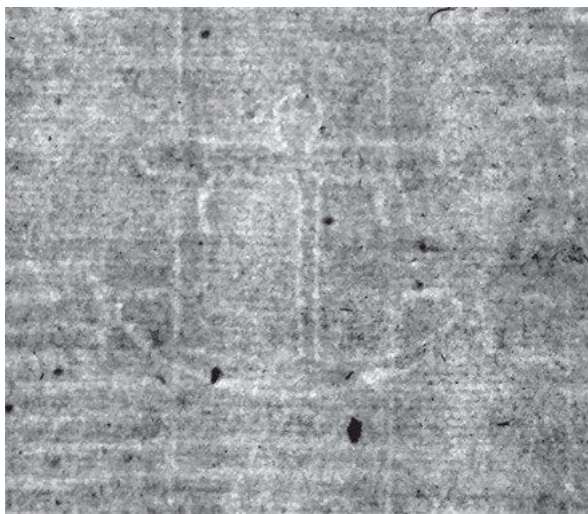
found in the surrounding leaves of the manuscript in its original state: a pair of watermarks depicting two towers and a gate with the initials “HB”, which can be considered identical with the twins registered as no. IS5000-02-0158\_19r and IS5000-02-0158\_20r in WZIS, both found in an Icelandic manuscript dated to 1630–1675 (Fig. 5), and the one registered as no. EE7185-PO-105971, preserved in a document written in Tartu, Estonia, in 1638.<sup>26</sup> Due to the structural alteration that the manuscript AM 156 fol. underwent and the many missing leaves in the relevant part of the former codex, it is not possible to determine if f. 7b once formed a bifolium with another leaf or had originally been included as a singleton. In any event, it was located between two texts and was therefore conveniently accessible to Árni, who had chosen to divide the former manuscript along text boundaries.

Folio 1b of AM 156 fol. was once also covered by a glued-on full leaf (presently foliated as 1a). Earlier writing—both an old foliation number 126 and a running title—on the previously glued-on side identifies it as a leaf that was formerly located between ff. 8 and 9 of the current manuscript R-AMI, AM 212 fol. This manuscript has been identified as another part of the larger 17th-century manuscript from which Árni created what is now AM 156 fol.<sup>27</sup> The watermark on f. 1a confirms this, as it depicts an anchor (Fig. 6) that is a slightly deformed variant of no. IS5000-02-0158\_21v in WZIS. The leaves in the current AM 212 fol. show both this watermark and its twin (registered as no. IS5000-02-0158\_59v in WZIS).<sup>28</sup> The quire structure of the surviving leaves from

<sup>26</sup> Personal communication with Silvia Hufnagel and Maria Stieglecker, January 2021.

<sup>27</sup> Stegmann 2016, 56–58.

<sup>28</sup> Both the towers and the anchor watermarks are dated roughly to the years 1630–1675 in WZIS, which correlates with the estimated period of activity for the scribe, Þorsteinn Björnsson at Útskálar (1612–1675), who wrote most of the manuscript AM 158 fol., from which the samples are taken (*Handrit.is* 2009–). AM 156 fol. and AM 212 fol. were written by Jón Erlendsson from Villingaholt (d. 1672), who is



**Fig. 6:** Anchor watermark found in f. 1a of Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM 156 fol.

that part of the former manuscript suggests that the mainly blank leaf now designated as f. 1b of AM 156 fol. was included as a singleton in the original codex to indicate a lacuna in the text in question, *Arons saga Hjörleifssonar*. In addition to the leaf being mainly blank, it also seems to have been not too difficult to remove during Árni's alteration work and thus convenient to repurpose for covering crossed-out writing on another leaf from the same former manuscript.

Among the early 18th-century copies of Icelandic charters transcribed for Árni Magnússon is a reused piece of paper made from part of a letter. The leaf now functions as an organising wrapper surrounding R-AMI, AM Dipl. Isl. Apogr. 105–110. As Árni's note on the first recto-page of the bifolium informs the reader, the enclosed copies were made from an older attested copy of documents regarding the farmstead Ljósavatn in Bárðardalur in northern Iceland.<sup>29</sup> On the inside of the bifolium is earlier writing in six vertical lines that give part of an address. In combination with clear older folding lines, the remaining piece of paper can be identified as having formerly been at the outside of a letter addressed to Árni Magnússon.<sup>30</sup>

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considered to have been an active scribe between c. 1625 and his death (*Handrit.is* 2009–). Springborg 1977, 57–71 identifies these contemporary scribes as being located at two of the most important writing centres in 17th-century Iceland, and the geographic proximity of their residences in southwest Iceland makes it feasible that they had access to the same paper supplies.

**29** The note reads in full: “From pastor Ólafur Stefánsson's attested copy made in 1594; is a large parchment page; about Ljósavatn.” (“Ex vidimus S(era) Olafs Stefansson(ar) facto 1594. Er stor pagina pergamena. Um Ljósavatn.”)

**30** The remaining parts of the address read: “His Majesty's noble / [...] Mister, Secretary of Archives / [...] over Iceland – / [...]sson, my / [...] patron is sent / [...] most willingly” (“[M]ajest(atis) Veledla / [...] Herra Archivsecre / [...] yfer Islande – / [...]ssyne, minum / [...] Patrono sendest / [...]stu viliugast”). Since Árni was royally appointed on a mission to Iceland and Secretary to the Royal Archives in Copenhagen (Már Jónsson 1998, 139–141), these titles leave little doubt that the letter was addressed to him.

Part of a watermark is preserved in this bifolium. It shows the lower half of a Pro Patria watermark with an off-centred gate with narrow planks and the initials “AJ” in italics underneath. Such initials have been associated with the Dutch factor Abraham Janssen (1635–1710) in Angoulême, France, for the Puymoyen mill.<sup>31</sup> Churchill further registers a highly similar watermark— potentially a somewhat more distorted variant—as no. 131, which he dates to 1710.<sup>32</sup> This paper was accordingly made in France and was presumably not particularly old when it was first used for a letter, nor had a long time elapsed when it was reused by Árni. Árni most likely wrote on it before the Great Fire of Copenhagen in 1728, which marks the end of his most active period of collecting activity.<sup>33</sup>

Another example of a note slip Árni Magnússon made from part of a letter addressed to him is found in the aforementioned manuscript AM 409 a 4to. There, a half-sheet of paper is present, now in two pieces, preserving an entire address as well as a small seal from its primary use.<sup>34</sup> Together, the two parts show a lion watermark depicting a large Norwegian lion with a crown standing on a halberd. It is highly similar, though not identical, to the one registered as no. 204b.1 in *Bernstein* (s. d.), which has been traced to the Bentse Brug paper mill in Oslo, Norway.<sup>35</sup> The watermark has moreover been found in multiple documents in Iceland (see e. g., no. IS5000-DIF-LXXV-54 and IS5000-DIF-LXXVI-K6\_1 in WZIS), and all documents in question are dated to 1703 or 1704.<sup>36</sup> This paper was therefore in all likelihood produced in Norway in the beginning of the 18th century, and the letter must have been sent to Árni not more than some years before he reused it to create an enclosing bifolium for the original leaves of this part of the manuscript and wrote a note of his own on it.<sup>37</sup>

A final example of Árni Magnússon’s reuse of waste paper is found in the two 17th-century paper manuscripts with the current shelfmarks R-AMI, AM 588 r 4to and AM 554 a α 4to, containing part of a legendary saga, *Úlfs saga Uggasonar*, and a saga of Icelanders, *Harðar saga og Hólmverja*, respectively. As in the previously discussed case, Árni enclosed the original leaves of both manuscripts in bifolia upon which

<sup>31</sup> Churchill 1935, 22–23; Lindberg 1998, 132, A196.

<sup>32</sup> Churchill 1935, 71, XCVII; other Pro Patria watermarks with Abraham Janssen’s initials (most notably with different planks in the fence and a wider gate) are documented, including watermarks in Icelandic charters from 1704 and 1708. See, e. g., “IS5000-DIF-LXXXVI-K20\_1”, “IS5000-DIF-LXXVI-K3\_1” and “IS5000-DIF-LXXV-36”, in: WZIS, <https://www.wasserzeichen-online.de> (accessed 01/04/2022).

<sup>33</sup> Már Jónsson 1998, 323–339.

<sup>34</sup> Stegmann 2018, 24–25.

<sup>35</sup> The document in question is preserved in the National Library of Norway in Oslo.

<sup>36</sup> The lion watermark in the slip in AM 409 a 4to differs from the registered ones in having a single line of pearls at the rim of the crown, a different form of tail end and/or a different positioning of the claws on the halberd. Thus, this watermark is neither identical to nor a variant of the registered ones.

<sup>37</sup> Based on the address locating Árni Magnússon at Skálholt, he must have received the letter while he was dwelling in Iceland between 1702 and 1712 (Stegmann 2018, 25–26).

he wrote notes concerning the contents of the enclosed leaves (see Fig. 7).<sup>38</sup> In these examples, however, the reused leaves were not mainly blank, but carry older writing on both sides. There is neatly written text on all four of their respective pages, so that Árni had to squeeze his notes into the former margins. While the text area has been crossed out with one to three rough strokes each, most of the writing is still easily readable and has been identified as parts of annals (*Lögmannsannáll*).<sup>39</sup>

The two bifolia appear to stem from a single quarto-sized former manuscript. The script is the same—*Kurrentschrift*, most likely the same hand—and the layout comparable with 28–32 lines per page as well as a text area of 170–175 × 110–120 mm. The chain line distances in the two pieces are also similar, as they are equally spaced c. 25 mm apart, except for the tranchefiles, the chain lines closest to the edge, where they are only c. 15 mm apart. Yet, the watermark—a coat of arms of Amsterdam in the bifolium in AM 588 r 4to—and the countermark “PD” (?) in the bifolium in AM 554 a α 4to—stand alone in each leaf and cannot be matched conclusively based on existing watermark records.<sup>40</sup> Additionally, the quality of the mould sides and the flexibilities of the paper are slightly different, but this could result from differences in use or conservation.<sup>41</sup>

Support for the assumption that the two bifolia indeed stem from the same former manuscript is found in the margins. In both pieces of paper, numbers in lighter, somewhat brownish ink have been added for the relevant years discussed in the main text. As they are in the hand of Árni Magnússon himself, it is highly likely that he owned the former manuscript out of which the two bifolia were taken and annotated its text carefully. After his analysis—and presumably comparison with another manuscript containing a text of the same annals—he appears to have decided to discard the manuscript or manuscript part in question.<sup>42</sup> Instead of destroying the leaves, however, he reused at least two of the bifolia and placed them with what is now AM 554 a α 4to and AM 588 r 4to. The leaves of the text block in these two current manuscripts, carrying part of *Úlfs saga Uggasonar* and *Harðar saga og Hólmverja*, also have a shared history as they stem from the same former saga manuscript that Árni structurally altered.<sup>43</sup> Therefore, he may well have worked on the leaves of the former saga manuscript at

**38** In AM 588 r 4to, the older bifolium still encloses the other leaves—as may be seen in Fig. 7—while in AM 554 a α 4to it has been placed in front of the manuscript during later conservation.

**39** The preserved sections correspond to Gustav Storm’s 1888 edition *Islandske annaler indtil 1578*, 286–287, 290–291 (AM 554 a α 4to) and 267–268, 275–276 (AM 588 r 4to) (see *Handrit.is* 2009— as well as notes on an orange added slip in AM 554 a α 4to and flyleaves ar and br in AM 588 r 4to; for the former see older images on <https://sprogsamlinger.ku.dk> (s. d.)).

**40** The crown in this coat of arms of Amsterdam watermark has feathers (dt. *Helmzier*), and the lions are standing on a platform with the entwined initials “VG” underneath.

**41** Personal communication with Vasaré Rastonis 22/01/2021.

**42** For comparable actions of Árni Magnússon see e. g., Már Jónsson 1998, 300–302.

**43** In Stegmann 2016, 338 the former manuscript, in which these two parts were located towards the end, is called Ms61 (see also Hast 1960, 150–152). Árni included both manuscript parts in large new aggregations made up of numerous parts from various former manuscripts (see R-AMI, AM 477 fol., ff. 37r, 40r–v).



**Fig. 7:** An enclosing bifolium made of reused paper surrounding the leaves of Reyjavík, The Árni Magnússon Institute for Icelandic Studies, AM 588 r 4to. For a colour image, see Appendix, p. 450 of the print version.

the same time, which could explain why he in both cases reused leaves from a third, otherwise unrelated annal manuscript for enclosing them.

The cases examined here show how Árni Magnússon employed older, often mostly blank paper instead of new, previously unused leaves for some of his custodial activities. From these examples alone, however, it cannot be deduced what the modes of reuse were. For instance, did the collector habitually keep a stack of discarded paper that he reused when appropriate? Was he potentially forced to employ older writing support at times, as the reuse of paper in the last discussed example might suggest, where the leaves were not blank on either side when he repurposed them? To better understand Árni Magnússon's reuse habits, the occurrence of reused paper compared to new writing material shall be analysed in more detail.

## 5 Distribution of Reused vs. Previously Unused Paper

Árni Magnússon reused paper only for certain purposes. Most notably, he seems to not have employed previously used paper for writing letters or copying manuscripts and charters.<sup>44</sup> On the other hand, he regularly made use of previously used writing

<sup>44</sup> I am currently aware of one example among the paper manuscripts in the Arnamagnæan Collection where reused paper was used for copying the main text, but it was not written by or for Árni Magnússon: in the 17th-century manuscript C-AMI, AM 779 c 4to I, there is earlier writing on f. 20v. In addition, I am thankful to Katarzyna Anna Kapitan for sharing her insight on Árni Magnússon's letters with me.

support in connection with his custodial activity for already existing material. More specifically, Árni Magnússon frequently reused paper for the following purposes:

- 1) *Note slips*: carrying notes to identify the contents and/or provide provenance information for a manuscript or manuscript part.
- 2) *Enclosing bifolia*: holding together leaves of a former manuscript that Árni structurally altered; not infrequently, these bifolia also carry notes and other writing by or for Árni.
- 3) *Organising wrappers*: grouping together copies of charters, often with notes referencing their origin, exemplars or Árni's working status.<sup>45</sup>
- 4) *Covering paper*: pasting over unwanted—often additionally deleted—beginnings or ends of texts after structural alteration of manuscripts.

All of these cases share the common trait that they do not require large amounts of paper. Usually one leaf, normally smaller than a full sheet of paper and at times even a rather small slip, was sufficient. Compared to projects of a larger material scale, such as copying an entire text or writing a longer letter, homogeneity of writing support was mostly not a concern.<sup>46</sup> Additionally, there is a difference in textual importance. While the copying of charters and writing of manuscripts as well as letters were of primary interest to Árni, the writing of notes and other supportive functions of paper around existing texts may be called secondary. This could also explain why I have thus far come across only a single example of a copied-over beginning of a text by Árni Magnússon that was carried out on reused paper.<sup>47</sup>

Nevertheless, previously unused paper was also employed in functions in which reused paper frequently occurs. In the above-cited study of note slips by Árni Magnússon (including enclosing bifolia that carry such notes), c. 19 % of the paper had undoubtedly been used before. Counting exclusively enclosing bifolia in the same corpus of structurally altered paper manuscripts, the ratio is considerably higher, with at least 11 out of 32 bifolia being made from reused material (c. 34 %).<sup>48</sup> The percentage

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<sup>45</sup> While some of the enclosed charter copies consist of several quires—at times stitched together—there are a few examples of wrappers only containing one charter copy. Organising wrappers and enclosing bifolia have many similarities, but I keep them separate here, because enclosing bifolia can at times be part of the text block, especially when also carrying copied-over text parts. Also, organising wrappers do not always come in the shape of a bifolium.

<sup>46</sup> As an exception one can point to some covering papers such as those in the current manuscript AM 156 fol. discussed above. Here, it seems that Árni Magnússon may have purposefully reused leaves from the same original manuscript to ensure that the outcome was visually as homogenous as possible (Stegmann 2016, 67). This, however, was not a constant concern of his.

<sup>47</sup> The piece of paper is found in R-AMI, AM 116 III 8vo and carries a brief, smeared and partially cut off note in Latin running along the fore-edge, i. e., perpendicularly to the direction of the text. The bifolium does not carry any other note by or for Árni Magnússon.

<sup>48</sup> Many of these added bifolia are also counted in the statistics for note slips, as they carry such notes for or by Árni Magnússon.

of reuse among organising wrappers found in Árni's charter copies appears to be even higher. A preliminary survey of the 475 charter copies contained in the first five bundles of R-AMI, AM Dipl. Isl. Apogr. (i. e., bundles I,1–I,5) indicates that at least 14 out of 26 organising wrappers were made from reused paper (c. 54 %).<sup>49</sup>

The most common previous use of paper is as letters. Among the surveyed organising wrappers and enclosing bifolia, this applies to at least 12 out of 25 cases, and the vast majority of these letters were addressed to Árni Magnússon. Other pieces of paper carry various kinds of older notes, discarded transcriptions of texts or parts of what appears to have been drafts for letters or bills. Some leaves also do not carry any writing at all but show, for instance, older folding lines or sewing holes. Finally, examples related to print exist, such as in a note slip, a singleton, that is located in R-AMI, AM Dipl. Isl. Apogr. 72. It features somewhat faint rub-offs from a printed page in Latin and may have been made from waste paper produced in connection with the printing of a book's title page.

These distribution patterns of reused versus previously unused paper suggest that Árni Magnússon had access to fresh writing support at most, if not all times. Even among the organising wrappers, where the percentage of reuse is the highest, he still employed new paper in almost half of the surveyed cases. At the same time, however, there appears to have been a hierarchy based on the contents of his writing and potential physical functions that determined when he was more likely to employ previously unused paper for his work and when he supplemented the paper with reused material. In addition, the percentages of reused material indicate that he most likely did not keep stacks of older paper for reuse, but rather employed suitable pieces of paper when they were available at hand and otherwise made use of new paper. This deduction is in keeping with some of the cases discussed above, where reused pieces of paper are linked by manuscripts on which Árni Magnússon worked at the same time.

## 6 Discussion

Árni Magnússon was most active collecting manuscripts and charters and working on them between c. 1700 and 1728. During that time, he dwelled both in Denmark's capital Copenhagen, where he had settled, and in Iceland (for most of the period 1702–1712). The Danish king Frederick IV (1671–1730, crowned in 1699) had sent him to Iceland to conduct the first comprehensive census taken on the island, which was carried out

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<sup>49</sup> Many charter copies preserve added note slips highly similar to the ones found in manuscripts. Among these, the percentage of reused material appears to be lower than in the wrappers. As is the case with the enclosing bifolia and note slips in manuscripts, there is some overlap between organising wrappers and note slips due to dual functions. Moreover, the physical arrangement of some of them appears to have been changed, so that some former wrappers are now placed within individual charter copies and are thus not always distinguishable from note slips.



in 1702–1703. Together with the sheriff (*sýslumaður*) and vice-lawman (*varalögmaður*) Páll Vídalín (1667–1727, lawman or *lögmaður* from 1705), he was also appointed to prepare a detailed land register, which took almost 12 years to complete. Besides carrying out these royal tasks, Árne made use of the opportunity to improve his collection of Icelandic manuscripts and charters, and many of the charter copies stem from this decade in Iceland.<sup>50</sup>

One potential explanation—or at least enhancing factor—for Árne’s frequent reuse of paper could have been the high prices of paper in Iceland at the time. More precisely, in the Icelandic annals known as *Grímsstaðaannáll*, which cover in particular the years 1670–1764, it is noted that paper was expensive in most places in Iceland in the beginning of the 18th century.<sup>51</sup> The annals link this, among other factors, to the census and present the higher paper prices after its compilation as a consequence of activities related to the census, which had required a significant amount of writing paper.<sup>52</sup> Yet, for someone like Árne Magnússon who was on a royal mission and had a high social status, it should still have been manageable to obtain and afford writing paper.<sup>53</sup> This also fits with the distribution patterns noted above, indicating that he had unused paper at hand at all times for tasks that in his eyes required using it. The secondary nature of functions in which reused paper occurs, on the other hand, could well be interpreted as an attempt to reduce costs.

To link Árne Magnússon’s reuse of paper to the cost of writing material in Iceland is, however, problematic. As already mentioned, he only spent part of his most active collecting years in Iceland. While precise dating of the time of reuse is often difficult, Árne appears to also have reused writing material while he was in Denmark. A letter found in R-AMI, AM Dipl. Isl. Apogr. 14, for instance, demonstrates that he worked with the charter copies in Copenhagen. Árne included this piece of paper, the back side of which is addressed to him in Copenhagen, as documentation for a transcription of a charter that was sent to him in 1724. Additionally, an organising wrapper located in R-AMI, AM Dipl. Isl. Apogr. 126 was previously a letter addressed to Árne in Skálholt, but his note states clearly that he first wrote on it in 1724 when he was back in Denmark. It thus seems likely that he gave it a second life as a wrapper that same year, even though it can of course not be excluded that it had been placed among the charter copies earlier without any notes, simply for its material properties as a wrapper.

<sup>50</sup> Már Jónsson 1998, 188–280.

<sup>51</sup> In the section on 1703, the annals read: “[...] when all of this was finished, paper was expensive in many districts.” (“[...] þá var pappír dýr í sveitum víða, er öllu þessu var aflokið.”) (*Annálar 1400–1800*, vol. 3, 523).

<sup>52</sup> The original of the 1703 census of Iceland is preserved at the National Archives of Iceland in Reykjavík (ÞÍ Rentukammer 1928, D1/1–D1/19 *Manntalið 1703*) and consists of 1709 paper leaves (Eiríkur G. Guðmundsson 2017, 20). Additional paper was most likely used during its preparation.

<sup>53</sup> As can be seen from Árne Magnússon’s private letters, he took advantage of his connections to Denmark, asking, for example, his wife to send paper.

Furthermore, the Icelandic charter copies with the shelfmark R-AMI, AM Dipl. Isl. Apogr. 505 include three note slips (singletons) that are all made from former letters dated to 1699, meaning that they presumably came to Árni even before his mission to Iceland.<sup>54</sup> Consequently, it is not possible to exclusively link Árni's reuse habits to his stay in Iceland and the paper supply there as opposed to the situation in Denmark. Instead, they are treated together for the purpose of this article.

Another fact speaking against high paper prices leading Árni Magnússon to increased reuse of paper—be it in Denmark or Iceland—is that many charter copies include blank leaves. Both copies in his own hand as well as in other scribes' hands are frequently composed of a quire of multiple bifolia, and the last leaf or sometimes leaves of these quires are often left blank. In other words, if Árni was concerned about paper prices or even experienced a shortage in supply at some point, one would assume that he would have removed and reused such leaves. Of course, had he in fact done so, in some cases, the reused bits would be indistinguishable from previously unused pieces of paper, and it is possible that some of the paper that was counted as unused in the above surveys had earlier been part of such quires. On the other hand, if this had occurred, it must have left the first leaves of these quires as singletons, and I have not noted a pattern of such quire structures among the surveyed charter copies.

Among structurally altered paper manuscripts, examples do exist where Árni removed and reused entirely or mostly blank leaves from the back of manuscript parts, as discussed above. The difference might be partially explained by the format of the quires in question and, thus, the size of the removed leaves. While Árni's charter copies were routinely carried out on quires in octavo format, the analysed examples from altered manuscripts were in folio or quarto format. The bigger pieces of paper could be reused more easily, especially for enclosing bifolia or organising wrappers. Nevertheless, octavo-sized pieces of paper occur frequently among Árni's note slips, meaning that he would have had good use even for smaller leaves. Finally, not removing the last leaves of the gatherings containing charter copies may have had practical advantages, as many of them are not sewn or stitched together unless the copying of a single document required multiple such quires. An intact outer bifolium of the gatherings facilitated the internal organisation of charter copies, and convenience and ease when handling the artifacts in his collection may also have been a determining factor for which leaves Árni reused.

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<sup>54</sup> Of the third letter, signed in Copenhagen, part of the date's last digit is cut off, so that it reads "9. o(cto)bris A(nno) 9[9]". From the sections preserved, it cannot be entirely excluded that these letters were sent to a different recipient in Iceland, who saved them and let Árni have them when he was on the island. However, as the clear majority of paper from letters Árni reused are addressed to him, it is considered likely that these were sent to him as well, in which case he must have received them before his mission.

## 7 Concluding Remarks

In sum, Árni Magnússon's reuse of paper may be taken to indicate that in the beginning of the 18th century in Denmark and Iceland, writing paper was considered valuable, but was at the same time not unaffordable for a learned and well-connected scholar. There seems to have been an awareness of the material's value that encouraged Árni to reuse suitable pieces of paper instead of discarding them and exclusively employing previously unused paper for his work. Yet, working convenience appears to have been at least as important a factor for his paper use, since Árni seems to have considered the economic cost of not reusing certain blank leaves preferable to the systematic reuse of all suitable material. This is further in line with the aim of including many of these additional leaves—be they reused or previously unused—during his custodial work. In particular, organising wrappers and enclosing bifolia facilitated working with the texts on the enclosed leaves by keeping together loose pieces of paper or grouping and bundling a number of self-enclosed units. Had Árni systematically removed all blank leaves at the end of charter copies, he would have had to include more bifolia or wrappers to re-establish the self-enclosing properties of the no longer intact quires and would have gained little or nothing.

This article started out with two examples of paper that, based on the watermarks, was over a hundred years old by the time Árni Magnússon used it in connection with the custodial care of artifacts in his collection. Even though no unambiguous traces of previous use could be identified, the evidence of other reused paper in comparable functions showed that Árni frequently reused writing material for such purposes. Therefore, it is likely that these two pieces of paper have a similar history of previous use. Most of the reused material found, though, is considerably younger and can be traced back to more contemporary primary use.

There are multiple conceivable explanations as to how Árni Magnússon could have acquired century-old writing support. One possible explanation is that such leaves were part of older paper manuscripts, which exist in ample numbers in the collection. Based on the rather large size of the sheet found in AM Dipl. Isl. Apogr. 116–129, another scenario could be that such paper had found its way to Árni as part of a charter, which occur in highly variable sizes. A pertinent case is documented in R-AMI, AM 214 a 8vo, an early 18th-century transcript of a list of churches in Árni's hand, where he remarked that he was working from an older copy on paper that included a partially blank leaf—though only on one side—in the back.<sup>55</sup> In the *Diplomatarium Islandicum* it is estimated that Árni's exemplar had been written c. 1600–1620, which would make it approximately 100 years old by the time he worked with it.<sup>56</sup> Given that

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<sup>55</sup> AM 214 a 8vo, f. 1r.

<sup>56</sup> *Diplomatarium Islandicum*, vol. 12, 1.

he was a collector who was interested in exactly that—old charters and manuscript books—it must have happened on a somewhat regular basis that he acquired documents that included partially or completely blank leaves.

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## Photo Credits

- Fig. 1: Heraldic eagle watermark with Basle crozier, initials “NH” and merchant’s mark found in the two paper leaves of Copenhagen, The Arnamagnæan Institute, AM 243 g fol. Photos: Natasha Fazlic.
- Fig. 2: Front and back of the organising wrapper surrounding charter copies with the shelfmark Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM Dipl. Isl. Apogr. 116–129. Photos: The Árni Magnússon Institute for Icelandic Studies.
- Fig. 3: Coat of arms of Thann watermark, held by two lions with the initials “HS” below, found in a paper surrounding Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM Dipl. Isl. Apogr. 116–129. Photo: Beeke Stegmann.
- Fig. 4: Regularly spaced chain lines found in f. 7b of Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM 156 fol. Photo: Beeke Stegmann.
- Fig. 5: Pair of watermarks depicting two towers and a gate with the initials “HB”. For reasons of clarity, the images are taken of the identical watermarks found in f. 20 (left) and f. 19 (right) of Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM 158 fol. instead of the discussed AM 156 fol. Photo: Beeke Stegmann.
- Fig. 6: Anchor watermark found in f. 1a of Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM 156 fol. Photo: Beeke Stegmann.
- Fig. 7: An enclosing bifolium made of reused paper surrounding the leaves of Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM 588 r 4to. Photo: Sigurður Stefán Jónsson/The Árni Magnússon Institute for Icelandic Studies.



Már Jónsson

# A Witch Finder's Archive in 17th-Century Iceland

In the period 1654–1678, eighteen Icelanders were burned for witchcraft, among them one woman. Many more were flogged, some of them severely. The principal source for the local court proceedings in many of the capital cases is a unique collection of verdicts (Reykjavík, National Archives of Iceland, Thott 2110 I 4to) that have either been removed from the original court books or copied from them. The manuscript was brought to Copenhagen in the mid-18th century and returned to Iceland in 1928. It is now kept at the National Archives of Iceland (henceforth NAI) in Reykjavík. It comprises 88 leaves and was most certainly put together by Þorleifur Kortsson, who during his years as sheriff (*sýslumaður*) in Strandasýsla and Norður-Ísafjarðarsýsla in North-west Iceland, and later as lawman (*lögmaður*) at the general assembly at Þingvellir (*Alþingi*), was active in what he thought would result in the extirpation of witchcraft. He also left a volume containing verdicts and letters from the years 1670–1678, some of them on witchcraft cases. Taken together, they provide a glimpse into the making and keeping of Icelandic legal manuscripts in the period. In this article, Thott 2110 I 4to will be at the centre of attention: its material composition, textual contents and biography to the present day. It is indeed a rare growth in the variegated flora of Icelandic 17th-century legal manuscripts, and other such items will be also described here in order to reveal the context in which it came to be produced.

## 1 The Manuscript

On 8 February 1908, Iceland's National Archivist Jón Þorkelsson completed a report on documents and manuscripts in the Arnarnagæan Collection and the State Archives in Copenhagen that originally (“í öndverðu”) had belonged to public officials in Iceland. This was done as part of the ongoing negotiations on the sovereignty of the country, and the idea was that relevant material would be transferred to the National Archives in Reykjavík. On his own initiative, Jón had checked the Icelandic manuscripts in the Royal Danish Library (henceforth RDL) in Copenhagen and now proposed that three of those should be handed over, too. One of them was a book of ecclesiastical verdicts (*prestastefnubók*) from the bishopric of Hólar in the years 1658–1683 (NKS 2129 4to), and another the court book (*dóma- og þingbók*) of Snæfellsnessýsla in 1652–1667 (Thott 2109 4to). A third one was Thott 2110 4to, or more precisely its first part, containing local verdicts from several regions in the original, mostly concerning witchcraft cases. Jón concluded that its first part ought clearly to be in the National Archives: “fyrsti kafli handritsins (I), alls 90 blöð. Eru það ýmsir héraðsdómar í frumriti, mest



frá 17. öld, einkum galdramál, meðal annars úr Ísafjarðar, Stranda, Húnavatns og Skagafjarðarsýslum. Dómar þessir heyra að sjálfsögðu hér inn í skjalasafn landsins” (The first part of the manuscript (I), 90 leaves. Various local verdicts in the original, mostly from the 17th century, mainly witchcraft cases, in part from Ísafjarðarsýsla, Strandasýsla, Húnavatnssýsla and Skagafjarðarsýsla. These verdicts should clearly be in the archives of the country).<sup>1</sup>

His request for the three manuscripts was accepted. Twenty years later, as Thott 2110 I 4to was being prepared for departure from Copenhagen, twelve leaves from its second part were added. That conclusion can be seen in an undated note signed by National Archivist Hannes Þorsteinsson and the Danish archivist L. Laursen: “2110 I–II (af II dog kun dommene)”, or in other words: “2110 I–II (of II only the verdicts)”.<sup>2</sup> These leaves contain original ecclesiastical verdicts from Húnavatnssýsla, North Iceland, in the period from 29 April 1734 to 20 May 1739 (ff. 89r–101r). The Rev. Björn Magnússon at Bergsstaðir in Svartárdalur was provost in the region at the time and probably wrote these verdicts or at least was responsible for them. Some letters related to him remain as part of RDL, Thott 2110 II 4to, still in Copenhagen, which otherwise contains royal letters and verdicts, some notes on the history of Norway and Denmark and as a copy of a draft made towards a new church law for Iceland around 1600.<sup>3</sup> Indeed, Jón Þorkelsson should have asked for the letters and the Christian law too, as official documents, and he must have seen them, but they are not mentioned in his proposal cited above. In an unprinted catalogue of Icelandic manuscripts in the Royal Danish Library, made in 1886–1889, he only wrote this on the second part: “Domme fra 16de og 17de årh. Kongebreve og forordninger, kristinréttr Árna og Ólafs m. m.” (Verdicts from the 16th and 17th centuries, royal letters and decrees, the Christian law of Árni and Ólafur, among other things).<sup>4</sup>

It might seem plausible that the two parts of Thott 2110 4to were in some way related and that both came to Denmark directly from Húnavatnssýsla, where Þorleifur Kortsson as well as Björn Magnússon had lived. However, neither part contains annotations that could relate them to each other, so they were in all likelihood first put together in Copenhagen. The second part was most certainly in Húnavatnssýsla around 1740, and it will not be discussed further. The first part contains numerous names in the margins and other empty spaces, and they all point to the Breiðafjörður area in West Iceland. It also had a cover of its own (see Fig. 1), a parchment leaf

<sup>1</sup> NAI, The Ministry of Iceland (*Stjórnarráð Íslands*) I, db. 7, nr. 973. I thank Njörður Sigurðsson for this reference as well as the next one.

<sup>2</sup> NAI, Archives of the National Archives, CB/1, örk 7 (Afhendingarskrá Dönsku sendingarinnar [The Danish Delivery of 1928]), bilag 2.

<sup>3</sup> RDL, Thott 2110 II 4to. See also Kálund 1900, 356–357.

<sup>4</sup> Copenhagen, The Arnarnagæan Institute, AM 1062 4to (Jón Þorkelsson’s catalogue of Icelandic manuscripts in the Royal Danish Library), p. 48. I thank Matthew James Driscoll for providing me with an image of this page.



Fig. 1: Reykjavík, National Archives of Iceland, Thott 2110 I 4to, cover with letter. For a colour image, see Appendix, p. 452 of the print version.

described by Kristian Kålund in his catalogue of Icelandic and Norwegian manuscripts in Copenhagen: “Som omslag et perg.-bl. fra et latinsk ritual-hdskr.” (As a cover, a parchment leaf from a Latin church ritual).<sup>5</sup>

In a note in front of the manuscript, written on 24 August 1965, the National Archivist Bjarni Vilhjálmsson explains that a vellum cover had been removed from Thott 2110 I 4to and would be kept with other such fragments. This is a bifolium from a missal produced in Iceland in the 14th century, and what must have been the external side is much darker than the inside and quite worn. Áslaug Ommundsen and Gisela Attinger, who have investigated Norwegian and Icelandic Latin fragments, describe this one in the following words:

Sacramentarium missae, parchment. Iceland, fourteenth century. Bifolio (27.5×20 cm) with prayers for mass for all saints (*commune sanctorum*). The text is written in one column (21 lines) with initials in red and green. The writing as well as the ink has Icelandic characteristics. The scribe has also written a fragment of a psalter (AM Acc 7 Hs. 118).<sup>6</sup>

<sup>5</sup> Kålund 1900, 356. In his catalogue of manuscripts, mentioned above, Jón Þorkelsson wrote that both parts of Thott 2110 4to had vellum covers: “Pápirhåndskrift bestáende af to bind, begge i skindomslag” (AM 1062 4to, p. 48).

<sup>6</sup> E-mail from Áslaug Ommundsen 20/04/2021. My translation from Norwegian. I also thank Gottskálf Jenson for identifying and explaining the Latin text. On such fragments in general, see Ommundsen/Attinger 2013, 293–317; Guðvarður Már Gunnlaugsson 2017, 163–183.

The folds and the stitches made when the bifolium was transformed into a cover are clearly visible. Inside the binding is a fragment of a letter in Danish on 7 August 1654 addressed to the honorable Þorleifur Kortsson: “Velagt [...] Mand [...] Kurdtzön [...] i Stranda[...]”. The letter is signed by Erik Lauridtzon, who was a Danish merchant at Höfði in Skagaströnd close to where Þorleifur lived.<sup>7</sup> He sends greetings to Þorleifur’s wife and two eminent men in the region, who were both a *lögréttumaður*, in other words members of the public court of law at the Alþingi. These men were Þorlákur Pálsson (1604–1657) at Víðidalstunga and Jón Egilsson (1603–1691) at Geitaskarð. Given the date of the letter and the first verdicts a few months later, it seems plausible that the cover was not meant contain a proper court book but was rather conceived as a folder for some of Þorleifur’s documents as young and up-and-coming sheriff: he had received the appointment as sheriff for Strandasýsla in 1651.

Þorleifur died at Bær in Hrótafjörður in the summer of 1698, and in all likelihood the manuscript was there among his belongings. The only thing known with absolute certainty on the manuscript’s later career is that, together with Thott 2110 II 4to, it came into the possession of Count Otto Thott (1703–1785), a powerful official and an enthusiastic collector of manuscripts and books. He died in Copenhagen on 10 September 1785 and had bequeathed his collection of manuscripts to the Royal Danish Library. He possessed around 200 Icelandic manuscripts, mostly from the 17th and 18th centuries, but also a few vellums. In a printed catalogue of 1795, there is a short description of Thott 2110 4to: “Nogle islandske Forordninger og Processer, ogsaa tildeels fra forrige Secul” (Some Icelandic decrees and court proceedings, also in part from the last century).<sup>8</sup> This description covers the contents of both parts. Where, then, did Thott get them? Some of his manuscripts were produced for him by Icelanders in Copenhagen, such as Jón Ólafsson Grunnvíkingur and Jón Marteinson. It is known that Hannes Finnsson, later bishop at Skálholt, worked for him, and he also corresponded with other Icelanders or met with them. The manuscript RDL, Thott 2082 4to, to take just one example, contains the older *Frostapingslög* written by Jón Magnússon, Árni Magnússon’s brother, and was given to Thott by the scribe’s grandson Jón Snorrason, who came to study in Copenhagen in 1752 and later became sheriff of Skagafjarðarsýsla. On 2 February 1770, Jón Snorrason’s father-in-law, Skúli Magnússon, Royal treasurer in Iceland (*landfógeti*), presented Thott with a recent copy of *Sæmundar-Edda* (RDL, Thott 1491 fol.). The year before, the Rev. Ólafur Gíslason at Saurbæjarþing had sent a copy of various chronicles from the 16th and 17th centuries (RDL, Thott 967 fol.).<sup>9</sup> Count Thott was thus in contact with a number of Icelanders

<sup>7</sup> Erik Lauridtzon’s name figures in Icelandic sources in the years 1652–1656; see Þorlákur Skúlason, *Bréfabók*, 230, 275; *Annálar 1400–1800*, vol. 1, 346. I wish to thank an anonymous reviewer for these references and other perspicacious observations.

<sup>8</sup> *Catalogi Bibliothecæ Thottianæ* 1795, 499.

<sup>9</sup> *Kálund* 1900, 313, 333, 348; on Jón Snorrason, see Páll Eggert Ólason 1948–1952, vol. 3, 274; cf. Gísli Baldur Róbertsson 2012, 358.

who found it advantageous to provide him with manuscripts, perhaps hoping for assistance in their more mundane affairs.

Many of Thott's Icelandic manuscripts were bought at auctions in Copenhagen from at least 1732 and onwards. In January 1779 he thus bought a copy of *Jónsbók* from the late 16th century (RDL, Thott 2099 4to) and recent copies of Norwegian kings' sagas (RDL, Thott 970 fol., Thott 973 fol.) that had belonged to Sheriff Jón Árnason of Snæfellsnessýsla, West Iceland.<sup>10</sup> The most rewarding auction, by far, was the one of books and manuscripts that had belonged to Jakob Langebek, a scholar and royal archivist, who died on 16 August 1775. The two men had collaborated before Langebek's death, and on 26 March 1766, to take one example from their correspondence, Langebek informed Thott of the arrival of copies of documents concerning the Nordic countries in the archives of the Vatican. They ought to be published, he explained, and the project would continue despite the costs. Thott was to inform the king and would get "en stor Part i Æren" (a great deal of the honour).<sup>11</sup> According to the title page of a printed catalogue, the auction was to take place on 20 January 1777. However, it may have been postponed until two weeks later, if one is to believe a copy kept at the National Library in Oslo that contains an interesting addition beside the date: "NB: den 3de Febr."<sup>12</sup> It also has annotations on buyers and prices. The buyers were Danish and Icelandic scholarly luminaries such as Peter Suhm, Johan Christian Kall, Grímur Thorkelín and Hannes Finnsson. Count Thott's name does not figure anywhere, but there is no doubt that Christian Brandt (1733–1780), who worked at the Royal Danish Library, was there on his behalf.<sup>13</sup> What Brandt bought at the auction matches well with notices in the handwritten catalogue of Thott's collection at the Royal Library, referred to by Kristian Kålund and later thoroughly studied by Jón Helgason. This goes for the three manuscripts that come after Thott 2110 4to in the count's collection. Recent copies of the old and new Icelandic Christian law, "Christin Riettur hinn forne" (no. 432) and "Christin Rettr nyi" (no. 433), were bought by Brandt at 17 shillings and are now RDL, Thott 2111 4to and 2113 4to. Brandt also spent 9 shillings on a copy of a draft of a new church law made in the late 16th century (no. 444). It is now RDL, Thott 2112 4to. Another copy of that text was bought by Suhm for 10 shillings: "Forbetrade Christin Rettur oc Ordinantiu Greinir i XXXI. Articulum, ey confirmeradur" (no. 431) (The revised Christian law and church ordinance in 31 articles, not confirmed by the king).<sup>14</sup>

There is no hard evidence for the supposition that Langebek at some point had Thott 2110 4to in his library, and it may indeed have come to Thott from elsewhere, be it in one or two parts. For a number of his manuscripts on paper as well as on vellum, there is no information available on their provenance. There is, however, a possible

<sup>10</sup> Kålund 1900, xlvi, xlix, 313–314, 352.

<sup>11</sup> Fridericia 1887–1889, 194–196.

<sup>12</sup> Weber 1776. Harald IIsøe 2007, 177–179 has the date 22/01/1777.

<sup>13</sup> *Dansk biografisk lexicon*, vol. 3, 3.

<sup>14</sup> Kålund 1900, 357; Weber 1776, 576–577; Jón Helgason 1975, 187.

connection to Langebek. Langebek owned the only extant copy of *Píslarsaga* (*History of Sufferings*) by the Rev. Jón Magnússon (RDL, NKS 1842 4to), and Peter Suhm bought it at the auction in 1777 for the sizable sum of 2 rd. 1 sk.: “Jon Magnussons Troldoms Historie i Island” (no. 576). The most recent editors of the text have proposed that the scribe of this manuscript is the Rev. Jón Sigurðsson at Eyri by Skutulsfjörður. He lived in Copenhagen in 1726–1730, 1741–1745 and from around 1750 until he died on 2 July 1757, at times doing scribal work for Langebek. He was in Iceland in 1746–1749, and a letter is preserved that he wrote to Langebek while at Hrappsey in Breiðafjörður on 23 September 1746. It shows that Jón had the mission of looking for printed books as well as manuscripts, and he explains that his search for such “trockte eller skrevne antiqviteter” (printed or written antiquities) had not produced any results.<sup>15</sup> As it happens, Thott 2110 I 4to may have been in Hrappsey at that time, as a person who lived there wrote his name on an almost empty page. For the sake of context, an overview of marginalia and other additions will be given here, with emphasis on the pertinent items:

- f. 1r: Names and bits of hymns have been scribbled on the first page by one person in the late 17th or early 18th century. Along the left margin reads: “Rís upp upp drottni dýrð syng þú / Þórður Hannesson / Penna” (Rise up, sing the praise of the Lord, Þórður Hannesson, pen). In the lower margin upside down is written: “Þórður Thorláksson eh / friður guðs sá sem er öllum / Þórður eh” (Þórður Thorláksson in his own hand, the peace of God who to all, Þórður in his own hand). These men cannot be identified. Þórður Hannesson is unknown and it is quite unlikely that Bishop Þórður Þorláksson at Skálholt, who died in 1697, would have done this, had he had the manuscript, which is also unlikely.
- f. 23v: Underneath the original signatures of Þorleifur Kortsson and three other men, the names of Jósef Arason and Páll Ólafsson have been added. Jósef was born c. 1719 and died on 19 September 1784; he farmed for a time at Hallsbær at Hellissandur on Snæfellsnes. He was the illegitimate son of Ari Eyjólfsson, born in 1687, and Þjóðhildur Bárðardóttir, born in 1703. Páll Ólafsson was born c. 1730 and lived for some time at Gufuskálar close to Hellissandur.<sup>16</sup>
- f. 80v: A short note on placing the dependent (“ómagi”) Jón Egilsson with Sighvatur Teitsson: “soleiðis ráðstöfun er af oss undirskrifuðum gjörð fyrir ómaganum Jóni Egilssyni. Í fyrstu hjá Sigvati Teitssyni” (Such an arrangement made by us who sign this letter concerning the dependent Jón Egilsson. At first in the home of Sigvatur Teitsson). Sighvatur was a farmer at Öxney in Breiðafjörður, born c. 1720. Jón Egilsson cannot be identified, however, unless the note was a private joke, see below.

<sup>15</sup> Jón Magnússon, *Píslarsaga séra Jóns Magnússonar*, 43–44; Jón Helgason 1975, 204. On Jón Sigurðsson, see Páll Eggert Ólason 1948–1952, vol. 3, 261.

<sup>16</sup> “Jósef Arason”, “Páll Ólafsson”, in: *Íslendingabók* (s. d.), [www.islendingabok.is](http://www.islendingabok.is) (accessed 15/04/2021).

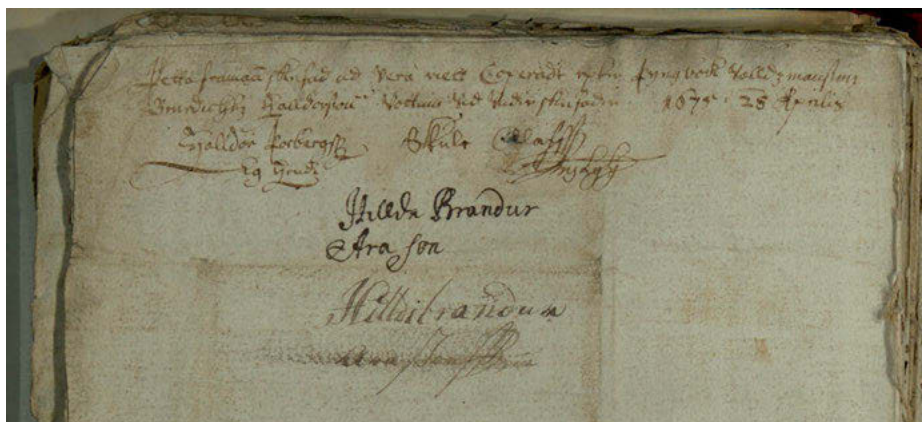


Fig. 2: Reykjavík, National Archives of Iceland, Thott 2110 I 4to, f. 88v, detail. Hildibrandur Arason. For a colour image, see Appendix, p. 452 of the print version.

- f. 88v: At the end of the verdict of 25 February 1675 in the case of Helgi Vigfússon (see below), underneath the original signatures, Hildibrandur Arason writes his name twice (see Fig. 2). He was born a few years after 1720 and was the son of Ari Eyjólfsson, mentioned above, and his wife Guðrún Sighvatsdóttir, who was Sighvatur Teitsson's paternal aunt. In the census of 1703, she was 12 years old and lived at Öxney, while Ari was at Fremri-Langey and was four years older. After their marriage they first lived at Fremri-Langey and moved to Harastaðir on Fellsströnd in 1737. As for their son Hildibrandur, some of his poetry is preserved, and he is reported to have died at Rif on Snæfellsnes, but it is not clear when that happened.<sup>17</sup> In 1747–1748 he was a labourer at Hrappsey, where Bogi Benediktsson had just taken over from his father Benedikt Jónsson, who died at the age of 85 on 16 December 1746, just after the Rev. Jón Sigurðsson came to visit. Bogi and Þrúður Bjarnadóttir got engaged on 20 July 1747 and married a month later.<sup>18</sup> Hildibrandur, Bogi and the midwife Hildur Brandsdóttir were godparents to Jón Jónsson, who was born and baptised at Skarð on Skarðsströnd on 2 June 1747. His parents were Jón Egilsson, future farmer and a productive scribe at Stóra-Vatnshorn in Dalasýsla, and Þuríður Nikulásdóttir.<sup>19</sup> They were labourers at Skarð at the time of their son's birth; Jón was born in 1724 and Þuríður probably a few years before. They married at Skarð on 1 September 1748.<sup>20</sup> Six days later, Hildibrandur became godfather to Þórarinn Guðmundsson, who was born at Hrappsey and baptised

<sup>17</sup> “Ari Hildibrandsson”, “Guðrún Sighvatsdóttir”, “Hildibrandur Arason”, in: *Íslendingabók* (s. d.), [www.islendingabok.is](http://www.islendingabok.is) (accessed 15/04/2021); “Hildibrandur Arason”, in: *Handrit* (2009–), <https://handrit.is/manuscript/list/people/HilAra001> (accessed 01/04/2022).

<sup>18</sup> NAI, Kirknasafn, Skarðsþing BA/1 (Ministerial book 1743–1768), 16, 21.

<sup>19</sup> NAI, Kirknasafn, Skarðsþing BA/1 (Ministerial book 1743–1768), 22.

<sup>20</sup> NAI, Kirknasafn, Skarðsþing BA/1 (Ministerial book 1743–1768), 37.

in the church of Dagverðarnes.<sup>21</sup> On 5 October, yet another child was born in Hrappsey, and the mother, Margrét Jónsdóttir, announced that Hildibrandur was the father. He did not dispute this, and their daughter Björg was baptised the day after at Dagverðarnes. They were identified as “vinnuhjú í Hrappsey” (workers at Hrappsey), and the godparents were Jón Egilsson at Kvennahóll and two inhabitants of Hrappsey, Þorsteinn Finnsson and Þuríður Jónsdóttir.<sup>22</sup>

Thott 2110 I 4to may thus have been in Hrappsey with Benedikt Jónsson and his son Bogi Benediktsson, who went on to establish a printing press on the island. Hildibrandur could have read some of the verdicts and decided to add his name, and so did perhaps his half-brother Jósef Arason. Hildibrandur’s cousin Sighvatur Teitsson lived nearby, and the only Jón Egilsson in the vicinity was a friend of Hildibrandur’s. The incomplete note of his being a dependent of Sighvatur’s may thus have been written as a jest. These men were all the same age and may have been good friends. It is quite possible that the Rev. Jón Sigurðsson, after visiting Hrappsey in the autumn of 1746, got the manuscript from Bogi some months or years later and sent it to Langebek—or even to Thott himself for that matter. It may also have been in Hrappsey and that Jón Sigurðsson did not get it!

Another scenario is that Hildibrandur and Jósef were the rightful owners and that they took the manuscript with them to the outskirts of Snæfellsnes, where Sheriff Jón Árnason lived at Ingjaldshóll. It would then have come to Copenhagen with the books and manuscripts from Jón Árnason that were sold in January 1779, perhaps together with the court book of his region (Thott 2109 4to).<sup>23</sup> Unless new evidence appears, all of this remains speculative. It is quite clear, though, that soon after the manuscript arrived in Denmark it came to be recognised as being quite interesting. This can be seen in a note written in the late 18th century or not much later by a scribe unknown to the otherwise knowledgeable Kristian Kålund, but most likely Danish, indicating that the manuscript contained a number of witchcraft cases from Iceland: “Herudi findes eendeel Processer om hexerie i Island” (Here one finds numerous court proceedings on witchcraft in Iceland) (see Fig. 3).<sup>24</sup>

<sup>21</sup> NAI, Kirknasafn, Skarðsþing BA/1 (Ministerial book 1743–1768), 34.

<sup>22</sup> NAI, Kirknasafn, Skarðsþing BA/1 (Ministerial book 1743–1768), 36.

<sup>23</sup> The printed catalogue and a handwritten version with the names of buyers are extant in Reykjavík, National and University Library of Iceland (NULI), JS 107 fol. A few collections of verdicts were sold, such as “Extract af gamle Domme, Mscr” (5, no. 62) and “Samling af gamle Domme” (7, no. 112), but they were bought by Icelanders. Christian Brandt was present and bought a few items.

<sup>24</sup> Kålund 1900, 356.

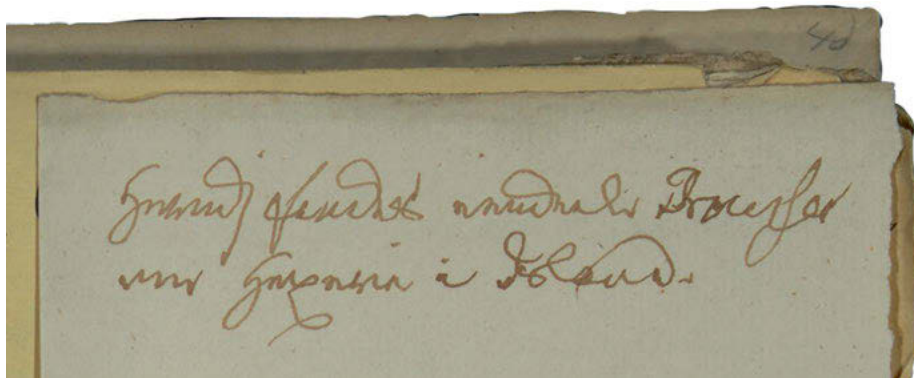


Fig. 3: Reykjavík, National Archives of Iceland, Thott 2110 I 4to, front, detail. An unidentified scribe who probably worked at the library. For a colour image, see Appendix, p. 453 of the print version.

## 2 The Contents

On perusing Thott 2110 I 4to for his immense collection towards a biography of learned Icelanders, Hannes Þorsteinsson realised that it must have belonged to Þorleifur Kortsson, since almost everything it contained had some relation to him, either in the original or in copies: “Hefur öll syrpa þessi (Thott 2110 4to) eflaust fyrrum verið í vörslum Þorleifs lögmans, því að mestur hluti hennar eru annaðhvert héraðsdómar hans sjálfs, aðallega í galdramálum, og afskriftir annara héraðsdóma (um galdra) er dæmdir hafa verið undir úrskurð hans eða fullnaðardóms sem lögmans” (The whole of this miscellany was without doubt in the care of Þorleifur Kortsson, since most of it consists of his local verdicts, mostly in witchcraft cases, and copies of other local proceedings (concerning witchcraft) that were sent to him as lawman for further instructions or final verdict). Hannes had earlier made a note of the manuscript being in Copenhagen and that it ought to be transcribed as a whole, adding first that it would be handed over and later that it had arrived: “Þetta hdr. verður afhent til Þjskjs. Er nú hingað komið” (This manuscript will be delivered to the National Archives. It has arrived here).<sup>25</sup>

For the uniqueness of this manuscript to become clear, its constituent parts need to be described in some detail, with a few words on the contents:

- 1) Ff. 11r–16v. “Trékyllisvíkurmál”. In the spring of 1651, a case started in Strandasýsla that turned out to be a watershed in the treatment of witchcraft in Iceland. Þorleifur Kortsson, recently appointed as sheriff, ordered farmer Þórður Guðbrandsson at Munaðarnes, a farmer to the north of Trékyllisvík, to send the servant Guðrún Hróbjartsdóttir to help her mother. Þórður refused, and his sub-

<sup>25</sup> NAI, Hannes Þorsteinsson, *Æfir lærðra manna*, vol. 64, 302, 304.



sequent disagreement with Guðrún's brothers was said to have resulted in unrest and bother from an evil spirit or ghost. This mostly happened during mass in the church at Árnes, and the ghost went down people's throats so they burped and vomited. The brothers accused Þórður of witchcraft, and on 22 April 1654 the local assembly at Árnes decided that he should swear an oath within ten weeks to counter the allegations. The case was discussed at the Alþingi in the summer and was discussed again at Árnes on 19–25 September. Þórður confessed, as did two other local men, Egill Bjarnason and Grímur Jónsson. They were sentenced to death and burned for sorcery. This was the beginning of an Icelandic witch-hunting craze that lasted some thirty years.<sup>26</sup>

- Ff. 11r–12r. Árnes in Trékyllisvík on 22 April 1654. Verdict with the signatures of Þorleifur Kortsson and six other men. The scribe has not been identified. The confirmation of lawman Magnús Björnsson at Engihlíð í Langadal on 9 June follows, with his signature and those of eight other men.
  - Ff. 13r–16r. Árnes in Trékyllisvík on 23–25 September 1654. Verdict and oath of twelve concerning Grímur Jónsson. Only the last part of the proceedings against Grímur is included here, and the verdict as a whole is preserved in a contemporary copy in NKS 1945 4to, 344v–347v. The scribe is unknown.
- 2) Ff. 17r–25v. “Skutulsfjarðarmál”. According to Hannes Þorsteinsson, these verdicts of 1656 came last in the manuscript.<sup>27</sup> They must thus have been moved after the manuscript came to Reykjavík for the sake of chronological order. The burning of Jón Jónsson the Elder and Jón Jónsson the Younger, a father and son, took place at Eyri in Skutulsfjörður on 10 April 1656 with sheriffs Þorleifur Kortsson and Magnús Magnússon present. They were found guilty of having persecuted the Rev. Jón Magnússon with witchcraft, who later described his sufferings in excruciating detail.<sup>28</sup>
- Ff. 17r–18v. Eyri in Skutulsfjörður on 14 December 1655. Verdict. Some text is missing at the end. The scribe is unknown.
  - Ff. 19r–23v. Eyri við Skutulsfjörð on 9 April 1656. Verdict in a copy made at Kirkjuból in Langidalur on 11 May with the signatures of Þorleifur Kortsson, Magnús Magnússon, Brynjólfur Bjarnason and Snæbjörn Torfason. Snæbjörn lived at Kirkjuból and did the writing.
  - Ff. 23v–25v. Eyri in Skutulsfjörður on 10 April 1656. Verdict on the property of the father and son in a copy written by Snæbjörn Torfason and signed by the same four men at Kirkjuból on 12 May.

<sup>26</sup> The relevant texts are published in Már Jónsson 2021, vol. 1, 222–235.

<sup>27</sup> NAI, Hannes Þorsteinsson, *Æfir lærðra manna*, vol. 64, 302.

<sup>28</sup> Jón Magnússon, *And Though this World with Devils Filled*. The most recent Icelandic edition is in Jón Magnússon, *Píslarsaga séra Jóns Magnússonar*. The proceedings are in Már Jónsson 2021, vol. 1, 251–270. On the case as such, see Ellison 1993, 217–243; Hastrup 1993, 393–394.

- F. 26r–v. Eyri in Skutulsfjörður on 12 April 1656. Verdict on Jón Ólafsson, who was to be flogged for the possession of magic signs (“galdrastafir”). A copy signed by the same four men at Kirkjuból on 12 May, written by Snæbjörn.<sup>29</sup>
- 3) Ff. 27r–29v. Kirkjuból in Steingrímsfjörður on 7 June 1662. Two copies of an open letter in the name of Sheriff Jón Magnússon, written by an unknown scribe, on the choice of two representatives of Strandasýsla at the ceremony for the introduction of absolutism in the kingdom (“einveldishylling”) at the Alþingi (ff. 27r–28v). Appended is a letter from Þorleifur Kortsson at Bær in Hrútafjörður on 16 April 1663, asking farmers for a certain amount to cover the costs for one of the representatives, Magnús Árnason. The scribe is the same, but Þorleifur signs the letter and adds a note that he wanted the letter back before the next local assembly (f. 29r). These texts have not been published.
- 4) F. 30r–v. Bær in Hrútafjörður on 22 October 1658. Verdict on the maintenance of Arndís Bjarnadóttir written by Þorleifur, who signs it with six other men. Unpublished.
- 5) Ff. 31r–37r. Bær in Hrútafjörður on 16 August 1658. Two versions of a verdict on the accidental drowning of the young Ögmundur Erlendsson. One of them is written by Þorleifur but is unsigned and may be a draft rather than an expanded version (ff. 35r–37r). The other one, slightly shorter, is written by Hákon Árnason and has Þorleifur’s signature as well as that of Hákon and eleven other men (ff. 31r–34r).<sup>30</sup>
- 6) Ff. 38r–39v. Fell í Kollafirði on 29 April 1658. Oaths of innocence in Þorleifur’s hand, sworn by Þorleifur Jónsson and Herdís Árnadóttir because of rumours of theft. The oaths were confirmed by five men and five women.<sup>31</sup>
- 7) F. 40r–v. Árnes in Trékyllisvík on 3 September 1658. A contemporary copy of notes written by the Rev. Þorvarður Magnússon on the case of Margrét Þórðardóttir, daughter of Þórður Guðbrandsson at Munaðarnes. She had been accused of witchcraft soon after the execution of her father and ran away. The Rev. Þorvarður wished for a reconciliation. In 1662, she got to swear an oath to her innocence. The scribe is not known.<sup>32</sup>
- 8) Ff. 41r–42v. Kaldaðarnes in Bjarnarfjörður on 7 May 1660. Guðrún Magnúsdóttir described her illness and wanted an investigation, naming three men who might either have bewitched her or would know who did it (f. 41r). The case was not pursued. Þorleifur wrote the text and signed it with Sheriff Jón Magnússon and two other men.<sup>33</sup> The next page in the manuscript is blank, but on the following one there is a draft of an agreement between Þorleifur, Magnús Magnússon and

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<sup>29</sup> Text in Már Jónsson 2021, vol. 1, 270–272.

<sup>30</sup> The text is published in Már Jónsson 2008, 61–65.

<sup>31</sup> Published in Már Jónsson 2008, 58–60.

<sup>32</sup> The preserved proceedings in her case, including these notes, are published in Már Jónsson 2021, vol. 1, 236–244.

<sup>33</sup> The text is published in Már Jónsson 2021, vol. 1, 323.

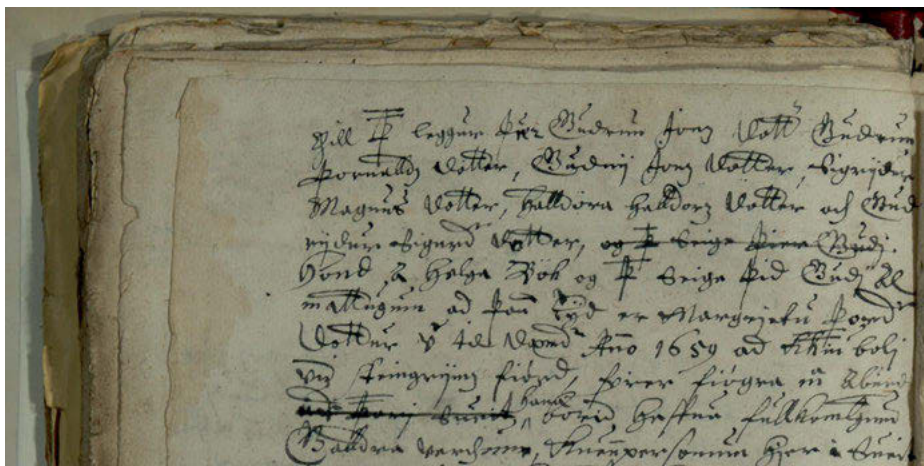


Fig. 4: Reykjavík, National Archives of Iceland, Thott 2110 I 4to, f. 44v, detail. Þorleifur Kortsson's hand. For a colour image, see Appendix, p. 453 of the print version.

Gísli Jónsson on the management of Ísafjarðarsýsla (f. 42r). This is followed by a description of sheep-marks by two farmers at a local assembly on 12 May 1660, but no place is mentioned. Þorleifur wrote these texts.

- 9) F. 43r. Kirkjuból in Steingrímsfjörður on 24 April 1661. Agreement on a land dispute signed by Þorleifur and nine others. The document appears to be written by Pétur Einarsson *lögréttumaður*, who is one of the signatories. The names of Þorleifur Kortsson and Jón Jónsson have later been written on the verso-side.
- 10) Ff. 44r–49v. Árnes in Trékyllisvík on 10 June 1661. A series of oaths and one verdict, written by Þorleifur Kortsson. Ingigerður Gunnarsdóttir swears that she has been faithful to her husband, Magnús Bessason (ff. 44r, 48v). Six women declare that Margrét Þórðardóttir is guilty rather than innocent of witchcraft (f. 44v) (see Fig. 4). Solveig Ásgeirsdóttir and Ingibjörg Þórðardóttir swear oaths on their chastity (ff. 45r–46r). Verdict on a dispute between Magnús Bessason and his sons, signed by Þorleifur and six others (f. 47r). These are the last documents in the manuscript that concern Þorleifur's work as sheriff of Strandasýsla.
- 11) Ff. 50r–54r. Vallalaug in Skagafjörður on 10 June and 5 August 1664. Verdicts on Björn Björnsson, farmer at Borgargerði in Norðurárdalur, who was accused of causing the illness of his neighbour's wife. On 10 June the case was sent to Þorleifur Kortsson as lawman, whose resolution is not preserved. This is a contemporary copy, but the scribe is unknown.<sup>34</sup>
- 12) Ff. 55r–60v, 1r–10r. The case of Þórarinn Halldórsson in Ísafjarðarsýsla. The first ten leaves appear to have been added after the manuscript came to Iceland, as they are enclosed in a sheet of yellow paper on which Jón Þorkelsson has written:

<sup>34</sup> The text is published in Már Jónsson 2021, vol. 1, 339–345.

“Dómur um galdramál Þórarins Halldórssonar” (Verdict in the witchcraft case of Þórarinn Halldórsson). Þórarinn was a farmer at Birnustaðir in Laugardalur and had tried to heal people and cows. He ran away two times but was caught and finally burned at the Alþingi of 1667 with Þorleifur present.<sup>35</sup>

- F. 55r–v. Ögur in Ísafjarðardjúp on 4 April 1665, incomplete at the end.
  - Ff. 56r–59r. Ögur in Ísafjarðardjúp on 21 November 1665. The case was now referred to Þorleifur, whose agreement on Þórarinn's arrestation at Þingeyrar on 20 January 1666 was announced at the Alþingi. That letter is not preserved.
  - Ff. 59v–60v. Súðavík on 15 October 1665. Verdict on the adultery of Jón Ólafsson, probably written by Guðmundur Ásmundsson. It is followed by an attestation written and signed by Sheriff Magnús Magnússon at Eyri in Seyðisfjörður on 28 December 1665, confirming that the verdicts had been copied from his court book (*dómabók*). Guðmundur signs this as well as Magnús (f. 60v).<sup>36</sup>
  - Ff. 1r–3v. Ögur in Ísafjarðardjúp on 19 April 1667. The beginning and end are missing.
  - Ff. 4r–10r. Reykjarfjörður in Vatnsfjarðarsveit on 29 May 1667. The beginning is missing. These two texts were copied from the original at Eyri in Seyðisfjörður on 14 June 1668, apparently by Guðmundur Ásmundsson, who signs with two others, one of them being the Rev. Björn Þorleifsson, who also wrote the attestation.
- 13) Ff. 61r–62v. Vatnsleysa in Árnassýsla on 10 March 1671. Verdict in the case of Rev. Loftur Jósefsson at Skálholt, who was accused of having caused the illness of a student at the cathedral school, son of lawman Sigurður Jónsson. The scribe is unknown. There is no mention of Þorleifur Kortsson, and since the accused was a clergyman the case was not discussed at the Alþingi. This is the only extant copy of the verdict.<sup>37</sup>
- 14) Ff. 63r–65r. Árnes in Trékyllisvík on 20 May 1670. Verdict in the witchcraft case against Sigmundur Valgarðsson and Eyjólfur Jónsson, who had accused each other of witchcraft in vehement terms. This is a copy made by Þorleifur himself. The case was referred to him as lawman, and he was at the Alþingi that summer when it was decided that they should be severely flogged.<sup>38</sup>
- 15) Ff. 66r–71r. Tunga in Örlýgshöfn on 8 May 1671. Verdict in the case against Jón Úlfsson at Geitagil, who was accused of causing illness in people, cows and sheep.

<sup>35</sup> The proceedings are published in Már Jónsson 2021, vol. 1, 346–370.

<sup>36</sup> Magnús Magnússon's book of verdicts is not extant, but his collection of laws, royal decrees and Icelandic verdicts, classified into categories and arranged in alphabetical order, is preserved as NULL, Lbs 229 fol. On ff. 142r–143v, there is a somewhat disorderly list of witchcraft cases from the period 1631–1692. Only the case of Þórarinn Halldórsson is described in some detail, with a reference to “Folio 155 et 156” in some other book; see f. 143r. On the collection, see Gísli Baldur Röbertsson 2010, 340.

<sup>37</sup> The text is published in Már Jónsson 2021, vol. 2, 408–411.

<sup>38</sup> The text is published in Már Jónsson 2021, vol. 1, 379–389.

This is an undated copy attested by Páll Jónsson and Egill Helgason, who wrote the verdict. Egill was for some years in the service of Sheriff Eggert Björnsson of Barðastrandarýsla, who lived at Skarð at Skarðsströnd and was present there on 25 August 1671, when Jón's case was discussed. He became the minister at Garpsdalur in 1680 and received Skarðsþing three years later.<sup>39</sup>

- 16) Ff. 72r–84r. The case of Páll Oddsson in Húnavatnssýsla. The accusations against him are vague but refer to women struck by illness. The verdicts mostly concern formalities on his oath. Despite very limited evidence, he was burned at the Alþingi in 1672.<sup>40</sup>
- Ff. 72r–74v. Kirkjuhvammur in Vatnsnes on 10 September 1672. Verdict in a copy made from the original at Auðunarstaðir on 25 September by Jón Árnason. Þorleifur Kortsson was present and was asked for a resolution on how to proceed with the case.
  - Ff. 75r–76r. On 17 October 1673, probably at Kirkjuhvammur. Verdict in a copy made from Guðbrandur Arngrímsson's court book by Guðmundur Jónsson, signed by Guðmundur himself and Þorlákur Þórðarson.
  - F. 77r–v. Urriðaá on 12 November 1673. A declaration on Páll's pending oath in the original, signed by four men and probably written by one of them, Loftur Sigurðsson. In the margin of the verso-side, someone has written a line that may come from *rímur* poetry: "Foringinn hers hét Phil" (The name of the leader of the army was Phil).
  - Ff. 78r–80v. Kirkjuhvammur on 21 November 1673. Verdict in a copy made by Sheriff Guðbrandur Þorláksson two days later, signed by him and three others. The verso-side has little text, and a lower half of a watermark can be seen that shows a version of the arms of the counts of Rantzau in Holstein, who for a long time possessed a papermill; the mark can also to be seen in the manuscripts Reykjavík, The Árni Magnússon Institute for Icelandic Studies (henceforth R-AMI), AM 463 III fol. from around 1700 and National and University Library of Iceland (henceforth NULI), Lbs 325 fol. from around 1660–1680.<sup>41</sup> No other watermarks are visible in the manuscript with the naked eye.
  - Ff. 81r–83r. Kirkjuhvammur on 19 March 1674. Verdict in a copy made the same day by Sigurður Jónsson and signed by him as well as Sheriff Guðbrandur Þorláksson and Björn Hrólfsson. Þorleifur received the copy on 3 April.
  - f. 84r. Kirkjuhvammur on 28 April 1674. A declaration of six men who were to swear the oath (*eiðvætti*) in Páll's case in a copy made on 4 May by Sigurður Jónsson, signed by Sigurður himself and Jón Jónsson.

<sup>39</sup> The proceedings are published in Már Jónsson 2021, vol. 1, 462–482.

<sup>40</sup> The proceedings are published in Már Jónsson 2021, vol. 2, 11–29.

<sup>41</sup> I thank Silvia Hufnagel for providing this information; cf. Lindberg 1998, A34, 161 (nr. 155); Weinberger 2012, 37. See also the article by Halldóra Kristinsdóttir et al. in this volume.

- 17) Ff. 85r–88v. The case of Helgi Vigfússon in Skagafjörður. Þorleifur received the papers of the case and kept them but his verdict is not preserved. Helgi was flogged.
- Ff. 85r–86v. Holt in Austurholt on 16 April 1675. Verdict in a copy made by Skúli Ólafsson at Seyla in Langholt on 29 April from the court book of Sheriff Benedikt Halldórsson, signed by Benedikt himself and Halldór Þorbergsson.
  - Ff. 87r–88v. Seyla in Langholt on 25 February 1675. The questioning of Helgi, followed by attestations on his reputation at Fell on 15 April and Holt a day later in a copy made by Halldór Þorbergsson from the court book on 28 April, signed by Halldór himself and Skúli Ólafsson.

Taken as a whole, Thott 2110 I 4to is unique among Icelandic legal manuscripts as it contains verdicts and other judiciary texts gathered together over a long time, partly in originals and partly in contemporary copies. Þorleifur Kortsson kept these records of his work, first as sheriff (*sýslumaður*) and then as lawman (*lögmaður*). This manuscript is different from any other among the numerous preserved collections of verdicts assembled and copied by men with an interest in knowing about legal precedents. They have not been studied as a whole, and only a few other items will be mentioned. At the central court of the Alþingi, no records were kept except for the proceedings themselves that the official scribe (*alþingisskrifari*) made in a number of copies and sent to sheriffs around the country, at least from the 1630s onwards. Locally, sheriffs needed a system for keeping track of what came to be decided at assemblies, but very little is preserved, such as the court books from Rangárvallasýsla in 1599–1612 (R-AMI, AM 249 a I–III 4to), Árnassýsla in 1619–1626 (R-AMI, AM 254 4to) and 1666–1677, Snæfellsnessýsla in 1652–1667, Barðastrandarsýsla in 1661–1662 and Skagafjarðarsýsla in 1673–1680 (NAI, Sýsluskjalasafn Árnassýsla GA/1, 2, Snæfellsnessýsla GA/1, 1, Barðastrandarsýsla GA/1, 1 and Skagafjarðarsýsla GA/1, 1). These were at the time considered as private papers, and they were thus not passed on to the next sheriff. Þorleifur Kortsson himself probably kept such books as sheriff and later as lawman, and one such volume is preserved from the years 1670–1678, when he retired. It is now kept in the archive of the Alþingi at the National Archives, but according to Hannes Þorsteinsson it was earlier in the archive of the Danish governor of Iceland (*stiftamtmaður*). Some of its texts relate to witchcraft cases.<sup>42</sup>

Such manuscripts would now be classified as public records, whereas most extant collections of verdicts and law were private enterprises produced by officials or men with legal interests for their own use. A good example is the volume put together by Hannes Gunnlaugsson and Magnús Magnússon, described in the article by Halldóra Kristinsdóttir et al. in this book. Their neighbour, the Rev. Sigurður Jónsson at

<sup>42</sup> NAI, Alþingi hið forna, *Dómabók Þorleifs Kortssonar (Court Book of Þorleifur Kortsson) 1670–1678*; Hannes Þorsteinsson, *Æfir lærdra manna* 64, 288; Már Jónsson 2021, vol. 1, 451–461; vol. 2, 47–55, 64–68, 122–126, 193–199, 200–202.

Vatnsfjörður and later at Holt in Önundarfjörður, produced at least two such manuscripts (R-AMI, AM 194 4to, AM 196 4to), the latter with a list of contents. Remnants of collections put together by Markús Ólafsson in Skagafjörður and Halldór Eiríksson around 1670 are in the British Library (London, British Library, MS Add. 11 080, ff. 1–122; MS Add. 11 095, ff. 47–78). In many cases these books passed from one man to another, being inherited or even sold, as when Markús Bergsson, sheriff of Ísafjarðarsýsla in the early years of the 18th century, acquired a collection put together some decades earlier (RDL, NKS 1947 a 4to). In 1728, Ingunn Þorláksdóttir at Þernumýri in the same district wrote her name as the owner of an interesting collection, now only partly preserved, that contains copies of verdicts from Skagafjörður around 1660 (MS Add. 11 080, ff. 123–182).

The majority of these books are in the National and University Library of Iceland. At least three of them were made by Sheriff Ari Magnússon at Ögur in Ísafjarðarsýsla, who died in 1652 (NULI, Lbs 789 4to, Lbs 790 4to, ÍB 309 8vo). A colleague of his in Dalasýsla produced one around 1650 (NULI, Lbs 65 4to) with a list of contents, and in 1665 Guðmundur Jónsson at Fróðá finished yet another (NULI, Lbs 838 fol.) for Sheriff Matthías Guðmundsson of Snæfellsnessýsla.<sup>43</sup> Many of these books do not appear to have an organising principle, besides the occasional list of contents, and may have grown as the owner received more texts from others who shared the same interests. Some, however, have been meticulously conceived and constructed, almost as if they were meant to be handbooks for judges. That goes for NULI, Lbs 807 8vo, which is conveniently ordered according to subject matter, and NULI, Lbs 872 4to, where summaries of local verdicts and verdicts from the Alþingi are ordered according to chapters in *Jónsbók*, the code of law from 1281. Both books are from the end of the 17th century.

### 3 Conclusion

None of the books described above come close to being as useful and valuable as Thott 2110 I 4to. Thanks to Þorleifur Kortsson, or rather to the preservation of sizable chunks of his archive, a great deal of information is available on the most important Icelandic witchcraft trials in the crucial period of intensive persecution. Indeed, he also took part in a few cases that left no traces in his papers, and in 1676 he even became victim of witchcraft himself, when the farmhand Klemus Úlfsson scratched some magical signs on fishing boats that belonged to Þorleifur and other local dignitaries in order to frighten the fish away. The retired Þorleifur was present at the assembly at Vindhæli in Húnavatnssýsla on 22 April 1678, where Klemus confessed. Þorleifur gave some advice on procedural matters but did not participate otherwise.<sup>44</sup>

<sup>43</sup> Lists of contents for 35 of these books, made in the latter half of the 19th century, are in NULI, Lbs 297 4to.

<sup>44</sup> Már Jónsson 2021, vol. 2, 177.

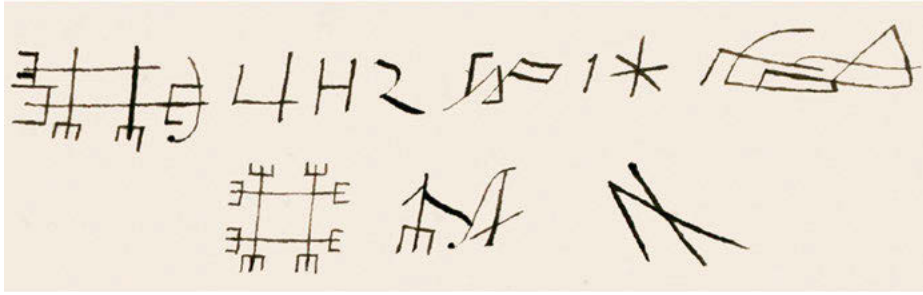


Fig. 5: Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM 445 fol., f. 272r, detail. Drawing of scratchings on boats made by Klemus Úlfsson. For a colour image, see Appendix, p. 453 of the print version.

Þorleifur Kortsson had some part in all serious witchcraft trials that took place in Iceland from 1654 to 1678, first as sheriff in Strandasýsla and Ísafjarðarsýsla, then as lawman at Alþingi. For this reason, he has been chastised by some historians and other scholars, even scathingly called an arsonist. Some authors, though, have ventured to explain his verdicts and other decisions in the context of his times, Einar Hreinsson in particular. In 1993, he concluded that Þorleifur had only been a diligent and efficient official who followed the law and insisted that he had not been a witch hunter.<sup>45</sup> In a way, both views can be sustained. Þorleifur was indeed a meticulous judge who assessed all evidence carefully, but he was equally convinced that sorcerers deserved to be either flogged severely or burned. He did not accuse anyone himself, but he was more than willing to handle accusations from those who thought they were being persecuted. It so happened that the regions where he was active, the Westfjords and Húnavatnssýsla, were the ones where popular and learned belief in witchcraft was stronger than in other parts of Iceland. His colleague lawman Sigurður Jónsson, who lived in Borgarfjörður, was just as adamant in treating witchcraft with the utmost severity, as can be seen in his abrupt reaction when his son Jón claimed to be the victim of Rev. Loftur Jósefsson at Skálholt. In a declaration at court on 10 March 1670, Sigurður spoke in clear terms and wanted the clergyman to be brought before court.<sup>46</sup> Sigurður, however, left no papers, or they perished after he died in 1677; the claim referred to here is only extant in Thott 2110 I 4to. Paradoxically, the preservation of that manuscript is another reason for Þorleifur's rather bad reputation, since without it much less would be known about his willingness to go after alleged sorcerers and much less also on witchcraft in 17th-century Iceland in general.

<sup>45</sup> Ólína Þorvarðardóttir 2000, 99–104; Siglaugur Brynleifsson 1976, 120–121; Einar Hreinsson 1993, 30.

<sup>46</sup> Már Jónsson 2021, vol. 1, 410.



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Gunnar Marel Hinriksson

# The Paper Thief, the Headmaster and Comet C/1652 Y1

## Skálholt Bishopric in the Mid-17th Century

This is the story of student Jón Pálsson (b. c. 1635, d. after 1672) and how celestial circumstances may have given him the opportunity to become a thief of paper. His victim was headmaster and astronomer Gísli Einarsson (1621–1688), and the heavenly influence came in the form of comet C/1652 Y1. The events in the story unfolded between Christmastime in 1652 and March 1653 at the Skálholt Latin school, run by the Skálholt bishopric in South Iceland, where Bishop Brynjólfur Sveinsson (1605–1675) tended his flock.

The two bishoprics—the other being in Hólar in North Iceland—were the largest institutions in the country, claiming a quarter of the annual property tax, taking in great sums from the lease of hundreds of farms and receiving a large portion of the fines issued for offences against the Church or Christian law. This was the financial basis for the Latin schools, where generations of pastors and learned men, and in many cases secular officials, were educated.<sup>1</sup> A census taken in 1703, fifty years after the events portrayed here took place, tells us that at that time 111 people lived in Skálholt, including the students.<sup>2</sup> Most likely this number did not change much during the heyday of the Latin school. That makes it one of the largest—if not *the* largest—population centres in Iceland at the time, since there were no towns or villages to speak of on the island.

The diocese was under the benign control of Bishop Brynjólfur Sveinsson. Born in 1605, he studied and worked in Denmark from 1624 to 1638 (apart from the years 1629–1631) after graduating from the Latin school in Skálholt. He accepted a post as provost at the school in Roskilde, Denmark in 1632 and was awarded the title of *magister artium* from the University of Copenhagen in 1633. In 1638 he had plans to travel further south to visit other academies, but during a visit to Iceland in the summer to see his elderly parents, he was elected bishop. He quickly returned to Denmark to try to evade taking on the office, to which he had no ambition, stating he was unfit for the job. His objections were ignored, mainly because it was deemed that his expertise was needed, especially at the Latin school. It is said that because he genuinely had no interest in the job, he is the only person to be “sentenced to the office”.<sup>3</sup> Brynjólfur was ordained on 15 March 1639 and served for 35 years, until his resignation in 1674. He died a year later.<sup>4</sup>

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1 Gunnar Karlsson 2000, 134.

2 *Mannatal á Íslandi árið 1703*, 542–543.

3 Gunnar Hardarson 1995, 306.

4 Páll Eggert Ólason 1948–1952, vol. 1, 286.

In a biography of Brynjólfur written by his nephew and brother-in-law Torfi Jónsson (1617–1689), the story is told of a pear tree that grew in the garden outside Brynjólfur's rooms in Roskilde. When he left his post as provost, the tree died. This is said to have been interpreted as an omen and that the school would have to wait a long time for another provost of the same calibre.<sup>5</sup>

Brynjólfur's period as bishop is well documented in his copy books spanning the years 1652–1675, which contain transcriptions of the bishop's official letters in 14 volumes in folio and are kept safe today in The Árni Magnússon Institute for Icelandic Studies in Reykjavík, where they bear the shelfmarks AM 268–281 fol. The books originally numbered 21, but the first six and most of the 19th volume are lost. Of the 19th volume, only eight sheets survive, now preserved in the Manuscript Department of the National and University Library of Iceland (henceforth NULI).<sup>6</sup> We know that Professor Árni Magnússon (1663–1730) obtained 18 volumes and kept them in his manuscript collection in Copenhagen. We can thus assume that four were lost in the 1728 fire of Copenhagen, where a sizeable portion of Árni's collection was lost. The other three missing volumes must have been lost in Iceland at an earlier time.<sup>7</sup> The surviving volumes range from 158 to 347 sheets in size, totalling 3 429 sheets, or almost 7 000 leaves.<sup>8</sup> Given that a third of the volumes is missing, the total page count must have been over 9 000 leaves when the collection was whole.

In all, five headmasters served the school in Skálholt during Brynjólfur's episcopacy. When our story takes place, Gísli Einarsson had been headmaster for two years. He was the first Icelander to study mathematics at university—in Copenhagen, the *alma mater* of almost all Icelandic university students in the early modern period—but even though he was enrolled for five years, there is no documentation showing that he graduated. Before he left Copenhagen, he calculated the Danish almanac for the year 1650. Since 1636 the king had expected the University of Copenhagen to publish a yearly almanac, which was traditionally done by a prominent student in mathematics. Accompanying Gísli's almanac is a third and final chapter on the history of astronomy. The first two chapters were written by Christen Steenbuch (1625–1665) and published alongside his almanacs of 1648 and 1649. No author is named for the third and final chapter, and even though it was published alongside Gísli's almanac, it has not been attributed to him.<sup>9</sup>

In 1649 Gísli wrote to the king's secretary, Otto Krag (1611–1666), and asked for help to obtain a grant to continue his studies in arithmetic, geometry and spherics

<sup>5</sup> Torfi Jónsson [1685] 1949, 14.

<sup>6</sup> NULI, ÍB 34 fol.

<sup>7</sup> Jón Helgason 1942, vi.

<sup>8</sup> From 1899 to 1907, Guðmundur Þorláksson and Páll Eggert Ólason copied the whole collection by hand (NULI, Lbs 1077–1090 4to) and made an index (NULI, Lbs 1091 4to). At the time the age-old method of copying text through transcription by hand was still in practice. Brynjólfur's copy books were still in Copenhagen at the beginning of the 20th century and were therefore unavailable to scholars working in Iceland. See Páll Eggert Ólason 1918, 432–433.

<sup>9</sup> Einar H. Guðmundsson 1998, 200.

(the science of heavenly motion), as these subjects had hitherto not been taught at the Latin school in Skálholt. Four days later Gísli was appointed teacher (*heyrari*) at the school and received no grant to continue his education.<sup>10</sup>

Why he did not study theology, as was customary for Icelandic students in the 17th century, is not known, but there is speculation that he went off the beaten path thanks to motivation from Bishop Brynjólfur. That Gísli was the first to teach the sciences at the school in Skálholt may also well have been due to Brynjólfur's influence, since mathematics was a part of the curriculum during his tenure in Roskilde.<sup>11</sup> No record survives of Gísli's teaching in Skálholt, such as which books he used or how much time was allotted to mathematics and astronomy. Gísli's teacher in Copenhagen, Jørgen From (1605–1651), published a textbook for the Latin schools in Denmark and Norway around the same time as Gísli took up the position in Iceland; we can therefore assume that this is the book he used. The textbook, *Arithmetica Danica seu brevis ac perspicua institutio arithmetice vulgaris, Astronomicæ, geodaeticæ, in usum gymnasiorum et scholarum Danicæ et Norvegiæ adornata*, was published in 1649 under the author's Latinised name, Georgio Frommio.<sup>12</sup>

Gísli's term as headmaster had a rocky start in 1651, as on the day of his inauguration, the school burned down. The fire was caused by some student's careless lighting of a fireplace to heat the building — he had done so at Gísli's instruction. Gísli accepted responsibility but was not hindered in assuming the post, which he kept for ten years; at that point he became a minister in Helgafell on the Snæfellsnes peninsula in West Iceland, despite not having studied theology at university.<sup>13</sup>

In 1653, the school in Skálholt celebrated its 100-year jubilee. Jón Halldórsson (1665–1736), a minister and historian who wrote an account of the headmasters in Skálholt, notes that “it would have been appropriate had a celebratory address, or *oratio jubilæa*, been held to commemorate this occasion”.<sup>14</sup> What Jón meant when he wrote these lines and what can be inferred from it regarding Gísli's headmastership, we cannot say.

## The Value of Paper

Now the stage has been set, and we turn to the case at hand. In volume 7 of Bishop Brynjólfur Sveinsson's letters, we find an account under the heading *Jón Pálsson's Seizing of Paper*, dated 12 March 1653. It begins with a table listing students at the Latin school in Skálholt who bought stolen paper from their fellow student Jón Pálsson

<sup>10</sup> Einar H. Guðmundsson 1998, 190–191.

<sup>11</sup> Gunnar Hardarson 1995, 306.

<sup>12</sup> Einar H. Guðmundsson 1998, 205–206.

<sup>13</sup> Jón Halldórsson [1719] 1916–1925, 137, 139–142; Einar H. Guðmundsson 1998, 203.

<sup>14</sup> “og var verðugt, að þá hefði haldið verið í skólanum fagnaðarársræða eður *oratio jubilæa*”. Jón Halldórsson [1719] 1916–1925, 141.

around Christmastime in 1652 and how much paper they bought (see Tab. 1).<sup>15</sup> Following the table, we find a confession by the students for having bought the stolen goods, the thief’s confession and a description of how the crime was committed. Below is a reproduction of the table as it is found in the account. One quire of paper consisted of 24 sheets of writing paper—equal to 48 leaves in more modern terminology.<sup>16</sup>

**Tab. 1:** Reykjavík, The Árni Magnússon Institute for Icelandic Research, AM 268 fol., f. 65v. “Paper that Jón Pálsson sold to the students before and after Christmas of 1652–1653”.<sup>17</sup>

Students	Quires	Sheets	Half-sheets
Ketill Eiríksson	1	4	
Pétur Ámundason	1		
Snjólfur Einarsson		20	
Vernharður Erlendsson		19	
Guðmundur Bjarnason		17	
Jón Eiríksson		11	
Daði Jónsson		11	
Gísli Finnbogason		13	
Ólafur Sigfússon		13	
Björn Nikulásson		13	
Erlingur Jónsson		5 bound	
Sigurður Jónsson		4	
Sæmundur Guðmundsson		9 bound	
Pórður Þorsteinsson		4	
Ólafur Jónsson		2	
Hannes Benediktsson		2	
Jón Sigmundsson		2	
Árni Halldórsson		2	
Kort Ámundason		1	
Björn Stefánsson		1	
Jón Diðriksson		1	
Jón Torfason			1
Páll Tómasson			1

The sum is not calculated in the table, but in total this amounts to 203 sheets of paper, or one sheet less than 8.5 quires of paper (406 leaves). According to Jón Pálsson’s testimony, he brought one quire of paper from home, and from his older fellow students Einar Torfason (1633–1698) and Jón Loftsson (1630–1710), he acquired eight and four

<sup>15</sup> AM 268 fol., ff. 65v–66v.

<sup>16</sup> Rasmussen 1975, 73.

<sup>17</sup> “Pappír sem Jón Pálsson hefur selt skólapiltum fyrir og eftir jólin 1652 og 1653”, AM 268 fol., f. 65v.

sheets, respectively,<sup>18</sup> which adds up to one and one-half quires he could rightfully account for and were deducted from the sum of sold paper. Thus, the theft is determined by the school's administrators to consist of seven quires of paper (336 leaves).<sup>19</sup>

What was the value of seven quires of paper? It can be estimated from the *kaupsetning*, a price list issued for trade under the monopoly imposed by the Danish crown in 1602 that was supposed to cover all items imported to the island. The relevant price list for 1653 was prescribed in the *kaupsetning* of 1619, which was in effect for 65 years, or until 1684.<sup>20</sup> The basis of the old Icelandic price system (*landaurakerfi*) was the *hundred*. Land was measured in *hundreds*, each *hundred* being able to support one cow or six sheep. One *hundred* was also equal to 120 ells of woollen cloth, or 240 fish.<sup>21</sup> One Danish dollar, or *rigsdaler* (divisible to 6 *mark* or 96 *skilling*), was valued at 45 fish in the price list of 1619.

According to the *kaupsetning* of 1619, one quire of paper cost five fish, just under 11 *skilling*. Jón sold 8.5 quires of paper in total, by this account valued at 42.5 fish, or about 90 *skilling*. Of these, seven quires were the stolen paper, valued at 35 fish or about 75 *skilling*.

What was the buying power of these sums, following the official rate of 1619? A pair of men's shoes was equal to 30 fish; bedsheets were 20 fish; one good fat sheep, four years old, was 40 fish; and one barrel of double ale or one barrel of salt was each also worth 40 fish.<sup>22</sup>

Of course, we do not know what Jón charged for his stolen goods. Did he charge more or less than the Danish merchants? Was he paid in *skilling*,<sup>23</sup> or was he content with goods, such as food, clothes or something else? The comparison to the official rate is useful for gaining an idea of the perceived worth of the stolen paper, even if we will never know its value on the black market in Skálholt in the winter of 1652–1653.

This crime will of course not be counted amongst the biggest heists in history, but perhaps it was just big enough to make this student take a chance, a chance that unquestionably altered the course of his life, as we will see.

The Icelandic, Faroese and Nordic Trade Company's<sup>24</sup> procurement and delivery documents from the year 1635 still exist, detailing the amount, quality and price of

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**18** Einar Torfason was still enrolled in the school in the autumn of 1653, but Jón Loftsson graduated in the spring of the same year. They both later became ministers. Jón Halldórsson [1719] 1916–1925, 258; Páll Eggert Ólason 1948–1952, vol. 3, 215.

**19** AM 268 fol., 65r–66v.

**20** Gunnar Karlsson 2000, 141.

**21** Gunnar Marel Hinriksson 2008, 318.

**22** *Lovsamling for Island* 1853, 187–194. As a side note, these same calculations can be used to estimate that the material cost for the whole 21 volumes of Bishop Brynjólfur Sveinsson's copy book would have amounted to 900 fish (three and three-quarters *hundreds*) or, according to the *kaupsetning*, worth three bulls, seven to eight years old (20 *rigsdaler*), before anything was written on it.

**23** On the availability of cash in Iceland in the 17th century, see Gunnar Marel Hinriksson 2007, 5–7.

**24** See section ...and Punishment below.



paper imported to Iceland, as well as the harbour where it was sold.<sup>25</sup> Of fine quality paper (*Finn*), 26 *riis* (reams) were imported; of medium-quality paper (*Middell*), there were 18 *riis*; and of common (*Gemein*), 27 *riis*, for a total of 71 *riis*. One ream equals 20 quires of paper,<sup>26</sup> meaning that 1 420 quires of paper were imported by the Company to Iceland in 1635, i. e., 520 quires of fine paper, 360 quires of medium-quality paper and 540 quires of common paper. This equates to 34 080 sheets, or 68 160 leaves. If we assume that these numbers were not out of the ordinary for an average year, Jón's theft of seven quires and the 8.5 quires he sold equal, respectively, 0.5 % and 0.6 % of the annual paper trade in Iceland.

Skálholt did its business at the harbour of Eyrarbakki, which stands out as the harbour where most of the paper of each of the three quality levels was sold; in other harbours, either none, or only one or two reams of each type were sold.<sup>27</sup> At Eyrarbakki, nine reams or 180 quires (4 320 sheets) were sold, or 12.7 % of the paper traded in Iceland in 1635. Further broken down, this amounts to 11.5 % of the fine paper, 16.7 % of the medium-quality paper and 11 % of the common paper. This might not seem like much until one considers that the trading company did business at 23 harbours in Iceland at the time (although its paper was only sold at 12 harbours),<sup>28</sup> meaning that if the paper had been sold in equal amounts at every harbour, a little over 4 % would be expected, instead of the documented 12.7 %. We can conclude that Eyrarbakki—most likely in large part because of the needs of the Skálholt bishopric and its accompanying school—accounted for three times as much paper as the calculated average.

The price list of 1619 was valid until 1684, when a new list for the monopoly trade was ratified. The latter list includes prices for the three quality levels of paper, but the list from 1619 does not; it only states the price at five fish per quire. The procurement cost of paper in 1635, according to the trade company's accounts, was nine fish per quire for fine paper (107 *daler* for 26 reams), six fish per quire for medium paper (48 *daler* and 1 *mark* for 18 reams) and three and one-third fish per quire for common paper (40 *daler* and 8 *skilling* for 27 reams). This is very close to the 1684 prices, which were eight, six and four fish per quire for each type of paper. What this means is that the paper trade in Iceland was subsidised by the trade company. This was not unusual, and a large portion of the business of the trading company in Iceland was run at a deficit to gain access to the more lucrative fish market, which made the company a great profit.<sup>29</sup>

In light of this subsidising, it is prudent to mention that the King of Denmark did try to impose a new and higher rate for imported goods in 1631, but the Icelanders were dissatisfied and wrote a supplication, asking the king to keep the prices down. Gísli

<sup>25</sup> NULI, Lbs 85 fol., 185–190.

<sup>26</sup> Konráð Gíslason 1851, 397.

<sup>27</sup> Except for Húsavík, where three reams of fine paper were sold.

<sup>28</sup> Gísli Gunnarsson 1987, 84; Lbs 85 fol., pp. 185–190.

<sup>29</sup> Gísli Gunnarsson 1987, 227; Gunnar Marel Hinriksson 2007, 25–27, 30–31.

Oddsson (1593–1638), then bishop-elect, used the opportunity of his ordination to present the supplication to the king; the king heard the wishes of the Icelanders and prices stayed unchanged until 1684 when the merchants, who had long advocated for a higher tariff, finally had their way and a new price list was ratified.<sup>30</sup> Gísli Oddsson served as bishop until his death in 1638, when he was succeeded by Brynjólfur Sveinsson.

## The Comet and the Crime

Returning to the affair as it is laid out in the copy book, we find that below the table of how much paper they bought, the students signed their confession for doing so. Then it is stated that the following account was “publicly read and heard by Jón Pálsson himself and he confessed to having supplied this paper to the aforementioned persons”.<sup>31</sup> The accusers do note that the paper Jón would have needed for daily use has not been deducted from these numbers. But as we have discussed, from the 8.5 quires he sold, seven are considered stolen; he did this

by going to the headmaster’s house three times, he says, to take the paper, as well as two times when he was noticed so he took no paper. He says that he opened the headmaster’s chest with a key lying there in the house and from there took the paper the headmaster kept for use in the school. The boy, 18 years old, was caught in the act in the headmaster’s house, which led to the discovery of the missing paper. Additionally, a cloak belonging to Jón Torfason was found in his quarters.<sup>32</sup>

The account does not state how they proved that the paper Jón sold was the stolen paper—or even if they needed to prove it at all through other evidence or whether Jón confessed right away. The school had to keep a supply of paper for its students, for according to Governor Páll Hvitfeld’s (1520–1592) resolution on schools from 1552, the bishop’s duty was to provide the less well-off students with books and paper, as much as they needed.<sup>33</sup> The wording in the account of the paper thief supports that this rule was still upheld a full century later, for the stolen paper was “the paper the headmaster kept for use in the school”.<sup>34</sup> We do not know if the school’s own paper

<sup>30</sup> Kristjana Kristinsdóttir 2021, 183; Gunnar Marel Hinriksson 2007, 30–31.

<sup>31</sup> “upplesið í skólanum opinberlega í áheyrn sjálfs Jóns Pálssonar og meðgekk hann sig þetta allt fyrskrifuðum persónum afhent hafa”. AM 268 fol., f. 66r.

<sup>32</sup> “Í þann máta að hann í skólameistarahúsið farið hefur, hann segir þrisvar til tökunnar, að auk tvisvar þá að honum var komið, og hann bar ekki í burt. Segist hann upp hafa lokið kistu skólameistarans með hans lykli, þar liggjandi í húsinu, og tekið þar upp úr pappírinn hvern skólameistarinn geymdi skólans vegna, pilturinn 18 vetra og var fundinn eitt sinni af þessu í skólameistarahúsinu, eftir það upp var komið um pappírinn. Fundinn og hempa í hans sæng sem átti Jón Torfason”. AM 268 fol., f. 66r–v.

<sup>33</sup> *Diplomatarium Islandicum*, vol. 12, 366, 369.

<sup>34</sup> “pappírinn hvern skólameistarinn geymdi skólans vegna”, AM 268 fol., f. 66v.

was identified through watermarks, as there is nothing in the account itself that furthers any thoughts along those lines, but the possibility is there.

From this we can deduce that most of the students were affluent enough that the school did not supply them with free paper, or else Jón Pálsson would not have had any customers.

However, one important detail is not mentioned in the account: how did Jón manage to access the headmaster's house unseen on these three occasions? Why did the headmaster leave his house, and where was he? And now we are at the point where the twist comes in. Even though the account of the crime does not mention why the headmaster had left his rooms unobserved, we can surmise it and postulate that Jón Pálsson was helped by heavenly intervention.

By that, I do not mean an intervention by any god, but rather that the headmaster at the time, Gísli Einarsson—who was an avid astronomer and mathematician—suddenly had a reason to spend his nights outside looking at the sky. Jón used that unique opportunity—as did the headmaster Gísli, in his own way, making him vulnerable to the theft.

This brings us to the comet. It was not just any comet, but the comet today properly known as C/1652 Y1. The first recorded sighting of it was made in South Africa by Dutch observers, and later it was seen all around the globe in the months of December 1652 and January 1653, the first sighting occurring on 12 December 1652 and the last on 7 January 1653. It is estimated that the comet is now more than 280 AU from the Earth.<sup>35</sup> Iceland at the time still observed the Julian calendar, meaning that the corresponding dates of first and last sighting are from 2 to 28 December 1652.<sup>36</sup>

Headmaster Gísli was fascinated by the comet and made many observations of it, which he recorded. He relayed his observations in a letter to the governor of Iceland, Henrik Bjelke (1615–1683). The letter is sadly lost, but lawyer and historian P. H. Resen (1625–1688) summarised its contents in his description of Iceland, a part of his larger work *Atlas Danicus*, finished in 1688:

On 10 December 1652, the comet was seen in South Iceland in the sign of Taurus; on the 12th it was seen in Skálholt under the eye of Taurus by a star in the left thigh and went under the horizon alongside it and with the same motion. Later it showed independent motion and went over to the north sky. From the sixth hour of the night of the 14th, until the ninth hour, it went by the east side of the Pleiades; and in the fourth hour in the morning of the 16th, it was by a faint star in the left foot of Perseus. Next it went into the head of Medusa and stopped there for two days, but by then it was faint and hard to discern. It was last seen on the 25th of December about three degrees north of Medusa's head. It stayed above the horizon the whole night through.<sup>37</sup>

<sup>35</sup> “C/1652 Y1”, in: *NASA Jet Propulsion Laboratory, JPL Small-Body Database Browser*, <https://ssd.jpl.nasa.gov/sbdb.cgi?sstr=C%2F1652+Y1> (accessed 3/5/2021). One AU (astronomical unit) is the distance between the Earth and the Sun, about 150 million kilometres or roughly eight light minutes.

<sup>36</sup> “New style”, i. e., the Gregorian calendar, was adopted in Iceland in the year 1700.

<sup>37</sup> Resen, translated by Jakob Benediktsson, [1688] 1991, 286. “10. desember árið 1652 sást hún á sunnanverðu Íslandi í nautsmerki; 12. sama mánaðar sást hún í Skálholti undir auga nautsins hjá stjörnu í vinstra læri og gekk undir sjóndeildarhring samtímis henni og með sömu hreyfingu. Síðar

Gísli calculated, using trigonometry, that the comet was closer to the Earth than to the moon, no more than half the circumference of the Earth away. Which is wrong—not just due to inaccurate observations with primitive instruments: using Gísli’s own measurements, the distance should have been over one-and-a-half times the circumference of Earth. Some have speculated that Gísli’s supposed error in calculation might have been a result of the transmission of the text, being a retelling of a copy. In reality, the comet never came closer to the Earth than almost five hundred times its circumference.<sup>38</sup>

Gísli’s error is not very important, for when the description is compared to other contemporary sources on the comet written in Iceland, we see that it is by far the most detailed and accurate made. Furthermore, it is not only the most accurate description of this comet, but of all comets seen from and documented in Iceland until the middle of the 19th century, and it holds its own in comparison with other descriptions of the same comet from around the globe. Descriptions in the Icelandic annals mentioning the 1652 comet range from placing it in the wrong sign in the sky to simply saying: “Last winter a comet was seen. It was considered an omen”.<sup>39</sup>

It cannot be overstated how fortunate it is that Gísli’s description of the comet of 1652 survives, for without it we would have no knowledge about his astronomical pursuits in Iceland. What is missing from his story is whether this was a one-time effort or if he made observations about other celestial events. From 1649 to 1688, the year of his death, six other comets were seen from Iceland, as well as many eclipses of both the sun and the moon. No evidence has surfaced indicating that he observed or wrote about these events.<sup>40</sup>

Gísli Einarsson was one of the pioneers in a field that has today evolved to the point of his successors theorising that the origin of life on Earth is traceable to the cosmos and comets, through what is termed *cosmic panspermia*: “microorganisms and virus populations in the comets and related cosmic bolides appear to have regularly delivered living systems (organisms, viruses and seeds) to the Earth since its formation, and continue to do so”.<sup>41</sup> Gísli was a participant in the revolution of how we as a

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sýndi hún sjálfstæða hreyfingu og gekk yfir á norðurhvel himins. Frá því á sjöttu stund að kvöldi hins 14. fram til níundu stundar um kvöldið fór hún fram hjá austurhlið sjöstjörnnunnar, og á fjórðu stund að morgni hins 16. var hún komin að daufrí stjörnu í tanni á vinstra fæti Perseus. Því næst gekk hún í höfuð Medúsu og staðnæmdist þar í tvo sólarhringa, en var þá orðin dauf og ógreinileg. En 25. desember sást hún síðast um það bil þremur gráðum norðan við höfuð Medúsu. Hún sást alla nóttina yfir sjöndeildarhring”.

**38** Einar H. Guðmundsson 1998, 218–219.

**39** “Þá sást Cometa öndverðann vetr, oc hældu þá enn allir menn vera fyrirburd”. Einar H. Guðmundsson 1998, 210–212.

**40** Einar H. Guðmundsson 1998, 219–220.

**41** Steele et al. 2018, 3–23. See also Kaplan 2021 regarding the detection of organic matter on asteroid Bennu. Furthermore, see Nakamura 2022 regarding the detection of 23 different amino acids in a sample returned to Earth from asteroid Ryugu.

species understand the cosmos, our place in the universe and how we came to be, but to what extent he was aware of it remains unknown.

That the timing of Jón Pálsson's paper theft coincides so beautifully with the headmaster's nightly pursuit, trying to see the comet and hoping for the clouds to clear—and being successful on more than four occasions—cannot be a coincidence. One can almost feel Gísli's disappointment when the cloud cover must have been too dense, making him head home earlier than Jón anticipated. And Jón's tension when he saw Gísli return, forcing him to abandon his dubious activities on the two occasions when he was almost caught—and on the third, when he was.

### ... and Punishment

Continuing the account, we find that Jón Pálsson had been sick since Christmas and had not taken holy communion that winter, even though the headmaster admonished him to do so. On the headmaster's advice, the bishop expelled him from the school and relieved him of all his privileges effective immediately; his name was publicly removed from the school's register and he was expelled without testimony. Bishop Brynjólfur Sveinsson even granted Jón autonomy to decide his own judgment if he wanted to settle the case.<sup>42</sup>

Here, a few questions call for our attention. First, we must consider the fact that Jón was able to sneak into the headmaster's house. Second, since he was relieved of his *privilegiis*, what privileges did he previously have? And lastly, why was his punishment not harsher? All this points to Jón having been a *notarius*, an older student whose job it was to maintain order among his fellow students. The *notarii* were, among other things, privileged with exemption from punishment for breaking the school's rules, to some extent. The judgment over Jón Pálsson happened in *visitatione scholastica*, the school summons where the headmaster and *notarii* convened regarding matters of the school.<sup>43</sup> According to the law in Iceland at the time as described in the law book *Jónsbók*, a thief was to pay a fine to the king and if he could not do that, he was to be flogged. If he was caught stealing for the fourth time he was to pay with his life.<sup>44</sup> Jón Pálsson was lucky that the matter was concluded within the school and not brought to the local sheriff, or *sýslumaður*.

Another aspect of the crime is that by selling the paper to his fellow students, Jón Pálsson acted against the interests of the King of Denmark and the monopoly on trade he imposed in 1602. From 1619 to 1662, the monopoly was held by the Icelandic, Faroese and Nordic Trade Company, which was run by 36 merchants, of whom all but

<sup>42</sup> AM 268 fol., 66r–66v.

<sup>43</sup> Guðlaugur R. Guðmundsson 2000, 199–200.

<sup>44</sup> *Jónsbók* 2004, 239.

three lived in Copenhagen. The Alþingi, or the Icelandic parliament and court, had ruled on the trade by *lausamenn*—people not employed on a farm—in 1638, saying:

We deem it intolerable, that any Icelanders should be allowed through hard bargains to sell what they have bought from the Danes, but rather they should trade according to the price they bought at and follow the official rate on necessities, with provision for mark-up because of trouble, transport and effort, yet never selling one *vætt* for more than five *aurar*, unless sensible men value it higher or lower.<sup>45</sup>

After 1662 and under the new rule of absolutism (to which the merchant class of Denmark agreed in a meeting in the Icelandic, Faroese and Nordic Trade Company headquarters),<sup>46</sup> the country was divided up into trading districts, and strict rules were imposed and enforced that made it punishable to trade outside one's designated district. Confiscation of property, detention in Denmark and whipping were the consequences for those found guilty of illegal trade. The Danish monopoly on trade in Iceland lasted until 1787.<sup>47</sup>

Earlier, I mentioned the “benign” nature of Brynjólfur Sveinsson's episcopacy. Apart from what we have seen in this case, it is prudent to mention another example of his management of the school. The story takes place in the same period as the one we are discussing now, which happens to coincide with the height of the witch trials in Iceland. In 1650, 13 or 14 students in Skálholt were found to be meddling with magical runes, which of course was strictly forbidden. Instead of handing the culprits over to the authorities, Brynjólfur punished them himself and had them flogged and expelled. Had Brynjólfur decided to let the local authorities handle the case, they might not have been so lucky. In 1654, for example, three men were burned at the stake for witchcraft; in total, 21 persons were executed for witchcraft in the 17th century in Iceland. Later, a few of the students Brynjólfur punished were even permitted to return to their studies at the school.<sup>48</sup>

The account of the paper thief concludes with the signature, dated 12 March 1653, of the headmaster, Gísli Einarsson. It is followed by what we must assume are signatures of the other *notarii* of the school: Jón Loftsson, student; Þórður Þorleifsson (1633–1676), student and nephew of the bishop; Halldór Jónsson (1640?–1702), Jón Salómonsson (1630?–1696), Hallkell Stefánsson (1630?–1696) and Sigurður Jónsson

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45 “Virðist oss ekki líðanlegt, að nokkrir íslenzkir skuli leyfi hafa með afarkostum að selja, það af dönskum keypt hafa, heldur eptir því, sem það kaupir og taxtinn útvísar um alla nauðsynlega hluti, utan það, sem það má upp stíga sökum ómaks, flutnings og fyrirhafnar, svo þó að aldrei seljist vættarverð meir en fimm aurum, nema betra eður verra virðist skynsömum mönnum”. The value of one *vætt* was three and one-third *aurar*, thus the Alþingi made room for 50 % mark-up. *Alþingisbækur Íslands* 1922, 1925–1932, vol. 5, 542; Jón J. Aðils 1972, 554.

46 Gísli Gunnarsson 1987, 80.

47 Gunnar Karlsson 2000, 141–142; Jón J. Aðils 1972, 528.

48 Helgi Þorláksson 2004, 130. See also the article by Már Jónsson in this volume.

(1631–1665), all four presumably students; Einar Torfason, student; and Árni Halldórsson (1630?–1687), who served the bishop after graduation in 1650.<sup>49</sup>

Nothing is said of any punishment for Jón's customers, his fellow students. It is a stroke of luck that a list of students enrolled in the autumn of 1653 exists. The list survives because a copy was made by Bishop Steingrímur Jónsson on 25 July 1800 from the "original folio in Skálholt, which was by that time unsalvageable from rot".<sup>50</sup>

Examining how their lives turned out, career-wise, it looks as though the students suffered no consequences for buying the stolen goods, and all but two of them were still enrolled at the school the following year. It cannot be determined if their graduation was delayed because of it, but most of them were younger than Jón Pálsson, which can explain why they did not graduate in 1653. In total, 23 students bought paper from Jón before he was expelled in March 1653—almost half of all the students, who were 49 in the autumn of 1653.<sup>51</sup>

More than half of Jón's customers, or 15 out of the 23, became ministers. They were Ketill Eiríksson (1636–1691), Pétur Ámundason (1635?–1706), Snjólfur Einarsson (1630?–1667), Vernharður Erlendsson (1637–after 1703), Gísli Finnbogason (1631–1703), Ólafur Sigfússon (1634–1730), Hannes Benediktsson (1631–1708), Árni Halldórsson (1630?–1687), Björn Stefánsson (1636–1717), Jón Diðriksson (1634–1698), Jón Torfason (1640–1719), Guðmundur Bjarnason (1636–1707), Jón Eiríksson (1637–1690), Jón Sigmundsson (1637–1725) and Ólafur Jónsson (1637–1688), who became a minister and provost and later himself the headmaster of the school in Skálholt. Another one of these students, Kort Ámundason (1640?–1669), later held a position as a teacher (*heyrari*) at the school. Sigurður Jónsson (1633–1717) became a *lögréttumaður*, a member of the court of legislature at the Alþingi. Björn Nikulásson (1637–1703) managed property for the king (*klausturhaldari*). Þórður Þorsteinsson (1636–1655) died two years later at age 19. Páll Tómasson (b. 1630?) left school without graduating, as did Sæmundur Guðmundsson (b. 1630?) in all probability. Two students who bought the stolen paper are not found in the list of students enrolled in the autumn of 1653: Daði Jónsson and Erlingur Jónsson. They have not been identified in other sources with certainty.<sup>52</sup> I think it is fair to say that this list demonstrates that the students did not lose their privileged position in society because of this oversight.

<sup>49</sup> AM 268 fol., f. 66r–v; Páll Eggert Ólason 1948–1952, vol. 1, 47–48, 388–389; vol. 2, 259, 294–295; vol. 3, 215, 252–253; vol. 4, 232–233; vol. 5, 123–124. Jón Loftsson and Einar Torfason are the same students who gave Jón Pálsson half a quire of paper that was deducted from the total sum of sold paper, see above.

<sup>50</sup> "eftir original foliis í Skálholti, sem þá voru orðin ógeymandi af fúa". Lbs 207 4to, p. 713; Jón Halldórsson [1719] 1916–1925, 256. The list was published by Hannes Þorsteinsson (1860–1935) alongside the biographies of the school's headmasters by Jón Halldórsson, see *Nomina Discipulorum Scholae Shalholtinae Anno 1653*, published in: Jón Halldórsson [1719] 1916–1925, 258–261.

<sup>51</sup> Jón Halldórsson [1719] 1916–1925, 261.

<sup>52</sup> Jón Halldórsson [1719] 1916–1925, 258–261.

One student at the time who later became prominent but who did not purchase the stolen goods was Þormóður Torfason (1636–1719). Why he did not jump on this chance to acquire some extra paper is not known, but his involvement with the written word would be significant later in life. Þormóður was born in 1636, was admitted to the school in Skálholt when he was 10 years old and graduated in 1654. He went abroad and made his way to Amsterdam, and from there he went to Copenhagen, where he enrolled at the university in 1655. In 1659, Þormóður entered the king's service as a translator of medieval Icelandic texts. In 1662, he was sent back home to Iceland on the ship *Sorte Rytter*, the Black Knight, with newly appointed State Admiral Henrik Bjelke, who served under the new absolute governance of the king. Bjelke's mission was to collect tributes to the absolute monarch, King Frederik III. Þormóður Torfason's job was related to the king's new government, for according to a letter from the king to Bishop Brynjólfur Sveinsson, Þormóður was supposed to collect "Antiquiteter, Rariteter og Curiositeter" in Iceland, i. e., books, manuscripts and artefacts from the settlement onwards. He was also tasked with collecting two copies of every book printed in Icelandic and in Iceland, both those that had already been printed and those that would be printed in the future,<sup>53</sup> thus beginning the custom of legal deposit of Icelandic books that is ongoing to this day and for the foreseeable future at the National and University Library of Iceland. Þormóður Torfason was a friend of the professor and manuscript collector Árne Magnússon, and they had regular correspondence from 1688 to 1718.<sup>54</sup>

## The Paper Thief Becomes a Landowner

Not much else is known about our paper thief, Jón Pálsson, and he is mostly lost from history after this incident. His education was cut short, and he did not become a pastor like most of his fellow students. Jón was born in 1635 and came 'from good stock' with a similar background to the other students, as was usual for those who had the privilege of education at this time. His father, Páll Björnsson, was a member of the *lögrétta*, meaning he sat in the court of legislature at Öxará, the Alþingi. Jón's grandfather, Björn Gunnarsson, was a sheriff (*sýslumaður*) in Múlaþing in East Iceland. Björn's great-grandfather was Bishop Jón Árnason, part of a family line that was very important for the upper echelon in 17th-century Iceland to be able to trace themselves to. It must be noted that Jón neither held a seat in the *lögrétta* nor the office of *sýslumaður*, perhaps because of his paper theft.

Jón's wife Málfríður Torfadóttir was the daughter and granddaughter of members of *lögrétta*. They lived on the farm Eyjólfstaðir á Völlum in East Iceland and had two daughters, Guðrún and Arnfríður. Neither daughter had children.

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<sup>53</sup> *Lovsamling for Island* 1853, 269.

<sup>54</sup> Halldór Hermannsson 1965, 39–72. A collection of the correspondence between Árne Magnússon and Þormóður Torfason was published by Kr. Kálund in Magnussen 1916.



Jón had six siblings, one brother and five sisters. His brother Árni was a few years younger than Jón and did not have the luxury of a place in the Latin school. He did become *hreppsstjóri*, a district chief, but why he did not go to school is not known. Whether his brother's shenanigans hindered him in the pursuit of education will remain unknown.<sup>55</sup>

Apart from one sister, Sólveig, Jón's siblings were all married. Guðrún the Elder married into a well-off family; her father-in-law, Arngrímur Magnússon, was nicknamed *riki* (the Wealthy). Her husband, Magnús Arngrímsson, was a farmer who was among those who swore allegiance to the new king in 1649. Guðrún the Younger married Þorbjörn Sveinsson, also a farmer. Árni became *hreppstjóri*, a local administrative officer and married Þóra Einarsdóttir, the daughter of a minister. Arnfríður married Bjarni Högnason, the illegitimate son of a minister. Ingibjörg married Loftur Torfason, brother of Málmfríður, Jón's wife. Jón's siblings were perhaps not in the highest strata of society, but they appear to have been prosperous.

Loftur and Ingibjörg were farmers in Hjartarstaðir, 28 km from Eyjólfsstaðir. Most likely they were close with their siblings, as we can surmise from one of the few other surviving documents where our paper thief surfaces. Jón Pálsson bought eight *hundreds* worth of the farm in Hjartarstaðir owned by Loftur, his brother-in-law twice over, on 30 November 1660. He paid in cash, which was a substantial sum to have on hand.<sup>56</sup> Returning to our calculations from before, eight *hundreds* (equal to 1920 fish) would have bought Jón 384 quires of paper – though that possibility most likely did not cross his mind at the time.

We do not know when or how Jón Pálsson died. It was after 1672, when the last written record of him is dated, and before the census of 1703 was taken, for he is not listed there. As fate would have it, the last known record mentioning him exists because he crossed paths again with Brynjólfur Sveinsson, through the bishop's representative. On 1 September 1672, Jón agreed to Brynjólfur's purchase of five *hundreds* in the farm Fjörður, which Jón himself had earlier sold to another man, Jón Þorláksson.<sup>57</sup>

Even though Jón's real estate dealings involved relatively small transactions (the average farm being 20 *hundreds* in size<sup>58</sup>), buying and selling eight and five *hundreds* makes Jón Pálsson one of the better-off people in Iceland in his time, as at the turn of

<sup>55</sup> Einar Bjarnason 1952–1955, 431.

<sup>56</sup> *Jarðarbréf frá 16. og 17. öld* 1993, 276.

<sup>57</sup> *Jarðarbréf frá 16. og 17. öld*, 1993, 268. In his later years, Brynjólfur bought a large amount of land in East Iceland, writing to his representative in the east in 1674: “Proceed as soon as possible to buy real estate in the East, and do not be second to others, I know it to be for sale now and for some time” (“Berid yður nu ad sem fyrst og best, ad kaupa medan falt má verða, og verða ecki ødrum syðri [síðri], því eg veit ad fasta eign mun nu vera og verða nøckra stund I Austfiordum fól”). Land was then cheap due to hard times and cold winters. Brynjólfur's not unsubstantial estate was inherited by his nephew, brother-in-law and biographer, Torfi Jónsson. See Jón Helgason 1942, xi; Páll Eggert Ólason 1948–1952, vol. 5, 27–28.

<sup>58</sup> *Hagskinna* 1997, 925.

the 17th century only 6 % of farmers lived on their own farms and only 15 % had any land at all, meaning that 94 % were tenants and 85 % did not own real property.<sup>59</sup>

Here concludes the story of the paper thief, who under the light of a comet abused his headmaster's genuine curiosity and interest in the heavens. One person's effort to understand a new celestial object resulted in the equal and opposite reaction of another person's misuse of that search for knowledge.<sup>60</sup>

Jón Pálsson paid for his crime by being denied further education and a chance at a comfortable career serving his God and king. Gísli Einarsson served as a headmaster for eight additional years, but whether he studied the heavens again, we will never know. It is ironic in a way that Jón's crime was stealing paper, the material that made maintaining memories outside of the human mind possible on a larger scale than was previously possible, while his victim was using that very medium to its fullest potential, recording a unique spectacle happening unfathomably far away, deep in the solar system.

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<sup>59</sup> Björn Lárusson 1967, 75, 82; Gísli Gunnarsson 1987, 24.

<sup>60</sup> One of the cornerstones of the scientific revolution of the 17th century was the publication of Isaac Newton's *Principia Mathematica* in 1687, where the universal laws of motion are laid out. The third law states that for every action, there is an equal and opposite reaction.

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Davíð Ólafsson

# Many Pages, Much Ink

The Materiality of Writing in 19th-Century Iceland

## Introduction: Manuscript Culture and Materiality

Various recent studies in the fields of cultural history, literary studies and philology have over the last three decades revealed and mapped out a vast and varied field of cultural practices identified as post-medieval manuscript culture.<sup>1</sup> These studies have exposed the production, circulation and consumption of handwritten texts as one of the most abounding features of the cultural history of 19th-century Iceland.<sup>2</sup> This form of literary practice had endured since medieval times but became much more widespread and diverse in the 19th century. Manuscripts as phenomena are principally identified by their text-bearing qualities, not by their *content* (literary or non-literary, historical or fictional, religious or secular, vernacular or learned), *materiality* (vellum, paper, bark, cloth, etc.) or *format* (scrolls or codex). They are *text-bearing objects*. Like all other objects, the text-bearing ones do not ‘live’ or ‘happen’ in isolation and without relations, but emerge through complex systems of production, transmission and reception. And they have *historicity* and *historiography*. Throughout the last half-century or so, text-bearing objects—books, manuscripts, documents, etc.—have become a subject within the humanities and social sciences, under different banners and within (or sometimes across) different disciplines.

This case study aims to explore the tracks through which popular scribes of 19th-century Iceland could attain the material necessary for their manuscript production. The article employs conceptual frameworks from book history and post-medieval manuscript studies to reflect on the links between agency and materiality as integrated components of the production of handwritten books.

## Communication Circuits of a Scribal Publication

In his seminal study, first published in 1982, American cultural historian Robert Darnton mapped out his scheme for what he dubbed “communication circuit”.<sup>3</sup> With this model Darnton proposed a general model for capturing and analysing the various aspects of the production, dissemination and consumption of books. In an attempt to

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1 See e. g., Margrét Eggertsdóttir/Driscoll 2017; Davíð Ólafsson/Sigurður Gylfi Magnússon 2017.

2 Davíð Ólafsson 2009; Davíð Ólafsson/Sigurður Gylfi Magnússon 2017.

3 See Darnton 1982, 65–83.

answer the question posed in the article's title, "What is the History of Books?", Darnton described the union of analytical bibliography, sociology of knowledge, literary history and cultural history as a new discipline in the making. The "communication circuit" was built around the interaction between the key players who handled books on their route from the author to the reader, such as printers, shippers and booksellers. "Book history", Darnton argued, "concerns each phase of this process and the process as a whole, in all its variations over space and time and in all its relations with other systems, economic, social, political, and cultural in the surrounding environment".<sup>4</sup> This is not to say that every student of book history should always exhaust every link of the circuit and every surrounding system it is embedded in; rather, the circuit should be taken as a map of the realm of modern book history.

Just over a decade later, the Australian bibliographer Harold Love laid out his seminal case for the importance of late manuscript transmission in his 1993 monograph, *Scribal Publication in Seventeenth Century England*.<sup>5</sup> Love's ambitious aim was to look beyond individual poets and single miscellanies and approach "the culture of transmission within which the proliferation of copies took place".<sup>6</sup> This could, according to Love, be achieved by connecting many examples of texts transmitted in handwritten form after the advent of print and developing a coherent hypothesis. "What is lacking to date", Love wrote, "has been an awareness that each of these things is a part of a larger phenomenon—scribal publication—which had a role in the culture and commerce of texts just as assured as that of print publication".<sup>7</sup> Love's aim with the book is to explore the nature of the phenomenon in general and to propose terms for further investigation.

In his introduction of the key concepts of scribal publication, Harold Love makes a distinction between three main types, according to who was responsible for the production of the manuscript. The first category is 'author publication', where the author himself authorises and supervises the production and dissemination of transcripts. More commercially orientated and akin to the practices of both the new-born print industry and preprint scriptoriums, was 'entrepreneurial publication'. This type of distribution, where texts were produced and circulated for gain by a scribe or a stationer, was the most organised of the three modes, and its operation was subject to public demand rather than authorial control.<sup>8</sup> The third variety—and the one most relevant to the situation in 19th-century Iceland—is what Love calls 'user publication', covering all types of non-commercial production of manuscripts. It most characteristically took the form of transcribing a certain text into a miscellany or a commonplace book for personal use. Despite being attributed to the user, this act always involved

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<sup>4</sup> Darnton 1982, 11.

<sup>5</sup> Love 1998.

<sup>6</sup> Love 1998, vii.

<sup>7</sup> Love 1998, 4.

<sup>8</sup> Love 1998, 73–79.

a transaction between at least two individuals—the copyist and the provider of the exemplar—and was furthermore likely to lead to further transmission of the text in a chain of acts of publication. This mode of dissemination was thus usually practiced within a network of friends, neighbours or associates, but the precise nature of the network is often obscure because the miscellanies rarely record the receipt of an exemplar or its further transmission.<sup>9</sup> This threefold definition of the concept of scribal publication makes it a rather open concept, almost synonymous with, or shorthand for, the production of handwritten reading material.

A second key concept coined in Love's book is that of 'scribal communities'. Manuscript transmission had, according to Love, the important function of "bonding groups of likeminded individuals into a community, sect or political faction with the exchange of texts in manuscript serving to nourish a shared set of values and to enrich personal allegiances".<sup>10</sup> Love argues that the routes by which handwritten texts travel from one person to another, based on a personal agreement between the original supplier, the copyist and the recipient, do not arise randomly but are more likely to coincide with pre-existing communities like a court, an extended family, a circle of friends or a county. "For groups such as these, bounded by the exchange of manuscripts, the term 'scribal community' is proposed", writes Love.<sup>11</sup> The impact of both the communication circuit and scribal publication are affirmed by the English literary scholar Henry Woudhuysen in the opening lines of his 1996 monograph, *Sir Philip Sidney and the Circulation of Manuscripts 1558–1640*:

This is a book about manuscripts; about the men and women who wrote, read, bought, sold, presented, and received them. It is also a book about paper, pen and ink, and a book about those for whom writing by hand was a necessary and profitable part of their lives. Scribes, scribes, secretaries, copyists, amanuenses, writing-masters, public officials, private individuals, authors, poets, playwrights, antiquarians, lawyers, scholars, politicians, divines, merchants, new and second hand booksellers, stationers, printers, and librarians all play a part in it.<sup>12</sup>

These concepts of scribal publication and scribal communities can, despite a huge leap in time, space, and social and economic conditions, be applied to 19th-century Iceland and its popular culture of manuscript circulation among farmers and fishermen in small rural communities. In this paper I will apply these two concepts to examine material aspects of the written word and the paths that paper took on its way to being made into handwritten books. The article explores the last interval of the long and winding road from wood chopping and papermills on the European mainland to readers of late premodern manuscripts in rural Iceland in the last quarter of the 19th century. This investigation will be conducted through a case study of a single prolific writer of manu-

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<sup>9</sup> Love 1998, 79–80.

<sup>10</sup> Love 1998, 177.

<sup>11</sup> Love 1998, 180.

<sup>12</sup> Woudhuysen, 1996, 1.



scripts from the 19th century who left extensive textual sources testifying on his scribal practices, both in the form of a wide and vast range of handwritten texts and regular diaries spanning some seven decades: Sighvatur Grímsson (1840–1930).

## Late Pre-Modern Manuscript Culture in 19th-Century Iceland

Sighvatur Grímsson—who adopted the additional name Borgfirðingur (lit. one from Borgarfjörður)—was one of those ordinary persons in Iceland who engaged intensely in the vernacular literary practices of the era.<sup>13</sup> In this endeavour Sighvatur was by no means typical for people of his status, but he was not an isolated case either. He was, throughout his life, firmly set within networks of like-minded people. His case illuminates the pathways of the informal educational system in 19th-century Iceland, which were closely interconnected with the pathways of scribal communication. Throughout most of his long life of 90 years, he wrote, read, bought, sold, presented and received handwritten material of various genres. The persistent scribal culture of 19th-century Iceland was to a considerable extent based on classical medieval texts or early modern progenies thereof, primarily sagas and romances in metrical and prose form. However, the enduring scribal tradition of early modern and modern Iceland involved more than the transmission of traditional medieval texts. The vast varieties of texts and genres circulating in the early modern and modern eras constitute a literary culture with far greater amplitude than either the medieval canon or the limited output of Iceland's printing history would suggest.<sup>14</sup> Sighvatur Grímsson was associated with several scribal communities in his lifetime, both local and far reaching, and, like Sir Philip Sidney's, his story is also about paper, pens and ink. Born into a family of poor fishermen and peasant farmers in a small village in western Iceland in 1840, Sighvatur's enthusiasm for literature and historical writings surfaced at an early age, despite being deprived of all formal education. Having lost his father and later his mother during adolescence, Sighvatur Grímsson left his hometown of Skipaskagi (now Akranes) at the age of 19. He served for a decade as a farmhand and fisherman before becoming a tenant farmer in districts of mixed farming and maritime activity, first in the commune of Kaldrananeshreppur in the county of Strandasýsla for a few years and later at the farm Höfði in Dýrafjörður (both in Northwest Iceland) for nearly 60 years. He died there in 1930.

Within this mundane and outwardly conventional life course, Sighvatur lived a parallel life as a cultural institution of his own, an astonishingly industrious scribe and lay scholar, a collector and distributor of printed as well as handwritten books and a local 'poet laureate'. The manuscripts he composed, copied or compiled throughout

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<sup>13</sup> See Davíð Ólafsson 2013; Davíð Ólafsson 2012.

<sup>14</sup> Davíð Ólafsson 2009.

his life were bequeathed to the National and University Library of Iceland (henceforth NULI) in Reykjavík, totalling around 200 items. Among his largest projects were his diaries of nearly seven decades.<sup>15</sup> Despite being a tenant farmer throughout most of his life, it was books and manuscripts that were his passion. Sighvatur Grímsson's diaries give us access to a detailed and extensive account of his literary activities throughout his adult life. Entries reporting reading and writing are scarce and scattered at first, but soon grow into what can be assumed to be a nearly comprehensive report of his acquisition of books, his reading and his writing.

At the end of the year 1866, during his tenure as a farm servant, Sighvatur married Ragnhildur Brynjólfsdóttir, who was also in service at the same farm. Two years later, in the summer of 1869, the two moved to the farm Klúka in Kaldrananeshreppur, where they would live as tenant farmers for the next four years. The years at Klúka were in most ways extremely difficult for the family, and at the end of their first year there Sighvatur described the farm as poor farmland and the yearly rent as a terrible exorbitance.<sup>16</sup> But he had from an early age acquired skills that would supplement his income. At the end of 1870, he notes in his synopsis for the year that he had made most of his earnings from commissioned writing.<sup>17</sup> In a short autobiographical account written in the 1890s, Sighvatur gives this condensed depiction of his life at Klúka:

There he lived for four years amidst strained circumstances and much discomfort in a harsh place and made his living mostly by writing for others. There he copied the Great History of Jews by the historian Josephus, on 846 pages in folio using very small letters, for Jón Guðmundsson from Hella and received for it nearly 60 *dalir*.<sup>18</sup> He also transcribed Bastholm's Jewish history for Einar Gíslason, a carpenter from Sandnes, who fostered a child for him for a whole winter, the travelogue of Jón Indíafari and much more for various people, genealogy and various books, but little for himself.<sup>19</sup>

Here Sighvatur mentions some (but not all) of his major commissioned scribal tasks during this period, their clients and in some cases his reimbursement. He also makes broad references to other smaller tasks and gives the general impression that he mostly made his living from writing, despite being first and foremost a farmer and

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**15** NULI, Lbs 2374–2377 4to.

**16** Lbs 2374 I 4to, f. 103r. 31/12/1869.

**17** Lbs 2374 I 4to, f. 127v. 31/12/1870.

**18** The monetary system in Iceland was, for most of the 19th century, made up of (*ríkis*)*dalir* and *skild-ingar* (1 rd. = 96 sk.). In 1873, new terms for currencies were adopted; *Krónur* and *aurar*. Concurrently the duodecimal system was replaced by the decimal system (1 kr. = 100 *aurar*).

**19** Lbs 3623 8vo, [p. 9]. “Bjó hann þar í 4 ár, við lítil efni, og óhægð mikla í mesta harðindaplátsi og lifði mest af skrifum sínum fyrir ymsa. Þar afritaði hann hina miklu Gyðingasögu Jósephusar sagnaritara á 846 bls. Í arkarbroti, mjög smátt skrifaða, fyrir Jón bónda Guðmundsson á Hellu og fékk fyrir nær 60 dali. Þá afritaði hann og Gyðingasögu Basthólms fyrir Einar smið Gíslason á Sandnesi, sem tók af honum barn heilan vetr, Ferðasögu Jóns Indíafara og margt fleyra fyrir ymsa, ættartölur og ymsar bækur, en fyrir sjálfan sig lítið”.

fisherman. These large, commissioned transcripts emphasise the community-based aspect of scribal dissemination in 19th-century Iceland. They draw attention to the scribe as well as his clients, the sources for the transcripts, the range of texts available and other aspects of local literary culture.

The scope and breadth of Sighvatur's literary practices is documented in the extended diaries he began in 1861 and maintained through his lifetime.<sup>20</sup> No sooner had Sighvatur Grímsson settled down in Kaldrananeshreppur than he assumed a manifold and wide-ranging role within the community's literary culture. His skills and services as a craftsman were sought after and employed by many of the community's inhabitants over the next four years. Aside from the highlights that have been discussed so far, there were many smaller facets to Sighvatur's activities, such as book lending, reading aloud and his own literary work. The diary entries from this busy period show the scope of Sighvatur's literary interaction with the people in his community (and a few outside it). His activities, writings and transcripts ranged from single letters to multi-volume chronicles, lineage charts and occasional poetry, in addition to the exchange of manuscripts and printed books between individuals, families and households, reading aloud and ballad-chanting. The diaries also unveil the connection between literary interaction and other kinds of exchange—of food, other goods, favours or goodwill—signifying a high level of professionalisation by Sighvatur.

The vast quantity of texts copied by Sighvatur over these four years for himself as well as a variety of recipients demanded access to paper, pens and ink. In this paper I will explore the materiality of this endeavour, with a focus on the acquisition of paper as reflected in Sighvatur Grímsson's writings, primarily the entries in his diaries during this period. Despite the briefness of the daily entries, they provide evidence of a vigorous exchange of manuscripts and printed material between Sighvatur Grímsson and various members of the community. This includes individuals, families and households, men, women and adolescents, affluent farmers, poor lodgers and farmhands. A close study of his diaries gives evidence of a vast interest in reading in most households, fuelled and fulfilled by Sighvatur's dynamic input.

## Sighvatur's Paper Stories

All paper in 19th-century Iceland was imported, the vast majority from Denmark. During the second half of the century, all foreign trade was restricted to either resident merchants located at certified trading posts or non-resident merchants, who were permitted to trade from their ships at authorised locations.<sup>21</sup> With these merchants, farmers, who had butter, tallow, wool, meat and fish, could trade their goods for imported commodities like grain, beans, sugar, coffee, tobacco, and paper.

<sup>20</sup> NULI, Lbs 2374–2377 4to.

<sup>21</sup> Gunnar Karlsson 2000, 243.

Sighvatur's diary from his Klúka years holds few direct references to acquisition of paper. The first of these is from 21 July 1869 when Sighvatur notes that he had received various goods from a trading post (Icel. *úr kaupstað*) in exchange for wool, including 12 sheets (Icel. *arkir*) of paper.<sup>22</sup> The term *arkir* denotes a sheet from which a booklet or quire of four pages in folio can be produced, eight pages in 4to, or 16 pages in 8vo. Twelve sheets would make 96 pages in 4to, the most common size of handwritten books at the time. With the phrasing *úr kaupstað*, Sighvatur is likely to be pointing towards the merchant at Reykjarfjörður (*Reykjarfjarðarverslun*, a. k.a. *Kúvíkur*), one of two trading posts in the Strandasýsla county. Sighvatur is more specific in his entry from 28 July 1872, where he notes that he had written a message regarding paper to merchant Jakob Thorarensen, who was at the time a merchant in Reykjarfjörður.<sup>23</sup> More remote from the inhabitants of Kaldrananeshreppur was the second trading post in the county, the tiny hamlet of Borðeyri, which had been an official merchant site since 1846 with a permanent residential trading site from 1858.

Reykjarfjörður and Borðeyri had been steady commercial hubs for some time when in 1859 the people from Strandasýsla sent a petition to the Icelandic parliament (the Alþingi), asking that Skeljavík in Steingrímsfjörður be designated a place of commerce. The complaint was made that Reykjarfjörður was hard to reach for much of the county's population and that goods were often in short supply.<sup>24</sup> Skeljavík became an authorised harbour for non-resident merchants, who were allowed to trade from their ships for a month each year. The positive impact of the new commercial site at Skeljavík is illustrated in a news report in the journal *Norðanfari*:

Last summer [1871], Merchant Bjarni Sandholt came to Skeljavík, but stayed only for a few days. [...] Even if he could not satisfy everyone's need for food, he balanced everyone's account with money, which was favourable for all.<sup>25</sup>

On 29 June that same year, Sighvatur notes that he travelled by boat from the farm Hella across the fjord of Steingrímsfjörður over to Skeljavík, where he bought various goods from merchant Bjarni Sandholt.<sup>26</sup> When the ship returned a few weeks later, Sighvatur brought some wool and could thus both settle his debt with the merchant and buy some additional supplies.<sup>27</sup> When the merchant arrived around the same time the following year, Sighvatur obtained barley, coffee, sugar and other goods from Sand-

<sup>22</sup> Lbs 2374 I 4to, f. 95v. 21/07/1869.

<sup>23</sup> Lbs 2374 I 4to, ff. 170v–171r. 28/07/1872.

<sup>24</sup> Páll Línald 1982, 44–45.

<sup>25</sup> *Norðanfari* 07/03/1872, 20. “Í sumar sem leið [1871], kom Bjarni kaupmaður Sandholt hingað í Skeljavík, en var þar aðeins fáa daga. [...] Þótt hann eigi gæti fullnægt fólki með matvöru eptir þörfum, þá kláraði hann reikninga manna óspart með peningum, sem öllum kom vel.”

<sup>26</sup> Lbs 2374 I 4to, f. 142r. 29/06/1871.

<sup>27</sup> Lbs 2374 I 4to, f. 144r. 24–25/07/1871.

holt.<sup>28</sup> These entries do not mention acquisition of paper, which raises the question of where he got the paper needed for his extensive writing. During the ship's second stop in Skeljavík in July 1872, however, we see clear evidence that Sighvatur purchased paper: he bought what he terms "mail-paper" (Icel. *póstpappír*) for 40 *skildingar* and pencils for 6 *skildingar*.<sup>29</sup> There are only a few entries in Sighvatur's diaries confirming that he bought writing paper directly from merchants. It is only after Sighvatur moved from Klúka to Höfði in Dýrafjörður in the summer of 1873 that we see examples of more extensive paper purchases. On October 25 that year, he obtained 3 quires of paper from a merchant in the village of Þingeyri.<sup>30</sup> Ten days later, on November 5, 1873, he wrote in his diaries that he had bought 27 sheets of paper on his trip to Þingeyri.<sup>31</sup>

Official published documents on the import of goods in Iceland in the 1860s and 1870s are split between two main sources. The first is *Skýrslur um landshagi á Íslandi*, a register published annually by the Icelandic Literary Society (HÍB) between 1855 and 1872. The quantity of paper is measured by the unit of a quire of paper (Icel. *bækur*), meaning 24 sheets. In the registers, imports of foreign goods are organised by county. According to these registers, 375 quires of paper were imported to Strandasýsla in 1869, 530 in 1870, 590 in 1871 and 766 quires in 1872.<sup>32</sup> From the year 1873, such statistics were incorporated to a new outlet for official publications, *Stjórnartíðindi*. Here, annual imports and exports are organised by trading stations, Skeljavík, Reykjarfjörður and Borðeyri in the case of Strandasýsla. According to these documents, 125 quires were imported via Skeljavík in 1873, 220 in 1874 and 240 in 1875. For Reykjarfjörður the numbers are 80 quires in 1874 and 100 in 1875, but no paper is registered as an import to Reykjarfjörður in 1873, and seemingly no goods were imported to Reykjarfjörður that year. The largest quantity was however imported via Borðeyri, 710 quires in 1873, 230 in 1874 and 810 in 1875.<sup>33</sup> See Tab. 1.

These numbers suggest that there was a considerable amount of writing paper imported to the area of Kaldrananeshreppur in the period studied here. It is interesting that substantially more paper is imported via Skeljavík than Reykjarfjörður, 585 quires compared to 180 in 1873–1875. This difference is noteworthy as comparison with other imported goods in the registers suggest that the two stations were in most ways compatible in the quantity of goods traded. We know from the diaries and other writings by Sighvatur Grímsson that he was particularly active as a scribe while located at Klúka and that these practices were situated in a scribal community with people who wrote, read, bought, sold, presented and received handwritten material.<sup>34</sup>

<sup>28</sup> Lbs 2374 I 4to, f. 167v. 11/06/1872

<sup>29</sup> Lbs 2374 I 4to, f. 170r–v. 22/07/1872.

<sup>30</sup> Lbs 2374 I 4to, f. 204r. 25/10/1873.

<sup>31</sup> Lbs 2374 I 4to, f. 205r. 05/11/1873.

<sup>32</sup> *Skýrslur um landshagi á Íslandi*, vol. 5 (1875), 124, 404, 746, 770.

<sup>33</sup> *Stjórnartíðindi*, vol. 11 (1877), 72–73.

<sup>34</sup> For further discussions about the production and exchange of handwritten material, and thus heavy consumption of paper in the Kaldrananes community, see Parsons 2019.

**Tab. 1:** Number of imported quires of paper in Strandasýsla between 1869 and 1875.

Year	Quires of paper			Pages in 4to	
	Strandasýsla	Skeljavík	Reykjarfjörður		Borðeyri
1869	375			72 000	
1870	530			101 760	
1871	590			113 280	
1872	766			147 072	
1873		125	0	710	160 320
1874		220	80	230	101 760
1875		240	100	810	220 800

## Patrons' Paper Supply

It is probable that when Sighvatur received commissions for larger projects, the patron would also provide paper and probably ink as well. Again, we find the most direct information in Sighvatur's diaries after he moved to Höfði in Dýrafjörður. On 25 January 1876, Sighvatur notes that when heading home from the farm Mýrar, he brought with him 10 sheets of paper allocated for a transcript of *Parmesar saga* for Guðmundur Hagalín, the head of the household.<sup>35</sup> A few days later, the transcript was finalised and delivered on 64 pages in 4to (4 sheets).<sup>36</sup> To make the most of the paper available, Sighvatur began to copy another saga, *Sigurðar saga þöglu*, for the same client a week later. He delivered it on 19 March, noting that the two texts were 194 pages altogether.<sup>37</sup> Later in the spring of 1876, when Sighvatur was commissioned to transcribe three Icelandic family sagas into a volume that would come to some 285 pages in 4to for someone called Pétur, living at Þingeyri, he remarks in his diaries that Pétur had supplied him with pens and paper for the task.<sup>38</sup>

The source of Sighvatur's paper during his earlier years at Klúka is more uncertain, but it is safe to assume that in most cases it was the client who provided the paper, too, at least for the more substantial writings. A case in point is the first major task Sighvatur mentions in his autobiography, Flavius Josephus' *Gyðingasaga*.<sup>39</sup> Josephus' chronicles were among the most widely circulated texts of medieval and early

<sup>35</sup> Lbs 2374 I 4to, ff. 255v–256r. 25/01/1876.

<sup>36</sup> Lbs 2374 I 4to, f. 257r–v. 11/02/1876 and 13/02/1876.

<sup>37</sup> Lbs 2374 I 4to, f. 258r. 19/02/1876.

<sup>38</sup> Lbs 2374 I 4to, f. 261r. 13/03/1876.

<sup>39</sup> See Flavius Josephus, *The Works of Josephus*.

modern Europe, first in the classical languages and later in the vernacular. Sections of Josephus' writings had been known to Icelandic readers since the Middle Ages via the 13th-century *Gyðinga saga*, compiled/translated by the abbot (and later bishop) Brandur Jónsson (d. 1264), and various narratives attributed to Josephus that circulated in Icelandic manuscripts in early modern Iceland.<sup>40</sup> The full array of all of Josephus's major works were, however, first translated into Icelandic by lay-scholar Gísli Konráðsson (1787–1877) in the first half of the 19th century, from an earlier Danish translation that had been published in the mid-18th century.<sup>41</sup>

On 11 November 1870 Sighvatur recorded that he had been commissioned by Jón Guðmundsson at Hella to copy *Gyðingasaga*, from three quarto books into one large folio volume.<sup>42</sup> Sighvatur Grímsson began this assignment on 12 November 1870 and completed it almost four months later when he noted:

I copied pp. 791–799 in fol., 9 pages, and pp. 433–448 in 4to, 16 pages, and now [I have] finished Josephus Flavius, which I call the weariest of work in such a short time. 799 pp. in folio, very small and dense writing. [...] From the strain of this transcript, I was on the verge of turning bald at the age of thirty.<sup>43</sup>

Never during this episode does Sighvatur mention how he acquired paper for this task, suggesting that it was simply supplied by Jón Guðmundsson at Hella. It is only at the end of his work that Sighvatur notes that he had obtained 24 sheets of paper, or around 200 pages in 4to, from “my Jón”.<sup>44</sup> This paper was presumably a part of Sighvatur's reimbursement and would be intended for his own writings.

Prior to that, Sighvatur had produced several handwritten books for the above-mentioned Jón Guðmundsson through the winter of 1869–1870. In late November 1869, Sighvatur noted in his diaries that he had arrived at Hella intending to stay for a while and write.<sup>45</sup> For the next six weeks he dwelled with Jón and his wife Guðrún, copying a large and diverse body of texts, as well as reading aloud for the household within the *kvöldvaka* (lit. ‘evening wake’), an informal while highly important forum within each household where literary texts and historical lore were communally presented and received.<sup>46</sup> Sighvatur's first and largest undertaking during this stint was a transcript he made of the 17th-century autobiography of Jón Ólafsson (1593–1670), *Reisubók Jóns*

<sup>40</sup> See Brandur Jónsson, *Gyðinga saga*.

<sup>41</sup> Lbs 1141 4to; Lbs 1142 4to; Lbs 4517 4to.

<sup>42</sup> Lbs 2374 I 4to, f. 125r. 11/11/1870.

<sup>43</sup> Lbs 2374 I 4to, f. 132r. 02/03/1871. “Ég skrif. bls. 791–799 í fol. 9 síður, en bls. 433–448 í 4to 16 síður og endaði nú Josephus Flavius, sem ég kalla að hafi verið eitt hið mesta þrautaverk á svo stuttum tíma. 799 bls. í arkarbroti, mjög smátt skrifað og þétt [...] Af áreynslu við skrift þessa fór ég að verða sköllóttur þrítugur að aldri”.

<sup>44</sup> Lbs 2374 I 4to, f. 132r. /04/03/1871.

<sup>45</sup> Lbs 2374 I 4to, f. 102r. 23/11/1869.

<sup>46</sup> This cultural phenomenon is akin to the French *veillée*. See Weber 1976, 413–418.

*Ólafssonar (Jón Ólafsson's Travels)*. This Icelandic farmer's son joined the Danish navy as a young man and became a gunner in one of the first Danish expeditions to India after the foundation of the Danish East India Company in 1618. After serving more than a year as a guard at the Danish fort in India, Jón Ólafsson returned to Copenhagen in 1625 and to Iceland the following spring, where he became a farmer.<sup>47</sup> Sighvatur made a transcript of the *Reisubók* for Jón Guðmundsson at Hella between 23 November and 29 December 1869, filling about 350 folio pages.<sup>48</sup>

This transcript makes up the first and largest section of an extensive volume. On 5 January 1870, Sighvatur added two short accounts to the collection, both recounting the events known in Iceland as *Tyrkjaránið* (the Turkish Raid), when North African corsairs abducted and enslaved around 400 Icelanders in 1627.<sup>49</sup> At the end of this volume he included an Icelandic translation of the travelogue of the Danish Navy captain Jens Munck, who in 1619 embarked on an expedition seeking the Northwest Passage to Asia, from Hudson Bay to the Pacific Ocean.<sup>50</sup> Over a period of six weeks, from November 1869 to January 1870, Sighvatur Grímsson produced a 500-page folio volume for Jón Guðmundsson. Again, there is no mention of the source of paper for this production.

The same applied to another major purchaser of handwritten books, Einar Gíslason, a carpenter and farmer who lived at Sandnes. Josephus' chronicles were not the only text on ancient Jewish history circulating in Kaldrananeshreppur. A second account was composed by pastor and writer Jón Oddsson Hjaltalín (1749–1835) in 1785. This text, referred to as *Gyðingasaga Bastholms* in Sighvatur's autobiography, was an Icelandic version of a three-volume Danish book by Christian Bastholm, chaplain at the Danish Court, published in the last quarter of the 18th century.<sup>51</sup> Jón Hjaltalín had initially planned to translate Bastholm's work but ended up with an adaptation that was, in Sighvatur's words, "at once a translation and an original composition".<sup>52</sup> Sighvatur Grímsson was hired by Einar Gíslason to transcribe this text in September 1869 and copied the bulk of it over a two-week period between 11 and 28 October 1869. This time, Sighvatur carried out the task at his own home at Klúka, and the original manuscript was brought to him from Sandnes.<sup>53</sup> He gave it a fashionably inflated and informative heading:

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47 Jón Ólafsson, *Æfisaga Jóns Ólafssonar*. It was first printed in a Danish translation between 1905 and 1907 and in Icelandic in 1908–1909.

48 The manuscript is in the private possession of Magnús Rafnsson at Bakki in Kaldrananeshreppur. The volume's title page reads: "Ferðamannasögur, frá 17du öld, Með ýmsu öðru fleiru. Bókin er hripuð upp eptir gömlum blöðum á Jólaföstunni 1869, en enduð í janúarbyrjun 1870. Fyrir Jón Guðmundsson Óðalsbónda á Helli."

49 Þorsteinn Helgason 2018.

50 Munck, *Navigatio septentrionalis*.

51 Basthol, *Den Jødiske Historie*.

52 Driscoll 1997, 92.

53 Lbs 2374 I 4to, p. 1, title page. 21/08/1869.



A brief synopsis of the history of the Jews, from the beginning of the world up to the latter destruction of Jerusalem in the year 4079 after the Creation, taken from the Bible itself and Dr. Christian Bastholm's *History of the Jews* in Danish, by the Reverend Jón Oddsson Hjaltalín, late pastor at Breiðabólstaður, and here recopied at the behest of Einar Gíslason, the gifted carpenter from Sandnes.<sup>54</sup>

In his postscript Sighvatur emphasises what he sees as the cultural importance of such an enterprise. This praise, though, is not for himself, the scribe, but for the author/translator and for the transcript's commissioner, who had both the motivation and the means to get the work done:

Yet again it should be mentioned how laudable it is and admirable, when people either have others transcribe or themselves copy rare manuscripts; it greatly enhances the reputation of our country and of our literature, to act as that man of genius has done who provided money to copy this entire book, but I am not to thank for that deed, for I would never have seen this book if he had not borrowed it from another and then had it copied.<sup>55</sup>

One important patron of manuscripts who is not mentioned in Sighvatur's autobiographical account cited above is the farmer and fisherman Björn Björnsson at Bjarnarnes. The household of Bjarnarnes was one of the pillars of the scribal community in Kaldrananeshreppur between the years 1869 and 1873. The head of the household, Björn Björnsson, and his wife, Kristín Jónsdóttir, were farmers at Bjarnarnes most of their adult lives, from the year 1836 up to 1874 when their son Guðmundur succeeded them.<sup>56</sup> Bjarnarnes was also one of the largest households in the commune in terms of number of residents. In October 1870, thirteen people were registered at the farm, including the farming couple in their sixties and six of their eight surviving children, who were between the ages of 22 and 30.<sup>57</sup>

Two things are striking about the household's status in the scribal community. Firstly, the extent of the different scribal tasks executed by Sighvatur Grímsson for the household itself or its individual members is outstanding. Secondly, it is noteworthy how many members of this large household had literary relations with Sighvatur Grímsson. Of the adult members of the household (ten people over the age of fourteen

<sup>54</sup> Lbs 2782 4to, p. 246. "Stutt innihald Giðinga sögu, alt frá upphafi veraldar, til Jerúsalemsborgar síðari eydileggingar, árid eftir heimsins sköpun 4079, útdregid af sjálfri Bibljíunni, og Dr. Kristjáns Basthólms Júða sögu, á Dönsku, af síra Jóni Oddssyni Hjaltalín presti síðast á Breiðabólstað en nú síðast að níju upphripuð, að tilhlutan þjóðhagasmiðsins Einars Gíslasonar á Sandnesi 1869".

<sup>55</sup> Lbs 2782 4to. "Enn aptur má géta þess hvorsu lofsvert og ágætt er, þegar menn láta aðra eða gjöra sjálfir, að skrifa upp vand fenginn handrit, það er verulega aukin heiður lands vors með því, og Bókmennta vorra, eins og sá Snilldarmaður hefir gjört sem hefir kostað fje til að skrifa alla þessa bók og er það verk ekkert mér að þakka, því hana hefði ég aldrei sjeð, hefði hann ekki féngið hana annarstaðar að láni og síðan látið skrifa hana".

<sup>56</sup> Jón Guðnason 1955, 393.

<sup>57</sup> "Bjarnarnes", in: *National Archives of Iceland* (s. d.), <https://www.manntal.is/leit/Bjarnarnes/1870/1/1870/46591> (accessed 01/04/2022).

in 1870), Sighvatur registers some literary exchange with eight of them. This suggests that a household of this size and composition could make a foundation for communal literary consumption but also that the reconstruction of a scribal network must involve both individual and communal aspects of textual consumption.

The household of Bjarnarnes made its earning from a combination of animal husbandry and fishing.<sup>58</sup> Sighvatur became a seasonal fisherman at Bjarnarnes in the fall of 1871 and was resident there for three months as a member of Björn Björnsson's crew. Along with and in between his duties as a boatsman, Sighvatur wrote extensively for his employer. On Sunday 24 September, Sighvatur began at Bjarnarnes to copy the *Saga af Apollonío Kóngi af Tyró* (also known as *Apollonius Saga*) "for old Björn".<sup>59</sup> When he finished on 3 October, the saga spread over 52 pages in 4to. This was the beginning of the most extensive single commission carried out by Sighvatur for Björn Björnsson at Bjarnarnes, a hefty volume of 512 pages containing romances, legendary sagas, so-called *almúgabækur* or chapbooks (Germ. *Volksbücher*) and a few short anecdotes, all under the collective designation of *Útlendra sagna bók frá fyrri öldum. Skrifuð fyrir bóndann Björn Bjönss. Bjarna[r]nesi 1871*, a title that translates to *A Book of Foreign Tales from Ages Past, Written for Farmer Björn Björnsson of Bjarnarnes 1871*.<sup>60</sup>

Sighvatur's making of this collection of chapbooks, romances and mythical-heroic sagas seems to be one of several cases of commissioned tasks where he was allowed to keep the original manuscript previously owned by the commissioner. In such a case, the purchaser got a new copy of the texts that was much easier to read than the old and worn one, in this case dating from the early 18th century. At the same time, Sighvatur obtained a copy of the same texts that he, the trained manuscript reader that he was, could easily make his way through. Additionally, Sighvatur was in this case compensated in kind. According to two diary entries, Sighvatur received some goods from the Bjarnarnes household, first on 23 December when he came home with ground meat, flour, and barley and a loaf of bread and again on 29 December when he returned home with fish, (fish) liver and some paper.<sup>61</sup>

Another example of literary tasks associated with Bjarnarnes was a copy of the *rímur* cycle *Olgeirs rímur danska*, which Sighvatur made for Guðmundur Björnsson, one of Björn Björnsson's sons, between mid-November 1872 and mid-February 1873.<sup>62</sup> Guðmundur Björnsson was at the time in his early thirties, an unmarried farmhand at his parents' household; he later took over the farm Bjarnarnes from his parents. *Rímur* poetry blossomed in Iceland from the late 14th century well into the modern

<sup>58</sup> Pétur Jónsson 1947, 48.

<sup>59</sup> Lbs 2374 4to, f. 150v. 24/09/1871.

<sup>60</sup> Lbs 4547 8vo; Lbs 2374 4to, ff. 150v–155v. 22/09/1871– 22/12/1871.

<sup>61</sup> Lbs 2374 I 4to, f. 155v. 23/12/1871 "Björn gaf mér spað, grjón og korn og Guðbjörg brauð og mjöl" and 29/12/1871 "Fór heim frá Bjarnarnesi með lifur og fisk og pappír".

<sup>62</sup> Lbs 2374 I 4to, f. 180r. 14/11/1872–16/02/1873.

era. *Olgeirs rímur*, thought to have been composed around 1680 by the poet Guðmundur Bergþórsson (1657–1705), is the longest known text of this genre of narrative poetry, comprising 60 *rímur* and a total of 5243 stanzas.<sup>63</sup> Sighvatur began this huge assignment on 14 November 1872 and concluded it three months later, on 16 February 1873, when he noted in a diary entry that it was 391 pages in 4to or 49 sheets.<sup>64</sup> On the same day, Sighvatur began to copy *Rímur af Sigurði turnara* by the prolific *rímur* poet Magnús Jónsson of Magnússkógar (1763–1840) for Sigríður Björnsdóttir and completed it the following day. Sigríður Björnsdóttir was the oldest of Björn's surviving children. She had recently moved back home to her parents' house with her children after the loss of her husband in 1869. Sighvatur Grímsson arrived at Bjarnarnes on 18 February 1873 and delivered the two new books: the sturdy *Olgeirs rímur* volume to Guðmundur Björnsson and a neat book of 69 pages in 8vo containing the *Rímur af Sigurði turnara* for Guðmundur's sister Sigríður.<sup>65</sup>

Sources deriving from the scribe and lay scholar Sighvatur Grímsson strongly suggest that the more affluent farmers in Kaldrananeshreppur had good access to writing paper in the period studied here, the late 1860s and early 1870s. While Sighvatur had the skills and the motivation to copy bulks of texts and produce hefty books by hand and, furthermore, access to and knowledge of rare texts, those who facilitated his scribal practices and supplied the necessary materials were also essential to the circuit of scribal publication.

## Smaller Tasks

In addition to the grand projects discussed above, Sighvatur copied a vast number of smaller texts of various genres for a large number of clients. Some were, however, not transcripts but original compositions by Sighvatur himself. Among those were personal ancestral lineage charts made for his friends and neighbours. On these charts, in an organised and schematic manner, Sighvatur would trace the ancestry of the client (and usually their spouse as well) some centuries back, often to the settlement of Iceland or beyond. Such charts were among Sighvatur's most sought-after scribal product while he lived in Kaldrananeshreppur. His diary entries from the four-year period give clear information about eighteen of them: eleven charts made for his neighbours in the commune, additional five for people in a nearby district and two lineage charts that Sighvatur had started to work on earlier and finished at Klúka.

One of the striking things about the making of customised lineage charts—apart from the prevalence of the practice—is that they were made for farm labourers and small crofters as well as affluent farmers, and for women as well as men. The first of

<sup>63</sup> Guðmundur Bergþórsson, *Olgeirs rímur danska*.

<sup>64</sup> Lbs 2374 I 4to, f. 187r. 16/02/1873.

<sup>65</sup> Lbs 2374 I 4to, f. 187r–v. 18/02/1873.

the charts composed within the district was made for a young male servant at the farm of Kaldrananes named Björn Gíslason, in November 1869.<sup>66</sup> It is one of only two charts on the list that is preserved in NULI. It is bound with several short texts written by Björn himself in 1880, suggesting that he was himself a skilled penman and involved in scribal work for private use.<sup>67</sup>

A year later, Sighvatur produced a lineage chart for another young servant in the district of Kaldrananeshreppur, the 22-year-old Árni Jónsson, who was employed by one of the three households at the Kaldrananes farmstead.<sup>68</sup> The third servant who obtained a personal lineage chart from Sighvatur in that period was a young woman by the name of Guðmundína Kristjánsdóttir, employed at Hella.<sup>69</sup> Women were commonly only included in these charts as the wives of the male recipient, but this is the one case where a single woman received an individual lineage. These three examples suggest that the making of lineage charts was not exclusively dependent on strong economic or social status, occupation or gender but rather an individual interest in family history and perhaps the impetus of personal contact with Sighvatur.

At the higher end of the social and economic ladder of this farming society, people were affluent enough to afford more substantial genealogies. These were also the individuals in the district who were most likely to commission other large scribal tasks and were involved in other aspects of literary exchange: the elite of the scribal community, in a sense. The most extensive of these assignments was the lineage of Jón Guðmundsson and Guðrún Ingimundardóttir at Hella, produced over a period of nine days in November 1869 on 12 sheets (which would come down to 200 pages in 8vo or 100 in 4to).<sup>70</sup> A lineage of this kind was indeed the first writing assignment that Sighvatur undertook for the abovementioned farmer Jón Guðmundsson at Kaldrananes, marking the beginning of an extensive literary exchange between Sighvatur and this family, as we have seen earlier in this paper.

The diverse list of people who obtained personal lineage charts from Sighvatur Grímsson between 1869 and 1873 strongly indicates that although the size and grandeur of a scribal product might depend on the commissioner's economic capacity and social status, the ability to commission work was relatively open to those of any status, gender, means or education. Having a lineage chart made became a popular trend among the people of Kaldrananeshreppur as soon as Sighvatur Grímsson moved into the district in 1869, and the fashion spread to bordering districts. To what degree the people of Kaldrananeshreppur had access to this kind of genealogical service before and after Sighvatur's brief occupancy is not known, but the immense demand for it might suggest that this was a novel but perhaps not completely unknown phenome-

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<sup>66</sup> Lbs 2374 4to, f. 101r–v. 06–11/11/1869.

<sup>67</sup> Lbs 3626 8vo.

<sup>68</sup> Lbs 2374 4to, f. 124v. 01–02/11/1870.

<sup>69</sup> Lbs 2374 4to, f. 105r. 03/02/1870.

<sup>70</sup> Lbs 2374 4to, f. 101v. 10–18/11/1869.

non that gave them a new way to approach their history and heritage. This shows how scribal culture and scribal publication had, despite its slowness, other sought-after qualities like flexibility, both towards literary trends and more importantly towards the personal needs of the recipient. The diverse status of the subjects suggests that lineage charts were not a status symbol for prosperous landowners, officials and members of the clergy. It is much more likely that lineage charts gave their owners a sense of history and continuity and linked them to the living heritage of traditional literature and chronicles circulating within the scribal and oral culture.

## Conclusions

Sources that derive from the scribe and lay scholar Sighvatur Grímsson strongly suggest that the more affluent farmers in Kaldrananeshreppur had good access to writing paper in the period studied here, the late 1860s and early 1870s. Based on the diaries and other extant manuscripts in his hand, we can estimate that Sighvatur wrote several thousand pages over the four years he was resident at the farm Klúka in Kaldrananeshreppur. In this paper I have tried to work out the paths and patterns of accumulation of paper necessary for such enterprise. Sporadic diary entries recording Sighvatur's active accumulation of paper can only be used to trace a small portion of the total amount of paper required for these writings. I have argued that the vast majority must have been provided by the commissioners of transcripts, or what can be termed 'passive accumulation'. Many of these commissioners—and indeed the commissioners of the most extensive tasks—were among the most affluent farmers of the commune.

Limited output of secular printed books up to the last quarter of the 19th century was one of the most striking features of Icelandic cultural history of the early modern and modern era. Contrasting this depiction of scarcity is the resilience, and in fact intensification, of scribal publication throughout the 19th century. This has been attributed to the agency of scribes and lay scholars who vigorously produced and disseminated handwritten material via transcripts and lending. They did not operate alone and in isolation but constituted an informal grouping, exchanging material, organising meetings and providing each other with mutual support. Through this study we also learn the importance of affluent patrons who have access to and can afford the many pages and much ink needed for such an endeavour. The agency behind vibrant and varied scribal publication, evident in Sighvatur Grímsson's extensive documents, is not only to be found in his personal capacity and almost compulsive determination to produce handwritten material but also in the economic and social capital of those who commissioned his work and the network between these actors and beyond.

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Viðar Hreinsson

# Rough Seas in Tattered Manuscripts

... spider cognition does extend to web threads and its configurations ...<sup>1</sup>

## 1 Introduction

Manuscript cultures of all periods have deep biological and material aspects. Medieval production and processing of vellum from living animals was mostly the preserve of specialised craftsmen, though the making of ink and quills may have been an activity of the scriptorium. The distance between material craftsmanship and the intellectual, scribal aspects of book production was in any case narrower than in subsequent print culture. Later, alongside print and the production of paper, manuscript culture spread more widely among the general public. Paper was cheaper than vellum, yet it remained expensive for common people, while quill and ink could still be made at home. Most Icelandic manuscripts were produced in sod houses of various kinds. The turf was cut from the ground, and the rhizome of the grassy soil thus acquired new functions. Due to its cohesive quality, the earth was transformed from mere soil to a shelter for people. Sod is organic, constantly renewing itself, and rhizome is thus an appropriate metaphor for the production and circulation of post-medieval Icelandic manuscripts. As Davíð Ólafsson has pointed out: “Each act of manuscript transmission has links to an infinite number of others in a web of textual circulation; some are obvious, others traceable, but most of them are and will remain invisible”.<sup>2</sup> Just as the rhizome kept houses from falling apart, manuscript culture contributed to the cohesiveness of Icelandic society by disseminating literatures, knowledge, entertainment and spiritual ‘nourishment’ in a synergistic relationship with oral lore.

Environmental studies have become conspicuous in various fields of the humanities over the last few decades. Environmental history, eco-ethnography, eco-theology and ecocriticism are disciplines within environmental humanities; they synergise ecology and the natural sciences, engaging in diverse subject areas, such as environmental memory and ecological knowledge. In literary studies, ecocriticism covers various approaches to nature and the environment, pertaining variously to space, geography, climate, biology, ecology, the mental life of plants and animals and agential natural forces, as well as human perceptions in an environmental-historical context. The history of environmental ideas or conceptions and historical ecocriticism is vital to help clarify how modern objectifying, fragmenting and reductionist conceptions of

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1 Japyassú/Laland 2017.

2 Davíð Ólafsson 2008.



nature and the environment emerged and developed, distinguishing between ‘actual history’, i. e., the environmental changes that took place, and the human conceptions behind interferences with the environment. Environmental humanities acknowledge complexity and the awareness that humans are situated in entangled webs of reciprocal relations, connections and processes involving rhizomes, *Umwelts*, ecosystems, nerve-systems and extended cognition (see below).

Ecocritical analysis often boldly challenges established canons by looking at the grassroots of literary production and searching for new and different cultural or literary dynamics. It uncovers unexpected environmental aspects of canonical works, such as when Jonathan Bate analysed the appearance of weather and climate in romantic poetry and when Michael Twomey revealed that the Arthurian Green Knight wasn’t all that green.<sup>3</sup>

As a concept, ecology—along with biodiversity and related fields such as biosemiotics and neurobiology—can be applied to cultural phenomena such as manuscript culture to observe them dialogically as ecosystems. Perceptions of agential nature or natural forces leave their marks on literary expressions that also reflect human actions and effects on nature.<sup>4</sup> Dialogues and connectedness are in the process of replacing the traditional subject-object relations that imply reification of nature and environment. Current developments in environmental humanities emphasise reciprocal entanglements that stimulate unexpected articulations. Network- and process-oriented thinking reveals that literary works, not least in manuscript culture (a work being either a single poem, story or a manuscript), should be regarded as *events* that are simply units in “evolving processes”, as A. N. Whitehead has defined phenomena in nature.<sup>5</sup>

This paper attempts to bring together recent developments in environmental humanities and studies in manuscript cultures, to unravel threads and heretofore unexamined dynamics in manuscript culture. Extending the biological to cultural studies seeks new insights and the abolition of a dualistic split between humans and nature. Furthermore, it marks a shift from quantitative to qualitative, non-mechanistic approaches, relieving scholarship from linear processes and introducing entangled diversities. The material is approached from a different perspective, a new materialist bottom-up search into unknown poetical territories in manuscript culture.

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<sup>3</sup> Bate 2001; Twomey 2013.

<sup>4</sup> On biodiversity and cultural diversity, see Kull 2011; Skúli Skúlason 2020; on dialogism, see Bakhtin 1981.

<sup>5</sup> Whitehead 1929, 90.

## 2 *Umwelt*, Neurobiology, Conatus, Quanta, More-Than-Human

The biosemiotic concept *Umwelt*, developed by the Estonian philosophical biologist Jakob von Uexküll, asserts that every living being moves in a complicated and diverse environment where everything has a meaning, “for everything a subject perceives belongs to its *perception world* [*Merkwelt*], and everything it produces, to its *effect world* [*Wirkwelt*]. These two worlds of perception and production of effects, form one closed unit, the *environment*”.<sup>6</sup> Every living being has an *Umwelt* of its own, with its own characteristics, and yet all these are interwoven into an environment. Uexküll stresses the creative, dynamic aspects of organisms that grow outward and are composed of organs, not things. The organ consists “of living cells which all possess their ‘self-tone’”, and development takes place “according to a previously established melody”.<sup>7</sup> The context and interplay of the whole is like instruments and melodies, and in its composition, “[n]ature is completely free in the choice of animals it wishes to connect contrapuntally”. Meaning in nature resembles a great symphony, unifying “two natural factors with each other”.<sup>8</sup>

Uexküll’s work is pitted against Cartesian, mechanistic dualism and reductionist rationalism that severs body and mind. Emotions and feelings are indeed premises of logical thinking, and the activities of the mind are inseparable from the body. Antonio Damasio criticises René Descartes for the mechanistic split, leaning towards Spinoza’s idea that mind and body are parallel characteristics of the same substance. He claims that a cell manifests a strong intention to maintain itself and that this corresponds to Spinoza’s idea of *conatus*, active self-perseverance or resilience, where mind and body operate in synergy.<sup>9</sup> Inherent intentions exist in the smallest cells and the largest beings and this is connected to *homeostasis*, a biological concept related to the innate tendency to maintain some kind of “harmony”,<sup>10</sup> although this term might be too static. The concept of *conatus* also applies to cultural dynamics. By linking *conatus* with biosemiotics, it is possible to advance an idea of the expressive aspects of human communities and their environments. Recognition of biosemiotic and neurobiological features of life and mind can soften outdated conceptions and deter reification of dynamic cultural growth.

Damasio’s neurobiology, which asserts that the complex nerve impulses that govern the activities of living beings reflect *mutatis mutandis*, is an important idea that corresponds to biodiversity and the diversity of *Umwelts*.<sup>11</sup> These communicative and

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6 Uexküll 2010, 42. In this quotation, “environment” is a rather limited translation of the German term *Umwelt*.

7 Uexküll 2010, 156.

8 Uexküll 2010, 188–189.

9 Damasio 2006; Damasio 2003, 133.

10 Damasio 2018, 35–40; See also Spinoza 2002, 283–284 (Part III, Proposition 7–10).

11 “‘Biological diversity’ means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems”, *United Nations* 1992.

agential approaches to the autonomous natural world to which humans belong are more diverse, dynamic and complex than previous epistemological taxonomies have admitted, and they introduce new insights that can be applied to cultural and literary expressions.<sup>12</sup> Neither life nor culture are fixed entities suitable for the reductionist generalisations that A. N. Whitehead (1861–1947) called “the fallacy of universals” and “the accidental error of mistaking the abstract for the concrete”.<sup>13</sup> A number of approaches in the last few decades have tried to grasp the complex and diverse aspects of humans in nature: Deleuze’s and Guattari’s image of the rhizome is well known, a metaphor reflecting the complexity of cultural relations, foreshadowing the actual linking of human expressions with organic processes.<sup>14</sup> Tim Ingold’s ideas of wayfaring and a living variety of “lines of becoming” and “meshworks”—inspired by Whitehead’s processual thinking—imply constant movement and dynamic connections. This is combined with potentialities, human reciprocity with the sentient world, also inspired by Merleau-Ponty: “our perception of the world is no more and no less, than the world’s perception of itself—in and through us”.<sup>15</sup>

Feminist quantum physicist Karen Barad has opened new insights into the material world. The new materialism, “agential realism” and the idea of “entangled material agencies” reveals a flow toward constant becoming,<sup>16</sup> where nothing is final and where the “outer limits” are tools rather than fixed reality. From this perspective the human body is never a completely isolated entity. Barad rejects a mechanistic and reductionist physics that assumes “the very existence of finitude that gets defined as matter” and claims that “[n]ature is neither a passive surface awaiting the mark of culture nor the end product of cultural performances.” She criticises the “belief that nature is mute and immutable” and that it simply “re-inscribes the nature-culture dualism”. Barad goes further by claiming that “matter is not a fixed essence; rather, matter is substance in its intra-active becoming—not a thing but a doing, a congealing of agency. [...] In an agential realist account, performativity is understood [...] as *iterative intra-activity*”.<sup>17</sup>

Barad responds to Descartes’ ‘I think, therefore I am’ by claiming that “[k]nowing is not a capacity that is the exclusive birthright of the human” as “a self-contained rational human subject”. Knowing has a larger material context, since human participation in “practices of knowing” is a “part of the larger material configuration of the world and its ongoing open-ended articulation”.<sup>18</sup> Knowing is about exchange of differences between different parts of the world, and in Barad’s “agential realist account,

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<sup>12</sup> On nature’s autonomy, see Merchant 2016; on complexity, Wells 2013; on diversity, Kull 2011.

<sup>13</sup> Ingold 2011, 243; Whitehead 1929, 64. See also Whitehead 1978, 93–94.

<sup>14</sup> Deleuze/Guattari 1987.

<sup>15</sup> Ingold 2011, 12.

<sup>16</sup> Barad 2007, 56.

<sup>17</sup> Barad 2007, 183–184.

<sup>18</sup> Barad 2007, 379.

intelligibility is an ontological performance of the world in its ongoing articulation. It is not a human-dependent characteristic but a feature of the world in its differential becoming”.<sup>19</sup> Barad has developed a holistic approach to time and history, eliminating time and space “as determinate givens outside of phenomena”, since, in her words, “[t]he production of the new can’t be located and it certainly can’t be owned. Neither the past nor the future is ever closed”.<sup>20</sup> This suggests that cultural phenomena can be understood as the constant becoming of intra-activities.

David Abram’s “more-than-human world” is another important inspiration for the new materialism. With a foothold in Merleau-Ponty’s phenomenology of perception, Abram presents a polyphonic, holistic worldview: many new ways to perceive the meanings of the earth all around us, trusting “our immediate sensory experience” rather than “quantitative measurement, technological instrumentation, and other exclusively human involvements”. He presents a new kind of literacy: “Our task [...] is that of *taking up* the written word, with all of its potency, and patiently, carefully, writing language back into the land”.<sup>21</sup> The perception of time and space is critical, and the movement from a cyclical understanding of time in prehistoric, oral societies to absolute, linear views of time and space appeared with the invention of the alphabet and the preference for linear print over curved handwriting.<sup>22</sup> This is an appropriate manifesto for material ecocriticism, particularly in the area of manuscript culture studies.

What these ideas have in common is a notion that human agency is in a reciprocal, processual relationship with the environment or the physical world. We can add the extended cognition thesis, which rejects the separation of the mind, body and the environment and implies that the two-way process of interaction with the environment in a “coupled system” is essentially cognitive.<sup>23</sup> In biological research, for instance of small creatures like spiders, extended cognition is seen as “a broad and prevalent definition of cognition as the acquisition, processing, storage and use of information”. Furthermore, “by outsourcing cognition and building structures, organisms potentially make their world more predictable, and a predictable feature of the environment will frequently turn out to be a selective pressure”.<sup>24</sup> This can be applied to humans as well, inspiring, *mutatis mutandis*, the idea that the perception of the environment is not a mechanical relationship or ‘objective’ observation, but an active, reciprocal process involving meaning that in the present context contributes to human struggles with the natural forces. This resembles Uexküll’s *Umwelt* in many ways, and this relational line of thinking can be transferred to cultural and literary studies.

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<sup>19</sup> Barad 2007, 379–380.

<sup>20</sup> Barad 2007, 383.

<sup>21</sup> Abram 2017, 216–217, 265–273.

<sup>22</sup> See Abram 2017, 185–187, 199–201.

<sup>23</sup> Clark/Chalmers [1998].

<sup>24</sup> Japyassú/Laland 2017, 276, 289.

Like Barad and Abram, Mikhail Bakhtin breaks up the (epistemologically) reifying, fragmenting isolation of phenomena or objects of inquiry by evoking ideas of dynamic and creative flow, especially by his notion of ‘Great Time’: “Nothing is absolutely dead: every meaning will have its homecoming festival. The problem of *great time*”.<sup>25</sup> The idea of ‘Great Time’ reminds one of *longue dureé* perspectives and other attempts to see developments in long-term contexts. However, it is rooted in the notion of polyglot cultural circumstances of the simultaneous existence of at least two cultures or worldviews, languages or linguistic consciousnesses within a single work, different languages within a culture and different language layers within a national language. This is what Bakhtin calls heteroglossia. Tensions and dialogues between languages in various situations constantly create new meanings, and old texts and expressions unceasingly acquire new life in renewed dialogues, new interpretations and contexts. The production of a literary work is never final, but rather an event in a process, and, thus, literary production resembles biological and ecological evolution. This dialogical becoming also applies to human relations in nature. Moreover, because dialogue requires answers and responses, it is essentially a living responsibility. Dialogism is thus deeply ethical, and this is reflected in the concepts of ‘answerability’ and ‘responsibility’ in several languages. Here is a point of contact with Uexküll’s *Umwelt*, as every living being is in a complicated dialogue with its environment. Bakhtin bridges dialogically the space between natural sciences and cultural studies and uses polyphony as a metaphor like Uexküll; he speaks of the “orchestration of meaning by means of heteroglossia”<sup>26</sup> and celebrates non-mechanistic diversity. As an agent in a biosemiotic sphere, the natural environment is a partner in a dialogue reflecting diversity and complexity. It requires attentive observation. And just like living beings and even ecologies, human cultures are endowed with *conatus* that can defy the massive reductionist and mechanical powers of corporations and states by embracing the networking natures of life.

Some of these common attempts to break out of many of the deadlocks of western systems of thought reveal contexts and connections that highlight dynamics that can be applied to culturally and historically contingent phenomena and processes such as manuscript culture. Methods need to surpass conventional fragmentary approaches that consist of detailed analyses of texts to find the ‘original version’ and to reach beyond the new philology’s analysis of manuscripts as material objects that are parts of scribal networks. There is an interplay between medium (dissemination) and content, in a dynamic, creative or re-creative becoming; a creative and dynamic flow travels by scribal copying that remains contingent upon historical contexts—as Margaret Ezell has described it, it exists as a part of “social exchange” over long periods.<sup>27</sup> These conditions diminish the significance of the assumed original to some

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25 Bakhtin 1986, 170.

26 Bakhtin 1981, 371. On dialogism, see especially 259–422.

27 Ezell 1999, 21–44.

extent, although works of individual poets remain important. In this sense, every act is an event in entangled processes that respond to environments. Literary activities, not least manuscript culture, can be regarded as ecological,<sup>28</sup> organic and natural, particularly in the sense that it is a complex, decentralised process of reproduction and re-creation rather than an exponential accumulation of works, of which some are adopted to literary canons. Material ecocriticism often resists literary canons by mapping different cultural dynamics, in many respects comparable to— and even to some extent an extension of—ecosystems or life-worlds. The individual's agency is in a variety of relationships with the environment. These gain form when they are 'fixed' in stories and poetry on a spectrum from folksongs or occasional verse to sophisticated novels. Human agency can, in the cultural-ecological context, be investigated in cultural, literary and manuscript studies by adopting the dynamic processes and ecologies behind production and reproduction of texts so that each literary utterance can be regarded as an event in processes or meshworks.

Manuscript culture is an interplay between discordant forces: various material conditions (from ink, paper and the making of books to social circumstances and housing) and varied contents that meet in a process (from the conditions that stimulated the creation of a work, through fluctuating relations between original composition, copying, rewriting, reception and interpretations). Manuscripts thus reflect endless material connectivity, unlike print culture, which is much more static and fixed. They require new, non-mechanical, anti-reductionist methods and insights to grasp their non-linear dynamics. Therefore, threads and connections through time and history can reveal and illuminate dynamic and organic aspects of manuscript cultures, providing, among other things, insights into the relations between humans and nature. "Seabirds arrange themselves into a sentence on the water",<sup>29</sup> the poet Bill Holm once said, and we have never quite understood that sentence in its essence. Everything connects, often in a surprising way, and diversity, in nature or culture, is often beyond human reach. However, it remains a fundamental value to be pitted against the "increased uniformity" of modern societies and cultures, according to the Estonian biosemiotician Kalevi Kull.<sup>30</sup>

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**28** Zapf 2014, 2016; Viðar Hreinsson 2019.

**29** Holm 2004, 6.

**30** Kull 2011, 71.

### 3 Manuscript Culture

Oftsinnis meðan ég þreytti hin fornlegu fræði  
fannst mér sem skrifarinn sjálfur hið næsta mér stæði,  
hugurinn sá yfir hlykkjóttum stafanna baugum  
hendur sem forðum var stjórnað af lifandi taugum.<sup>31</sup>

Jón Helgason (1899–1986) was regarded as the greatest philologist of Icelandic studies in the 20th century. In spite of this stanza from his well-known poem “Í Árnasafni”, his approach to manuscripts and their contents was quite mechanistic, with a search for the original text, using methods associated with print culture as an unspoken point of reference.<sup>32</sup> Nevertheless, the poem crystallises the point of this paper and is a poignant tribute to the living activities of medieval scribes and manuscript culture in general. Tim Ingold’s observations on handwriting bring the living nerves of Helgason’s poem into focus:

It is as though handwritten lines continued to wriggle around, refusing to be quelled by the objectifying duress of visual surveillance. Only with print, it seems, was the word finally nailed down. As Ong admits, ‘print suggests that words are things more than writing ever did, [...] it was print, not writing, that effectively reified the word’.<sup>33</sup>

The “objectifying duress” eliminates time and space. Ingold regards inscribed lines as an un-mechanised activity of which writing and storylines are a part: “In reality, the past is *with* us as we press into the future. In this pressure lies the work of memory, the guiding hand of a consciousness that, as it goes along, also remembers the way. Retracting the lines of past lives is the way we proceed along our own”.<sup>34</sup> The texture of the text changed when print took over, and “the text was no longer woven but assembled, pieced together from discrete graphic elements. The transformation was complete”.<sup>35</sup> Manuscript culture is an entangled contrast to the effective, rational appearance of print culture, which for a very long time has served as a frame of reference for studies of manuscripts.<sup>36</sup> Manuscript culture was an organic *conatus*, contributing to the cohesion of society by disseminating knowledge and entertainment in synergy with oral lore.

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31 Jón Helgason, *Úr landsuðri*, 81. Often, when I pursued the ancient studies / I felt like the scribe was standing next to me; / my mind saw, above the curved letters, / hands that were once directed by living nerves. Translation by Viðar Hreinsson.

32 Viðar Hreinsson 2014, 2018.

33 Ingold 2007, 27. The reference is to Walter Ong (1982) *Orality and Literacy. The Technologizing of the Word*, London, 119–121.

34 Ingold 2007, 119.

35 Ingold 2007, 70.

36 See Viðar Hreinsson 2018.

Iceland remained an underdeveloped peasant society for centuries, predominantly rural without urban centres, great buildings, palaces or universities. The only ‘urban’ phenomena in Iceland were a few seasonal fishing camps by the seaside and the episcopal sees at Hólar and Skálholt. With their Latin schools to educate the clergy, they were the primary cultural centres, along with the largest manor farms. The Latin schools were the only institutions with ties to academia. There was an upper class of government officials and landowners, but much of the clergy shared material conditions with the hardscrabble peasant population. Literature circulated in parchment manuscripts during the Middle Ages. After Gutenberg, a market for printed books quickly developed in Europe. It gradually reached the common people, who became the ‘reading public’. However, the situation was different in Iceland where the church operated the only printing press on the island until the late 18th century. Print was not an option for ordinary secular writers. In these circumstances, a lively manuscript culture prospered, along with a strong urge for self-education and self-expression. This was a kind of a cultural self-defence, the only possibility for those who wanted to acquire knowledge. This was *conatus*, reproduction of knowledge in cultural-ecological networks, resembling mycorrhizal communication among trees in forests in the sense that it brought essential intellectual nourishment along complicated meshworks.<sup>37</sup>

The printed manuscript catalogues of the National Library of Iceland extend to 3 495 pages, containing 13 565 entries, mostly from after the Reformation. There are around 15 000 items when later acquisitions are included in the tally.<sup>38</sup> There are well over 13 000 names in the catalogues.<sup>39</sup> The index register has 23 categories of neat and orderly mechanistic taxonomies:

- I. Bibliography. Literary history.
- II. Philosophy.
- III. Theology.
- IV. Mythology.
- V. Politics.
- VI. Economics.
- VII. Law.
- VIII. Trade. Communication.
- IX. Folklore. Vernacular studies.
- X. Grammar.
- XI. Mathematics.
- XII. Astrology.
- XIII. Natural sciences. Medicine.

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<sup>37</sup> See Simard 2021, 218–237.

<sup>38</sup> Páll Eggert Ólason 1918–1937; Páll Eggert Ólason et al. 1947–1996; Bragi Þorgrímur Ólafsson, personal communication.

<sup>39</sup> Páll Eggert Ólason 1918–1937, “nafnaskrá”; Páll Eggert Ólason et al. 1947–1996, “nafnaskrá”.



- XIV. Industries.
- XV. Arts. Sports.
- XVI. Poetry.
- XVII. *Rímur*.
- XVIII. Plays.
- XIX. Novels.
- XX. Geography. Topography. Estates. Peoples.
- XXI. Historiography.
- XXII. Genealogies and personal lore.
- XXIII. Sagas.<sup>40</sup>

This is useful to some extent, but it doesn't tell us much. The numbers of works within each category varies considerably. There are, for instance, 1608 poetry manuscripts registered in the catalogues. However, different categorisations are possible. While browsing through the catalogues, I registered most of the descriptive words and concepts and added my own descriptions and even some titles of single works. This is an absolutely subjective and arbitrary register, without any order, but it shows much of the diversity contained. The number of these descriptive words and phrases is about 700. The content is extremely varied: huge amounts of poetry, annals, stories of all kinds, letters and diaries, lapidaries, leech books, and works on astrology and chiromancy. Sagas were copied, composed and rewritten in new contexts.<sup>41</sup> Autobiographical works began to be written in the 17th century and contemporary accounts increased. These included annals resembling the laconic medieval annals but detailing the events of the present day. Poetry was the main vehicle for literary expression for centuries, containing stories, psalms and religious poems, verse letters, annalistic poems, memorial poems and an abundance of everyday verses about events, sex, curses and sorcery. And not least, there are the *rímur* (sing. *ríma*), long narrative ballads, often consisting of hundreds of verses in quatrain form, highly figurative with strict alliteration and end rhyme. The genre dates as far back as the 14th century and should be considered a kind of cultural ballast, dominating, as it did, Icelandic poetry. Singular *ríma* denotes either a shorter work of only one section or a single section within the longer poem, comparable to a chapter in a book. The plural form, *rímur*, is most frequently used, as most works belonging to the genre consist of more than one section. About 1000 *rímur* are preserved, many of them in multiple manuscripts, by about 480 identified authors.<sup>42</sup> They are preserved in a huge number of manuscripts, some of which are collections, sometimes in multiple volumes, compiled by 19th-century autodidacts and scribes.

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<sup>40</sup> Páll Eggert Ólason 1918–1937, “efnisskrá handrita”; Páll Eggert Ólason et al. 1947–1996, “efnisskrá handrita”.

<sup>41</sup> See Viðar Hreinsson 2018.

<sup>42</sup> Finnur Sigmundsson 1966.

The production, reproduction and consumption of manuscripts was largely autonomous and organic, in rhizomic, unpredictable networks, carrying a diversity of meanings. Modern categorisation and taxonomies tend to violate the material aspects of artefacts that are products of mental activities<sup>43</sup> and neglect the semiotics of these activities that stretch across boundaries, that make new connections and that evoke unexpected contexts. These cultural ecosystems may be linked to material eco-semiotics. Only a small portion of the vast amount of manuscript material has been published in print. Some works have been published based on romantic philology's ideal of locating the original, authorial work that is subsequently appointed to the literary canon. The vernacular activities of lay scholars were in fact transformed to print as many works have been non-professionally published in a printed afterlife of the manuscript dissemination of local and personal lore. The magnitude of post-Gutenberg manuscript cultures is enormous, and the implications of the transition from manuscript to print culture has been far from clear cut, since

the continuation of the construction of print technology as a metaphor for the “new” and how it is associated with “modern” in a positive sense, and how it is simultaneously linked to “professional” authorship and “advanced” market economies. By implication—or [...] by direct statement—manuscript authorship and its readership have thus been relegated to the outdated, the primitive, and the “amateur”.<sup>44</sup>

The preponderance of print was an aspect of Enlightenment rationalism and the still dominant reductionist myth of progress.<sup>45</sup>

The strength and perseverance of manuscript culture is epitomised by the works of Gísli Konráðsson (1787–1877). The catalogues of the National and University Library contain roughly 450 items related to him: manuscripts in his hand, manuscripts written by others but containing his work or those he had owned but were written by others. Out of these 450 items, roughly 250 are in his hand, about 72500 pages. Most of the remaining 200 manuscripts were written by others and provide us with a sense of the afterlife of Gísli's authorial activities. These figures are not precise, and presumably many of his manuscripts are lost, especially from his earliest decades.

Gísli's autobiography reveals the material aspect of his strong urge to learn to write. He made ink from coal that he mixed with water in a tin dish, which he kept in the sheep barn when he was supposed to be cleaning the manger. He was reluctant to do the wool work his mother demanded, but as she was fond of stories and *rímur*, Gísli obtained them to read as evening entertainment, and thus he escaped the wool work. Farmers in his neighbourhood lent him books. One of them was thought to be skilled in magic, as he owned a book with runes and magical staves. Gísli imitated his

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<sup>43</sup> See Ezell 1999, 14.

<sup>44</sup> Ezell 1999, 9.

<sup>45</sup> On criticism of enlightenment and rationalism, see von Wright 2004; Merchant 1980; Plumwood 2002.

writing and, in fact, every hand he could find, so that, in his early work, his writing was quite irregular. His verse-making in his youth was regarded as not bad, though somewhat provocative. Although good at manual labour, he also clearly had academic gifts. His pastor offered to take him to his farm for teaching to prepare him for Latin school. Gísli wanted to go, but his mother and stepfather declined the offer. He was confirmed at the age of 12 in 1799, and the earliest manuscripts in his hand date from shortly after this. A hard-working farmer and fisherman most of his life, he moved a few times and served as district officer (Icel. *hreppstjóri*) for several years. Much of his time was taken up in managing poor relief and trying to ensure that rich landowners treated their tenants properly. For 18 years, he participated in the seasonal fishery (from January to May), but after 1851, he moved to the island of Flatey in western Iceland and became a semi-professional writer, supported by a progressive society on the island. He remained active until his death in 1877.<sup>46</sup>

Gísli Konráðsson initially belonged to a productive scribal community in the Skagafjörður region in northern Iceland, and his literary activities were to some extent regional. It is not known how many manuscripts are preserved from Skagafjörður, but literary activity was exceptionally lively there in the 19th century, with many prolific poets, writers and scribes in various networks.<sup>47</sup> District magistrate, writer, poet, genealogist and historian Jón Espólín (1769–1836) was a Nestor, best known for his huge collection of genealogies and the annalistic *Íslands árbækur*, which was published in 12 volumes and covered the 13th through the early 19th century (1821–1855). In addition to Gísli Konráðsson, Jón's self-educated successors included:

- 1) Niels Jónsson ('The Poet', 1782–1857) farmer, farmhand, homeopath, male-midwife, eccentric poet, writer, philosopher and literary scholar. Well over 100 manuscripts contain his work.<sup>48</sup>
- 2) Tómas Tómasson (1783–1866), farmer and poet who translated a religious history from Danish. His poetry and letters are preserved in a few manuscripts.
- 3) Einar Bjarnason (1785–1856), poet and farmhand. He learned to read and write at the age of 20 but became a prolific scribe and lay scholar who completed an extensive local history or chronicle initiated by Espólín. Over 100 manuscripts are ascribed to him.
- 4) Gunnlaugur Jónsson (1786–1866), farmer, poet and prolific scribe (over 30 manuscripts).<sup>49</sup>
- 5) Þorsteinn Þorsteinsson (1792–1863), farmer, farm hand and prolific scribe (about 80 manuscripts).<sup>50</sup>

<sup>46</sup> Gísli Konráðsson, *Æfisa Saga Gísla Konráðssona*.

<sup>47</sup> Sigurður Gylfi Magnússon/Davíð Ólafsson 2017; Davíð Ólafsson 2012; Lansing 2014.

<sup>48</sup> Niels Jónsson 1948; Árni Sigurjónsson 1994.

<sup>49</sup> Hufnagel 2013.

<sup>50</sup> Lansing 2014.

- 6) Sigurður Guðmundsson (1795–1869) farmer, district officer and poet. His poems are preserved in a few handwritten collections of poetry, and two manuscripts are preserved in his hand.
- 7) Hjálmar Jónsson (Bólu-Hjálmar, 1796–1875) farmer, poet and writer. Among the greatest 19th-century poets in Iceland. Nearly 200 manuscripts are related to him, many of them autographs.
- 8) Daði Níelsson *lærði* ('the Learned') (1809–1856), farmhand, wandering poet, scholar and book-salesman who lived for a few years in Skagafjörður. Much of his work focused on the lives of clergymen.
- 9) Skúli Bergþórsson (1819–1891) farmer, poet and scribe. His poems survive in a few manuscripts.
- 10) Sölvi Helgason (1820–1895), talented, legendary tramp, self-proclaimed philosopher and artist. Some of his unique autograph manuscripts are preserved.

A further interesting example is that of Stephan G. Stephansson (1853–1927), one of the greatest poets of Icelandic letters, who grew up in the Icelandic milieu but emigrated to North America in 1873 at the age of 20. He described his own learning process as informal but deep: it consisted of reading manuscripts and printed books that he borrowed from neighbouring farmers, carrying them home in a sack. He developed a profound poetic and philosophical voice, based not on collecting random bits of knowledge, but rather through a long digestive process that culminated in his encounter with the works of North American freethinkers and poets like Emerson, Thoreau and Whitman.<sup>51</sup> The process represents the *conatus* of organic, literary culture, repeatedly apparent in common people's thirst for intellectual nourishment. For example, children brought books with them while tending sheep on bright summer nights, and teenagers made ink or used burned sticks to write on whatever surface was close at hand. This reveals interesting relations between material surroundings and agency. Books and manuscripts were woven into people's lives, materiality extended into the production of mental works. Manuscript culture was a form of agential self-defence, the only way for people to acquire knowledge and express themselves. It was cultural *conatus* from below: a reproduction of knowledge in ecological networks that resemble rhizomes. Only a few of them ever reached the established canons, but many of them exhibited environmental memory and conceptions of nature.

These poets and writers were not only male. Ólöf frá Hlöðum (Ólöf of Hlaðir, 1857–1933) wrote her childhood memoirs, *Bernskuheimilið mitt* (*My Childhood Home*), about life in a poor farm household in a remote community in northern Iceland in the 1860s. Scholars often discuss her impoverished conditions and reflect upon how a decent poet emerged from these circumstances, but the memoirs also reveal her mental, organic upbringing where stories and poetry mixed with the compulsory

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51 Viðar Hreinsson 2012; 2018.

word of God. The children's games were creative; physical actions merged with mental games, and they blended oral and literary activities: they made board games out of fishbones, played various card games, told stories, chanted *rímur* and recited and composed poetry. Ólöf knew several *rímur* by heart, probably thousands of stanzas that would fill hundreds of printed pages. Her father taught them mental arithmetic, which he loved, and their mother was an intelligent woman who constantly told tales and recited poetry. The children were taught to read but learned to write by themselves. They made ink out of calf-blood and soot and used quills until they got steel pens. Ólöf's description reveals cultural intra-action and *conatus*, where the interplay between mind and the material surpasses heritage and physical conditions. The children transformed the world around them into toys, such as the otolith of the cod, and soot and calf-blood was turned into ink. This was an agential transformation into intelligibility. It was accentuated with bookish learning and attempts to write.<sup>52</sup> Ólöf ultimately went to Reykjavík and pursued an education. She became a midwife and one of Iceland's most gifted poets, and she was among the first women in Iceland to publish a printed volume of poetry.

Kristín Sigfúsdóttir (1876–1953) was a farm-housewife in Eyjafjörður, northern Iceland and an excellent writer who wrote novels, plays and poetry at the kitchen table between chores. She describes her cultural grassroots in stories about her ancestors and local people, such as Guðjón Jónsson (1826–1881), an elderly man on the farm Núpufell. Like other rural children, Guðjón was not sent to school. Nevertheless, he was a skilled, self-taught scribe:

Guðjón told my father that when he was a boy that he wanted so much to learn to write but he was not encouraged to do so and he neither had paper, ink nor a pen. One day he was out in the open and found a white and weathered shoulder blade of a horse, and then it struck his mind that he had heard that some people had used bones like that to write letters on. So, he brought the bone home and tried to scribble letters on it with charcoal. He selected letters that he thought were well written from old correspondence and tattered manuscripts. When he had filled out the bone he washed it and started over again. He sat at this in every spare moment. People thought this was an unnecessary and childish whim. Later he made himself a quill and wrote with soot-ink and black dye on every piece of paper he could find. And eventually he became an artful scribe.<sup>53</sup>

52 Ólöf Sigurðardóttir, *Ritsafn*, 274–275.

53 Kristín Sigfúsdóttir, *Rit Kristínar Sigfúsdóttur*, 85–86, tr. VH “Guðjón sagði þabba, að þegar hann var drengur, hafi hann langað mikið til að læra að skrifa, en ekki var hann hvattur til þess og ekki átti hann pappír, blek eða penna. Dag nokkurn fann hann úti á víðavangi hvít og skinið hrossherðablað, og um leið kom honum til hugar, að hann hefði heyrt þess getið, að sumir hefðu notað svona bein til þess að draga á þau stafi. Fór hann með herðablaðið heim til sín og reyndi að krotta á það stafi með víðarkoli. Valdi hann stafi, sem vel þóttu gerðir, úr gömlum bréfum og skrifuðum skræðum. Þegar herðablaðið var útfyllt, þvoði hann það og byrjaði svo á nýjan leik. Við þetta sat hann hverja tólmstund. Þótti fólki hans þetta óþarft og barnalegt uppátæki. Seinna bjó hann sér til fjaðrapenna og skrifaði með sótbléki og hellulit á hvert blað, sem hann náði. Og að lokum varð hann listaskrifari”.

Guðjón was, by all conventional measures, an insignificant man, born in 1826, the son of a woman who never married but in the church records, she was registered all her adult life as a servant in a poor household on her father's farm, Sandhólar. Guðjón's father was an elderly farmer from the neighbourhood. Guðjón was a farmhand on neighbouring farms within a 5-km radius of Sandhólar all his life, living at Núpufell from 1861 until he died in 1881. The church records are mostly silent about his abilities. While his understanding of Scripture was sufficient, his reading skill—mentioned twice in the extant sources (1852, 1853)—was excellent.<sup>54</sup> Obviously, he enlarged his own horizon and the worlds of others, as he taught Kristín's father Sigfús to write, and he wrote at length for his neighbours, both private and official letters, as well as descriptions of illnesses for doctors' visits.

Kristín did not romanticise the literary culture. Poor youngsters of humble origin who leaned toward books were swimming against the current, she said, pointing out that those who collected lore and wrote it down were often regarded as good-for-nothing losers. She wondered if men feared that bookishness would turn the minds of the youngsters away from the endless toil of the farms, which was really the only way to avoid serious poverty in 19th-century Iceland. Kristín's grandfather did not encourage his daughters to learn to write, but they did so all the same. Her mother Guðrún Jónsdóttir wanted to cry when her brother Páll was sent away from home to learn writing, mathematics and Danish. Her father tried to comfort her, saying she had no use for that. But she tried to learn by herself, and loving poetry, she copied poems from books and journals into a handwritten collection. Páll published a handwritten local newspaper in the 1870s. He became a teacher and respected poet and writer, encouraging Kristín to read and write. Her unromantic description confirms that literary and manuscript culture was not as widespread as is sometimes assumed, but it was at least common enough to maintain these activities—a grassroots or organic soil that occasionally nourished original writers and poets, who flourished not least when they encountered cultural impulses from abroad.<sup>55</sup>

Thus, even horse-bones formed an interesting vehicle for cultural *conatus*, the dynamic or organic processes of integrated knowledge and creativity. Two prominent, self-made intellectuals in the 19th century practised their writing with burned sticks on weathered jawbones of horses. One of them was Ólafur Sívertsen (1790–1860), who became a pastor and a leader of a social and cultural renaissance in the Breiðafjörður area and who was one of those who hired Gísli Konráðsson to move to Flatey to pursue studies and writing. The other was Sigvaldi Jónsson (1814–1879), a self-educated poet who learned to write quite late in life by practising his letters on a jawbone in the sheep-barn as well as with a stick in the snow. He developed a beautiful hand and

<sup>54</sup> “Kann og skilur sæmil. Lestur sierdeillis góður” (1852), “Kunnátta og skilningur sæmil., Lestur ágjætur” (1853). Reykjavík, National Archives of Iceland, ÞÍ, Saurbær í Eyjafirði (Sóknarmannatal 1831–1870).

<sup>55</sup> Kristín Sigfúsdóttir, *Rit Kristínar Sigfúsdóttur*, 86–87.

eventually became an itinerant teacher who taught the poet Stephan G. Stephansson (see above) to write, among others.<sup>56</sup>

Stories help to orient people as they proceed through life. Some theories state that human languages developed along with focused teaching that developed from simple imitation, making the imitation more effective.<sup>57</sup> This idea can be elaborated; the next step is to relate events on a larger scale. The telling of stories connected listeners to the surrounding natural environment in the context of daily chores and passed knowledge between generations across the millennia. This eliminates absolute time in a manner that is not unlike Bakhtin's 'Great Time' and Barad's and Abram's materialistic-holistic approaches. The meshworks of cultural ecosystems connect us to the biological ecosystems, the *Umwelt* of the human. As quantum physics has revealed the fluidity of a reality in which everything is connected, concepts such as linear or absolute time are but human constructs designed to orient oneself in a world more complex than people can possibly grasp. In manuscript culture, a flow of varied content serves as nourishment and fuel for culture and society, "storied matter".<sup>58</sup> Material philology focuses on external elements, tangible manuscripts and sociocultural systems and networks. However, there is also some narrative, poetic and material content that dominates Icelandic literature in manuscripts and reflects Icelandic experiences of nature and the environment.

The content tends to be valued in terms of a canon based on a linear idea of literary development, but it is "more-than-human" in the sense that subjects, themes, forms and media are carried by traditions, constantly receiving new impulses in flowing dialogues with environments. Stories stored in diverse literary forms can be regarded as ecosystems or even cultural nervous systems. New methods or perspectives need to be developed in ecocritical studies, weaving together biology, neurobiology and literatures to grasp complicated contexts and creative diversities. This may help to conceive synergies in opposition to the reductionism of taxonomies, structures, themes and condensed meanings. The stories and poetry are parts of diversified ecologies, nerve impulses of culture growing in a non-linear fashion, a flow of contents in nourishing soil. By printing, texts lose organic qualities and specific local flair, as well as their connection to the conditions and agency of poets and those transcribing the work. Printed texts are mechanical, in a final form meant for mass-distribution. They die in a certain sense, but they also acquire a new life in the minds of many more readers (rather than being reborn in new manuscripts).

Each manuscript had its changing *Umwelt* of which only traces can be observed. As a material object, it had connections that were much more diverse than any philological stemma. When it was not an autograph, it was copied from another manuscript that had its own *Umwelt* but that, in turn, had been copied from earlier witnesses.

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<sup>56</sup> Lúðvík Kristjánsson 1993, 22; Kristmundur Bjarnason 1966.

<sup>57</sup> See Laland 2017, 175–207.

<sup>58</sup> Iovino/Opperman 2014.

Each manuscript was handled, read and even memorised by an indeterminate number of people and bore the marks of various users, such as fingerprints, dirt, stains of ink and even snuff. They were read aloud for another indeterminate number of people, for as long as they remained intact. The contents may have had different functions in different contexts, and these may have changed over the course of time.<sup>59</sup> Each work could be an individual expression but could also be collectively contingent upon social functions, varieties of entertainment and education, reactions to environment and immediate circumstances such as everyday life, human relations, heroism, the demands of literary traditions and preservation of individual and social knowledge. The preservation or afterlife of a manuscript or a literary work hinged upon the care of the poet, the scribes and the collectors but also upon the literary taste, utility and simple quality of the work. The manuscript collections are an untapped source for various untested approaches and conceptions of nature and the environment in early modern Iceland. It may be fruitful to make investigations into them in search of specific content or themes and to gain insights different from those reached by looking at individual poets, published material and the lenses of the canon.

In order to gain insights into conceptions of nature, collections have been selected that are representative of mainstream Icelandic poetry over an extended period. The main emphasis is on content related to the environment and nature in a broad sense, regardless of whether they are the ‘original’ versions or ‘best’ manuscripts of individual works. In this way, it is possible to unearth entanglements without regarding the poetic works as fixed phenomena, to find unexpected dynamics and processes that reveal cultural diversities corresponding to biodiversity, as well as connections that resemble neurological networks. That is, it is possible to see living cultures with dynamic qualities that will often disappear when the rationalist, mechanistic lens of print culture is applied. The first step is to find collections that are both ‘accessible’ and representative.

#### 4 Páll Pálsson’s Collections

Páll Pálsson (1807–1877), nicknamed the Student, was born at Lambastaðir in Sel-tjarnarnes and graduated from Bishop Steingrímur Jónsson’s home school in 1823. He became secretary to prefect Bjarni Þorsteinsson of Arnarstapi on the Snæfellsnes peninsula, serving as tutor to Bjarni’s sons. He later moved with Bjarni to Reykjavík and began repairing and binding books and manuscripts at the newly established National Library (now National and University Library of Iceland, henceforth NULI). This was mostly volunteer work, and he received only small, irregular payments. He is chiefly remembered today for damaging early manuscripts with his primitive attempts

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<sup>59</sup> Bürger 1982, 62–75.



at conservation. However, he should rather be honoured for his cultural services. He collected and cared for a large number of manuscripts that might otherwise have been lost.<sup>60</sup> In searching for environmental material, I examined the registers of 83 volumes of poetry that Páll Pálsson collected and copied. These include 50 manuscript volumes (NULI, JS 470–519 8vo) from the 17th to the 19th century. Many are incomplete, fragmentary or damaged manuscripts that have been bound into single volumes. I also looked at 33 volumes (NULI, Lbs 162–194 8vo) of poems that he and his colleagues copied, some of them thematic in content. These collections are of particular interest, as they represent the sort of poetic output that rarely reached the national literary canon that had been established in the late 19th and early 20th century. Each volume has registers of titles, first lines and, when known, authors. Several of the final volumes in the second collection are printed. Páll's registration and handling of the manuscripts reflects the influence of the printed book, regarding the material storage of contents in organised book form. Many poems appear more than once and some a few times. The registers made it possible to search systematically for certain themes and subjects by browsing the first lines and titles. Many poems reflecting aspects or perceptions of environment and nature in a very broad sense were selected, registered and photographed by the present author, including farming and natural resources.

Catalogued randomly, many of the poems deal with nature and natural beauty, landscape, places and geography, water, weather, volcanic eruptions, sea ice, cooking, food and hunger, animals, birds, fishes, domestic animals (especially horses), seafaring, mountain trails, nature-beings (elves, trolls), heavenly bodies, seasons, the old lunar months, hours of the day, time reckoning, hardships, annals in verse, farmers and fishermen, farm chores, hay harvesting, coal-making, seal hunting, fighting walruses, prayers and hymns against diseases, Paradise, the poor condition of the world, superstition, local news, Iceland's decline, vegetables and tobacco. This reflects the diversity in the interests and expressions of a 'uniform' peasant society, revealing manifold qualities and abilities fostered by strong poetic traditions and the manuscript culture. I decided to make a rather narrow case study, to start looking into literary and cultural dynamics and ecologies of manuscript culture and search for *hrakningsrímur* (*rímur* of sea perils) containing struggles with the natural elements. It turns out that this is an exceptionally strong tradition.

## 5 Harsh and Perilous Journeys on Sea—*Hrakningsrímur*

A *hrakningsríma* can be regarded as a subgenre within *rímur*. In Páll Pálsson's collections there are at least 5 *hrakningsrímur*, one of them in two versions and another in three. There are also some long poems about perils at sea and travelling on land. A use-

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<sup>60</sup> Páll Pálsson, *Skrifarinn á Stapa*, 5–12.

ful example can be found in a verse epistle by the farmer and fisherman poet Hallvarður Hallsson (1723–1799). The letter in question contains some very interesting descriptions of geological events, seemingly dramatic landslides, in Hornstrandir in 1744.<sup>61</sup> The *hrakningsrímur* in general describe perils, travels and journeys and some particularly interesting testimonies of the hard struggles that the seamen had with natural forces.

The *hrakningsrímur* in the collection are, in chronological order (titles vary in the manuscripts):<sup>62</sup>

- 1) *Hrakningsríma Guðbrands í Skorey* by Þormóður Eiríksson of Gvendareyjar (c. 1668–c. 1741) in NULI, JS 483 8vo, JS 489 8vo and Lbs 188 8vo. 113 stanzas, preserved in 28 manuscripts, about Guðbrandur Jónsson famously crossing Breiðafjörður in 1715 in a furious storm.
- 2) *Hrakningsríma Sigurðar Steinþórssonar* 1743 by Vigfús Helgason (18th century), in NULI, JS 496 8vo and JS 504 8vo. 147 stanzas, preserved in 10 manuscripts, about Sigurður Steinþórsson, captain on a boat owned by Sigurður Guðmundsson of Ingjaldshóll.
- 3) *Hrakningsríma Steinólfs Bjarnasonar* 1792 by Jón Hákonarson from Narfeyri (c. 1770–1836) in JS 489 8vo and Lbs 167 8vo. 65 stanzas, preserved in 6 manuscripts, about Steinólfur Bjarnason’s journey from the island of Fagurey to his home on the island of Skorey.
- 4) *Hrakningsríma Páls Grímseyjarprests Thomassonar* 1833 by an unknown author, in Lbs 188 8vo. 173 stanzas, preserved in 5 manuscripts, about the Rev. Páll Tómasson’s journey to the island of Grímsey.
- 5) *Hrakningsríma Árna Andréssonar* 1841 by Jón Guðmundsson of Torfabúð in Rif (1790–1866), who was onboard the ship, in Lbs 188 8vo. 183 stanzas in 9 manuscripts, printed in 1891 and 1936.<sup>63</sup>

Finnur Sigmundsson lists 22 *hrakningsrímur* in his register of Icelandic *rímur*. These are, in addition to those collected by Páll Pálsson, the following *rímur*:<sup>64</sup>

- 6) *Ríma um hrakning Sigurðar Steinþórssonar* by Sigurður Jónsson of Kollslækur (18th century). 67 stanzas, in one manuscript, NULI, Lbs 1293 4to. This is another *ríma* about the journey of Sigurður Steinþórsson (no. 2 above).
- 7) *Rímur um þann mikla sjóhrakning Erlends Guðmundssonar á Holtastöðum* 1796 by the Rev. Pétur Björnsson of Tjörn in Vatnsnes (1723–1803). 3 *rímur*, preserved in one manuscript.

<sup>61</sup> Hallvarður Hallsson, “Ljóðabréf Hallvarðs Hallssonar til Daða Ormssonar”.

<sup>62</sup> The information is based on Finnur Sigmundsson 1966, 242–252.

<sup>63</sup> Jón Guðmundsson, *Hrakningsríma*, 1891 and Jón Guðmundsson, *Hrakningsríma*, 1936. An account of the weather event and the composition of the *ríma* is erroneously printed for the year 1839 in Pétur Guðmundsson, *Annáll níttjándu aldar*, vol. 2, 124–125.

<sup>64</sup> Summarised and roughly translated from Finnur Sigmundsson 1966, 242–252.

- 8) *Rímur um hrakning Erlends Guðmundssonar* by Daði Níelsson, composed in 1841. 2 *rímur*, preserved in one autograph manuscript, NULI, Lbs 962 8vo. The *rímur* describe the same journey as no. 7 above by the Rev. Pétur Björnsson.
- 9) *Hrakningsríma* by Magnús Jónsson from Magnússkógar (1763–1840), a prolific *rímur*-poet. 116 stanzas, preserved in 5 manuscripts, composed for the Rev. Tómas Sigurðsson about the poet's trip to purchase whale meat in Rif in the autumn 1812.<sup>65</sup>
- 10) *Ríma um hrakning Þorláks Þórðarsonar úr Rifi* 1813 by Snæbjörn Hákonarson (18th-19th century, Jón Hákonarson's brother). 130 stanzas, preserved in one manuscript, about a fishing voyage from Rif, their reception in Flatey and the trip back. Gísli Konráðsson mentions it in *Vestfjarðasaga* (NULI, Lbs 2288 4to, p. 70).
- 11) *Rímur um hrakning Þorláks Þórðarsonar úr Rifi* 1813 by Jón Hákonarson (author of the *Hrakningsríma of Steinólfur Bjarnason*, see above). 2 *rímur*, 5 manuscripts, about the same trip as described in no. 10.
- 12) *Hrakningsríma um Þorlák í Rifi* by Jón langur Jónsson ('the Long', c. 1779–1828) from Ólafsvík. 149 stanzas, preserved in 1 manuscript, composed for a certain Árni about the same event as no. 10–11.
- 13) *Hrakningsríma Magnúsar Hrólfssonar*, attributed to Gísli Sigurðsson from Ós (c. 1772–1826). 115 stanzas, preserved in 5 manuscripts, composed in 1813 about Magnús Hrólfsson and his crew's boat trip from Hellissandur to the island of Hrappsey, evidently composed for Símon Sturlaugsson, one of the crew.
- 14) *Hrakningsríma* or "Sigling frá Íslandi til Kaupmannahafnar 1814" by Sigurður Breiðfjörð (1798–1946) about sailing from Iceland to Copenhagen in 1814. Preserved in 12 manuscripts.<sup>66</sup>
- 15) *Svaðilför* by Árni Jónsson *Eyjafjarðarskáld* ('Poet of Eyjafjörður', 1760–1816). 82 stanzas, preserved in many manuscripts, about a voyage to Grímsey to purchase dried fish; the poet was on the boat that encountered difficulties.<sup>67</sup>
- 16) *Hrakningsrímur* by Hreggviður Eiríksson of Kaldrani (1767–1830), Two *rímur* composed in 1818, preserved in 8 manuscripts, about the sea-hardships of the merchant Stensen on the way to Kúvíkur in Reykjarfjörður.<sup>68</sup>
- 17) *Ríma af sjóhrakningi Jóns Ólafssonar úr Leiru* by Lýður Jónsson (1800–1876, son of Jón Hákonarson, see above). 56 stanzas, preserved in 2 manuscripts, composed in 1837 about Jón Ólafsson's perils in 1836.
- 18) *Hrakningsríma Bjarna Ásgeirssonar í Bæ á Selströnd* 1847 by Helgi Guðlaugsson from Bakki in Bjarnarfjörður (1830–1870). 81 stanzas, preserved in one manuscript, composed for Guðmundur Ólafsson about shark fishing from Gjögur.

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<sup>65</sup> Related in Pétur Guðmundsson, *Annáll níttjándu aldar*, vol. 1, 166–169.

<sup>66</sup> Printed in Sigurður Breiðfjörð, *Ljóða Smámunir*, 26–32.

<sup>67</sup> Printed in *Stakar rímur*, 103–114.

<sup>68</sup> Printed in *Hafurskinna*, 11–49.



Fig. 1: Geographical locations of places mentioned.

- 19) *Hrakningsríma Jóns Guðmundssonar læknis á Hellu á Selströnd* by Jón Jónatansson from Ásmundarnes in Bjarnarfjörður (1828–1912). 89 stanzas, preserved in 2 manuscripts, about an event that took place in 1852.<sup>69</sup>
- 20) *Ríma um Hrakning Björns Björnssonar* 1858 by Bjarni Guðmundsson from Rif (1823–1882). 104 stanzas, preserved in 2 manuscripts, about shark fishers from Rif.
- 21) *Hrakningsríma* by Jón Jónsson of Kálfárvallakot in Staðarsveit (1794–1872). 107 stanzas, preserved in one manuscript, about the poet's fishing voyage out from Snæfellsnes.
- 22) *Hrakningsríma Halldórs Halldórssonar frá Arnardal* by Sighvatur Grímsson (1840–1930, see the chapter by Davíð Ólafsson in this volume). 70 stanzas, composed 12 May 1867, based on the accounts of captain Halldór Halldórsson and crew member Ari Jónsson, rowing from Bolungarvík in 1860.

The geographical proximity of the oldest *rímur* is evident. The genre seems to originate in the Breiðafjörður area, propagating in the poetic ecology of the entire northwest of the country. The subgenre was common in Rif on Snæfellsnes, Breiðafjörður and many islands there, whence it spread to Strandir and the Húnaflói area. Two *rímur* are about Grímsey and one about Bolungarvík in the Westfjords, places known for fishing and fishing camps. These areas were heavily dependent on transport by sea. This connection, it would seem, contributed to the cultivation of a taste for heroic deeds to memorise. It is also clear that events and characters that achieved renown often appeared in more than one work of *hrakningsrímur* and recurred in many manuscripts. Some of the later events can be found in printed media. There are also family relationships: the brothers Jón and Snæbjörn Hákonarson composed *hrakningsrímur*, and so did Lýður Jónsson, son of Jón. The vernacular tradition continued by being brought to the printing medium, in professional as well as non-professional publications. Jón Guðmundsson's *ríma* (no. 5) was printed twice, Hreggviður Eiríksson's *Hrakningsrímur* (no. 16) were printed in *Hafurskinna* in 1945 and Árni Jónsson's *Svaðilför* (no. 15) appeared in an edition published by *Rímnafélagið* (The *Rímur* Society).<sup>70</sup> Much of the manuscript material reveals a pre-romantic interface between humans and nature, often expressing itself in immediate experiences, typically in the highly developed imagery of kennings in *rímur*.<sup>71</sup> This exposes a craft of poetry that is based on ancient traditions but that is also adaptable to contemporary events and experiences, in this

<sup>69</sup> Described in Jóhann Hjaltason, *Frá Djúpi og Ströndum*, 96–109.

<sup>70</sup> Jón Guðmundsson, *Hrakningsríma*, 1891 and Jón Guðmundsson, *Hrakningsríma*, 1936; *Hafurskinna*; *Stakar rímur*.

<sup>71</sup> Kennings are imagery that originally developed in Old Norse court poetry (*dróttkvæði*), based on Norse mythology. Two-word phrases typically replace one noun. An example from the mythology is *Ýmirs haus*, the head or skull of Ýmir, which is heaven as in the creation myth, heaven having been formed from this giant's skull. In the present context, *síldar akur* (the herring's field) and *laxa láð* (the salmon's ground) are common kennings for the sea.

case the struggles with natural forces on Breiðafjörður. The collision may have created a tension between stock imagery and actual experiences.

By slightly reimagining Donna Haraway's concept of compost,<sup>72</sup> manuscript archives and poetry collections can be regarded as compost: organic waste that gave way to print culture, literary canons and modern rationalism. Despite this, varieties of half-forgotten meanings and potentialities can sometimes grow in the loam of 'Great Time': "Nothing is absolutely dead: every meaning will have its homecoming festival".<sup>73</sup> Some preliminary explorations of a few of the *rímur* in Páll Pálsson's collection point to what can potentially be extracted from these manuscripts and help us to recover something of their organic life. The actual material conditions, the poet, the preservation of manuscripts, their dissemination, their tradition, their content, their imagery, their storylines, their points of view, ideas, expressions and — not least — their conceptions of nature and the elements: all this can tell us moderns about past times and conceptions.

## 6 *Ríma af Hrakningi Guðbrands Jónssonar*

The earliest preserved *hrakningsríma* is composed by Þormóður Eiríksson of Gvendarøyjar (Gvendur's Islands) on the bay of Breiðafjörður, north of the Snæfellsnes peninsula. It has various titles in manuscripts, such as "Guðbrands ríma" and "Sjóhraknings ríma". Þormóður was a legendary poet and healer who lived in many places, Gvendarøyjar being the last. He was believed to possess magical skills as a *kraftaskáld* (poet of supernatural powers), and Gísli Konráðsson wrote a local tale about him.<sup>74</sup> The *Ríma af hrakningi Guðbrands Jónssonar* is in Páll Pálsson's collection, NULI, Lbs 188 8vo. According to the manuscript he copied, it was only 92 stanzas long, but as he had been influenced by emerging trends in modern philology, he included variants from other manuscripts in the margins and added a few stanzas from another manuscript at the end.

The *ríma* tells of Guðbrandur from the island of Skorey and his journey across Breiðafjörður in 1715. Most of the manuscript witnesses appear in 19th-century collections. The work with the versions contained in Páll Pálsson's collections resulted in a search for more manuscripts to grasp the context, as this *ríma* is preserved in many more manuscripts than the others. The two oldest manuscripts date from the mid-18th century. Páll Pálsson's copy in Lbs 188 8vo and the other versions in his collection appear to be related, as he adopted interesting variants from one of these two manuscripts. They provide evidence that points to the scribal development of the *ríma* and even the *hrakningsríma* genre. The work's heroic content and technical deft-

<sup>72</sup> Haraway 2016, 57, 134–168.

<sup>73</sup> Bakhtin 1986, 171.

<sup>74</sup> Gísli Konráðsson, *Sögubættir eptir Gísla Konráðsson*.

ness secured for it an unusually widespread dissemination and popularity. It is quite possible that the *hrakningsríma* genre originated with this *ríma*, and the differences between the versions might indicate that some manuscripts were based on memory and the manuscript tradition was thus a blend of oral and written delivery.

The oldest manuscript, NULI, ÍB 634 8vo or *Þórkatla hin minni* (*The Smaller/Lesser Þórkatla*),<sup>75</sup> from which Páll Pálsson took his variants, was written by a well-known scribe, the distinguished farmer Þorkell Jónsson of Hraun by Grindavík in southern Iceland, who collected material for the sake of knowledge, but his selection might also be based on literary quality of individual works and even remarkable contents. It contains several *rímur* and poems, a few prose romances and some interesting lore, as well as some entertaining stories. It is bound with an index (perhaps created by Páll Pálsson) that appears to have been inserted later. It was written in 1743–1747, but the *hrakningsríma*, here 100 stanzas long, at the front of the manuscript, was added later, in 1850, by the copyist Oddur Erlendsson of Þúfa (1818–1855) according to the title page. The manuscript was thus produced about 18 years after the composition of the *ríma* but it was in a very poor condition and might have been lost in the 19th century if it had not been for Oddur's efforts, as he repaired and bound the manuscript.<sup>76</sup> Whether Oddur copied the poem from defect leaves of the original manuscript is an open question but his care for the manuscript and its content testifies the regenerative, organic power of the manuscript culture.

NULI, ÍB 392 8vo was written in the second half of the 18th century.<sup>77</sup> Virtually nothing is known about its provenance, but it contains exclusively poetry of various kinds, including hymns and religious poetry. The *hrakningsríma* is 98 stanzas in this manuscript. Both manuscripts contain a few stanzas that are not included in Lbs 188 8vo. There are, moreover, some differences in wording. These two manuscripts certainly do not correspond to the extent that it appears as if one had been copied from the other. The order of the stanzas is sometimes different; stanzas and some rhyme-words are occasionally switched. The copying is not careful in its details and the reason for this might be that it was not regarded important to copy accurately (despite the poet's request that the clear words not be mixed up). Alternatively, they may have been written from memory. As noted above, *rímur* and other poetry were often memorised for performance in people's homes. There was also a clear tendency to condense works in the manuscript tradition. A methodical review of all 28 manuscripts might be interesting, but the present analysis is only based on the *Þórkatla* manuscript.

The content of the story is quite dramatic, with political undertones. The introductory section, called *mansöngur*, is rather long and conventional, containing advice

<sup>75</sup> Digital images available at handrit.is: <https://handrit.is/en/manuscript/view/is/IB08-0634> (accessed 01/04/2022).

<sup>76</sup> Katelin Marit Parsons, personal communication (01/05/2022). I thank her for the information.

<sup>77</sup> Digital images available at handrit.is: <https://handrit.is/en/manuscript/view/is/IB08-0392> (accessed 01/04/2022).

and a discussion of the craft of poetry. The most remarkable stanzas of the *mansöngur* are about biodiversity, the astonishing number of bird species and their various habits and voices, powerfully harmonised by the living God—who also provides them with sustenance. We humans simply cannot judge these circumstances, the poet claims.<sup>78</sup> The story begins with a rich man who is a miser, living on the shore of Breiðafjörður. He needs help to move by sea to a new property he had purchased on the southern shore of the peninsula. He had difficulties finding people to help him due to his stinginess, but eventually he got three people for this servile task:<sup>79</sup> the young and newly married Guðbrandur from Skorey and two men who shared the same name, Þorvaldur (Þorvarður in some manuscripts). One of the Þorvaldurs was a young and inexperienced student, while the other was old and frail. An eight-oared boat was provided. They waited for favourable weather between the islands near Helgafell and eventually set off in God’s name around noon. However, an easterly storm set in. It filled the sails with wind, but they soon decided to wait for the tempest to abate. They tarried by an island but realised that it would not provide good enough lee, so they decided to try and find shelter by an estuary on the mainland. The landscape is described in detail. The storm increased and they sailed fast, and the descriptions of the storm are magnificent: there were heavy clouds and darkness, the sea ran red like blood but changed colour as the storm suddenly shifted to the south and whitecaps, like drifting snow, beat the rocks and skerries, as if the land and the “hall of the salmon”, i. e., the sea, were burning in fire.<sup>80</sup> Guðbrandur’s struggle is described in vivid detail. They doused the sail, and although they were just a few oar-pulls from the shore, they drifted out to the open sea in the furious weather. They were exhausted and eventually gave up trying to get to shore, hoping to be able to put in elsewhere. The storm—the “eagle’s wingbeat”—was so furious that it ripped the sail from the mast and they drifted helplessly between the skerries with waves pouring over the boat. They feared the worst and the two Þorvaldurs became terrified.<sup>81</sup>

They then turned to the open sea, and Guðbrandur ordered the two men to bail. However, the darkness was such that they couldn’t see from the prow to the stern. They prayed and struggled for six hours, trusting God but not knowing whether they would survive. When the storm abated, they had reached Barðaströnd on the northern shore of Breiðafjörður and made landfall on a sandy beach of Barðaströnd. They got to the farm of Miðhlíð, where they were well received and eventually returned home. Guðbrandur’s young wife was relieved. This was an exceptionally notorious storm, and ships perished off Eyrarbakki on Iceland’s southern coast and Ólafsvík on Snæfellsnes around the same time. The poet notes that he made the *ríma* because Guðbrandur’s feat wasn’t mentioned in any annals.

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**78** ÍB 634 8vo, stanzas 18–20.

**79** ÍB 634 8vo, stanza 41.

**80** ÍB 634 8vo, stanzas 58–60.

**81** ÍB 634 8vo, stanzas 65–68.



*Rímur* formed a very strong and lasting tradition over a long period of time and are still composed by skilled poets and verse-makers. The genre was rather conservative in form and content, predominantly consisting of entertaining storytelling that retold past and fictional events. The *hrakningsrímur*, on the other hand, mostly relate recent or contemporary events, growing out of common experiences. They were thus a novelty, and Þormóður's *ríma* of Guðbrandur's perils might be the first of its kind. What is most striking about it is the marine element that is reflected in the images and the kennings that may partly be invented by the skilled poet. This is in line with the lively and imaginative images of the sea found in some of the oldest *rímur* from before and around 1400, such as *Sörla rímur*.<sup>82</sup> The lived experiences of seamanship on small, open boats are prominent in Þormóður's *ríma*, and the descriptions strikingly vivid, revealing a strong sense of the weather and the sea and familiarity with the local landscape. It is a dialogue between the poet and the natural forces, extended into the poetic tradition, resulting in a new genre and many literary descendants.

In Iceland there was also a long tradition of condemning popular storytelling and especially popular poetry: from Bishop Guðbrandur Þorláksson's infamous preface to the 1589 psalter to Jónas Hallgrímsson's famously uncomfortable 1837 review of Sigurður Breiðfjörð's *Tristransrímur*. The first admonished readers on religious grounds, while the second took issue with romantic aesthetics and the author's lack of originality. *Rímur* were tasteless quackery in Jónas' opinion. Perhaps the poet Stephan G. Stephansson was closer to a more appropriate understanding of the nature and functions of *rímur* when he explained how the rhythm of the grotesque heroism of *Andrarímur* by Gísli Konráðsson had helped him, in his youth, to finish knitting mittens just before Christmas.<sup>83</sup> The poetry merged with the physical work. *Rímur* and other poetry were intertwined with people's chores, material conditions and labour on sea and land; the *hrakningsrímur* combined the experiences of the sea and seamanship with the *rímur* traditions and imagery. The language of *rímur*, and also the abundance of occasional poetry, was thus closely connected with the environment and natural forces. Many poems in *rímur* metre list farmers and sea captains. Other *hrakningsrímur* in Páll Pálsson's collection resemble the one analysed above, even if they are not as skilful. Thus, for example, Vigfús Helgason's *ríma* of Sigurður Steinþórsson's ocean voyage with a crew of six is loaded with piety and kennings that contain similar details about the sea, meteorological conditions and seamanship. Kennings from Þormóður's *ríma* were often adopted, including images such as the wind being a "killer of houses". Images of the storm are often powerful.

<sup>82</sup> *Rímnasafn* 89–90.

<sup>83</sup> Stephan G. Stephansson, *Bréf og ritgerðir*, 141–146.

## 7 Infinite Conclusion

This paper ventures into somewhat uncharted territory. A basic idea expressed here is an equation balancing biodiversity and cultural diversity, resulting in a rejection of the dualistic and mechanistic split between humans and nature, acknowledging various dynamic meshworks of cultures, non-canonical developments where literary works are regarded as events in evolving processes rather than bricks in linear constructions of literary history. The question of the organic aspects of manuscript culture, whether literary activities are literally organic as an extension of the material world, is not that simple. The familiar image of the rhizome is indeed a metaphor, but the significance of the biological and physical issues discussed above is neither merely metaphorical nor a plain extension of biological processes into cultural activities. The semantic and cognitive scope of a literary expression is always larger than the individual work. Transmission of knowledge, information and entertainment is not identical with mycorrhizal networks but there are rather similarities in a more-than-human sense: the relations and contexts are more complicated than generally assumed, as events, processes, networks and meanings that are always to some extent hidden and unpredictable, just like living organisms.

Abundant material in the manuscript archives offers a great variety that requires non-reductionist acceptance of diversity, processual connectivity and infinite potential for literary offshoots, never to be completely mapped. The *hrakningsrímur* in question here are an offshoot that grew from the traditions of *rímur* and occasional verse in general but are at the same time synergies in semiotic *Umwelts*, meaningful interactions between humans and their natural surroundings. The poetic works in the archival compost are events involved in large processes, entanglements that need to be clarified instead of being analysed as isolated objects. Then the *rímur* tradition, through the *hrakningsríma* by Þormóður, turns out to be in an active, dialogical relationship with the natural forces at sea. The descriptions then extend the sheer physical situation, adopting these forces into the poetry and thus writing language back into the land, extending the human cognition. Just as the web is an extension of the spider's cognitive system, *rímur* and other occasional poetry extend human perception into the natural environment. The emergence of a new genre is almost visible, moving and evolving geographically along the northwest coastline through cultural networks. Presumably, the experiences at sea turned into poetry that fishermen recited. That way, nature begets poetry that begets new perceptions that begets new poetry *ad infinitum*.

The Bakhtinian perspective of responsible dialogue and 'Great Time' catches the essence of this and serves as a bridge, connecting the polyphonies of nature and poetry in the human *Umwelt*. The *rímur*-poet Þormóður of Gvendareyjar presents the 'perception world', a seafaring *Umwelt* of the Breiðafjörður area, human responses to natural circumstances in ongoing struggles with forces of nature. Moreover, the concept of 'Great Time' grasps the temporal aspects of *conatus*, the key concept combining biology with philosophy of cultural dynamics, which in the case of *rímur*, occa-

sional poetry and storytelling acquired a constant renewal, organic homecoming of meanings in the minds of those who learned and practised it, as in the works of Ólöf of Hlaðir, Kristín Sigfúsdóttir and the fishermen chanting *hrakningsrímur* while struggling with storms at sea. The single works as well as the genre evolved in the dialogue with the natural forces.

The homecoming of nature's meaning can take unexpected forms in the cultural meshwork. On 25 May 1882, after one of the most severe winters in the 19th century, over 30 rorqual whales were trapped in sea ice by the Vatnsnes peninsula and slaughtered by starving farm people, not far away from where Ólöf of Hlaðir grew up. The whale meat was a great resource for people in the whole district. Some of the whale bones were later used as parts of the buildings of the farm Ánastaðir. The bones have surfaced again in a new novel by a woman who grew up on Ánastaðir. The novel's first-person narrator is a woman, who, despite international professional success, suffers a personal crisis and returns home to the place where she grew up, reconnecting with her natural, generational and cultural origins, observing the old whale bones among other things.<sup>84</sup>

The views presented here in fact appear in an astonishingly concise manner in the poetry of Stephan G. Stephansson (mentioned above) from around 1900. His description of the self-taught culture in his youth resembles *conatus*, as the paupers in the sod huts were not taught or sent to schools, “but stories and poetry were self-acquired education” that taught language and wisdom by song.<sup>85</sup> Another poem foreshadows A. N. Whitehead's idea of events in evolving processes by stating in the second stanza that life is just the fleeting delay of the stream, that the soil chokes the sounds and the poems and you and your people disappear into the grave without a trace if you don't deliver a poet to the future. In the final stanza, he says that you should twine the sunshine and showers of rain into a poetic line and test the strength of the alliteration with the rainstorm and thunders.<sup>86</sup> The poem is essentially about transforming natural processes, the ‘more-than-human world’, into poetry, a kind of a combination of organic nature, human labour and the poetic language that often appears in his poetry, for example in the well-known poem *Rammislagur (A Contest of Power)*, possibly inspired by poetry of perils such as *hrakningsrímur*. It is about a journey at sea, where human and natural forces merge in powerful language and imagery, in a laughing, physical dance in which the fingers of the storm forces voices out of the strings and the ropes on the boat.<sup>87</sup> The poem reveals how the traditions, now half-forgotten in the archives, beget offshoots and new branches *ad infinitum*.

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<sup>84</sup> Þórhildur Ólafsdóttir, *Efndir*.

<sup>85</sup> Stephan G. Stephansson, *Andvökur*, 182; Viðar Hreinsson 2012, 396.

<sup>86</sup> Stephan G. Stephansson, *Andvökur*, 8.

<sup>87</sup> Stephan G. Stephansson, *Andvökur*, 369–371.

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- Fig. 1: Geographical locations of places mentioned. Map by Snæbjörn Guðmundsson, Icelandic Museum of Natural History.

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## **Postscript**





Katelin Marit Parsons

## Between the Lines

### Poets and the Reception of Paper in Early Modern Iceland

Hannes Hafstein's sixteen colourful *Þerriblaðsvísur* from 1916 parody the style of well-known 19th-century Icelandic poets to reflect on the poetics of used blotting-paper. One passionate poet lets the ink of his poem bleed through its veins, while another sees blotting-paper cast into the fire for failing to wipe the bottoms of man. A third boozily warms to blotting-paper for being as soaked as he is, and a fourth compares the blotting-paper to the leech-like Danish powers sucking the Icelandic nation dry.<sup>1</sup> Originally composed on blotting-paper according to a note from the poet, *Þerriblaðsvísur* bring a normally invisible part of the writing process to the forefront.

The arrival of paper as an imported commodity to late medieval Iceland had no immediate impact on literary culture.<sup>2</sup> The oldest references to paper use in Iceland date from the 15th century, but it only replaced vellum as the dominant medium for manuscript production in the early 17th century.<sup>3</sup> If surviving manuscripts are a measure of paper's reception, paper was in constant demand among scribes of all walks of life in 17th- and 18th-century Iceland.

The present chapter examines the place of paper in Icelandic poetry in the centuries following its introduction, complementing recent research on the origins of paper imported to Iceland.<sup>4</sup> What happens when early modern Icelandic poets look between the lines of their poetry to the written surface beneath? What did paper mean to an early modern Icelandic poet? How is paper presented in their poetry? And, given the limited paper supply available in the country and the impossibility of domestic production, how did they respond to paper's scarcity?

### The Nature of Paper

In *The Nature of the Page*, Calhoun takes an ecocritical approach to paper and poetry, considering paper as part of a much broader ecosystem of human literacy as it inter-

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1 Hannes Hafstein, *Ljóða-bók*, 344–349.

2 Óskar Halldórsson 1996, 8. See also Hufnagel's chapter in this volume.

3 Arna Björk Stefánsdóttir 2013; Hufnagel 2020.

4 Hufnagel 2021; 2019.

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acts with finite natural resources.<sup>5</sup> In early modern Europe, paper was plant matter that had been first converted into textiles, which decayed into rags, which were recycled into paper. As Calhoun points out, rags were not the only ingredient involved in paper production, and some aspects of paper's relationship to nature (i. e., use of linen produced from flax) were more visible than others (i. e., use of animal gelatine as a paper coating).

As Calhoun observes, an early modern English readership was familiar with the connection between plants, worn-out clothing and paper, and poets frequently exploited this familiarity in their work.<sup>6</sup> In 1620, the English poet and labourer John Taylor published a mock-encomium, "The Praise of Hemp-seed", in which he claims that "when I thinke but how is paper made / Into Philosophy I straight waies wade".<sup>7</sup> Taylor's reflections on paper's progress focus mainly on the deterioration of clothing as a symbolic second skin, which assumes the moral character and social standing of the human bearer. Paper symbolically raises this skin from the communal dunghheap to become a new skin: the bearer of everything from bawdy ballads to the Word of God. Like the human body, paper could be a cheap carrier of bodily and textual filth and decay, but it also offered a medium of personal salvation from the sins of the temporal world.

Icelandic poets were strongly influenced by literary currents and tropes originating elsewhere.<sup>8</sup> Taylor's perspective as a poet, however, comes from a region where high- and low-status clothes were cellulose-based. The original readers of "The Praise of Hemp-seed" would have worn plant-based clothing as they read the poem from linen paper. In Iceland, imported cellulose-based textiles were in limited supply, and warm, water-repellent wool fabrics were strongly favoured in Iceland's cold climate, even among members of the upper classes.<sup>9</sup> It was impossible to produce paper domestically in Iceland, and the English poet's experience of paper could thus not be reproduced here.

Proximity to paper production influenced its perception. Paper mills stank and released effluent into waterways, and they were perceived as unwelcome sources of pollution by those in close proximity.<sup>10</sup> To some extent, paper had gradually supplanted a writing surface that could be made from a raw material already available in Iceland: medieval Icelandic manuscripts were constructed from vellum made from domestically reared cattle. With the exception of decorative pigments used in illumination, it was possible to produce fully completed manuscripts in Iceland for export

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<sup>5</sup> Calhoun 2020.

<sup>6</sup> Calhoun 2011.

<sup>7</sup> Cited in Calhoun 2011, 68.

<sup>8</sup> Margrét Eggertsdóttir 2014. On Icelandic-English cultural contact, see Þórunn Sigurðardóttir 2015, 213–219; Helgi Þorláksson 1999; Sverrir Jakobsson 1994; Seaton 1935.

<sup>9</sup> Hayeur-Smith/Lucas/Mould 2019; Hayeur-Smith 2012; Hrefna Róbertsdóttir 2008.

<sup>10</sup> Bayerl 1989.

to Norway.<sup>11</sup> Vellum production was a time-consuming but transparent and familiar process, and vellum (*bókfell*, *pergament* or *kálfskinn*) co-existed with paper in Icelandic book production in the 17th century.

Cattle-rearing was labour-intensive, and in the wake of devastating plague outbreaks at the beginning and end of the 15th century, Árni Daniél Júlíusson argues that sheep farming became increasingly more important at the expense of cattle herds.<sup>12</sup> The supply of calfskin may thus have dwindled even before paper became widely available in Iceland. However, vellum codices and fragments continued to have a presence in Icelandic households long after active production had essentially ceased.

In the field of Old Norse-Icelandic philology, younger paper manuscripts were traditionally less valued by scholars than older vellum ones from the period before c. 1600.<sup>13</sup> Whether vellum was also considered more desirable and/or prestigious than paper as a material for scribal production in the 17th century is a complex question beyond the scope of this paper.<sup>14</sup> However, from an ecocritical perspective, the transition from domestic production to the import of a fully finished product marks a definitive shift in the history of literacy in Iceland that altered the relationship between writers, writing and the natural environment.

## Finding Paper

*Pappír* (paper) is, like the product itself, an imported word in Icelandic.<sup>15</sup> The most common word used by early modern Icelandic poets to describe their writing support is *blað* (pl. *blöð*, leaf, blade). As paper spread through Iceland, *blað* increasingly referred to either a sheet of paper or a single leaf in a larger gathering. Unfortunately for researchers interested in the transition from vellum to paper, this word can carry a range of meanings and did not change as the materials of production shifted. Only when describing a physical action specific to a specific writing support (i. e., scraping vellum or burning paper) is it possible to distinguish a *pappírsblað* from a *skinnblað* (vellum leaf) with certainty.<sup>16</sup>

Since *pappír* is not particularly useful as a rhyme-word in Icelandic, the word does have the advantage that early modern Icelandic poets mainly name *pappír* in their work if they wish to draw their audience's attention to paper as a material. In Páll

11 Stefán Karlsson 1979.

12 Árni Daniél Júlíusson 2018.

13 Jón Helgason 1958, 9.

14 Cf., e. g., the comments of Bishop Brynjólfur Sveinsson of Skálholt in a letter to Þormóður Torfason from 1663, [Brynjólfur Sveinsson], “Bréf Brynjólfs biskups Sveinssonar til Þormóðar Torfasonar”, 134–137.

15 Ásgeir Blöndal Magnússon 1989, 701.

16 Cf. for example the verse in Reykjavík, The Árni Magnússon Institute for Icelandic Studies (henceforth R-AMI), AM 510 4to from c. 1550, “Það er mitt skap að skafa þig” (I have a mind to scrape you), cf. *Lausavísur frá svartadauða til siðaskipta*, 75, 151–153.

Vidalín's eight-line poem "Ekki er gott um pappír, prestur", paper is everywhere and nowhere at the same time:

*Ekki er gott um pappír, prestur,  
pappír minn er eyddur mestur,  
pappír aldrei penna brestur,  
pappír þarf eg austr og vestur.  
Pappír fær af pennum orður,  
pappír fer á ýmsar storður,  
pappír eingar pinta skorður,  
pappír þarf eg suðr og norður.<sup>17</sup>*

Paper is in short supply, pastor: my paper is all but gone. Paper never fails the pen; I need paper to the east and west. Paper is heaped with orders from pens, paper goes to various lands, no holds trouble paper; I need paper in the south and north.

The recipient of this verse was Páll's long-time minister, the Rev. Ólafur Þorvarðsson (1653–1721). The poem is accompanied by the explanation that Páll composed it in response to the parson's request for paper. Paper offered a convenient writing surface and supported record-creation and other administrative activities, including an Iceland-wide population census in 1703 and an Iceland-wide land register (*jarðabók*) in 1702–1714. Both these paper-intense projects were ordered by the Danish crown and overseen by Páll Vidalín and his friend Árni Magnússon, and it is thus understandable that Ólafur turned to Páll when seeking paper. While the census and land register are invaluable for modern researchers, the contemporary response was ambiguous at best, and not least due to the impact of these paper-intense projects on the paper supply in Iceland. As Páll claimed in his verse, he did indeed require paper in the south, north, east and west. In his chronicle, the farmer Jón Ólafsson of Grímsstaðir in Breiðavík (c. 1691–c. 1765) remarks that "þá var pappír dýr í sveitum víða, er öllu þessu var aflokið" (paper was expensive in most parts [of Iceland], when all this was complete).<sup>18</sup>

## Poetry and Literacy in Early Modern Iceland

In early modern usage, the term *skáld* (poet) was often reserved for someone proficient in poetic composition who enjoyed a degree of recognition for their efforts.<sup>19</sup> Many leading poets were highly literate men with a thorough clerical education and formal schooling in rhetoric.<sup>20</sup> A larger segment of the population could express themselves aptly in rhymed verse, often composed on the spot in response to a specific situation or remark.<sup>21</sup>

<sup>17</sup> Páll Vidalín, *Vísnaðver*, 99.

<sup>18</sup> *Annálar 1400–1800*, vol. 3, 523.

<sup>19</sup> Cf. Ragnar Ingi Aðalsteinsson 2012.

<sup>20</sup> Margrét Eggertsdóttir 2014.

<sup>21</sup> Örnólfur Helgason 1989.

Complex metres and rhymes were fashionable in 17th-century Icelandic poetry, as were kennings that drew on the much older poetic language of the medieval skalds.<sup>22</sup> These kennings are grounded in poetic composition, performance and memory as oral processes, in distinct contrast to the poet who takes up pen and paper.<sup>23</sup> Central to kennings relating to composition of poetry is the poetic mead, brewed by dwarves from the blood of the murdered Kvasir and stored in the vats Són and Boðn and the kettle Óðrerir/Óðhrærir, which were in the keeping of the giant Suttungur's daughter Gunnlöð until she was seduced by Óðinn, who drank them dry. Pursued by Gunnlöð's father, Óðinn escaped in the form of an eagle home to Ásgarður. With Suttungur fast on his tail, Óðinn spewed out the drink, most of which was vomited out of his crop into vessels that had been placed out in anticipation of his arrival. However, a smaller portion of the poetic mead came out as *arnarleir* (eagle excrement), which was the beverage inspiring bad poets, called *leirskáld*.<sup>24</sup>

Accusations of being a *leirskáld* could be directed at a target of mockery in the oral tradition.<sup>25</sup> However, a common humility trope—not unique to Icelandic poetry—is for poets to reject or downplay their own poetic dexterity or inspiration. Pre-modern Icelandic poets thus willingly identify themselves as *leirskáld*, evidently without squeamishness over the scatological imagery or the profane, 'heathen' origin of poetic inspiration. Abbot Arngrímur Brandsson of Þingeyraklaustur (d. 1361) claims in *Guðmundardrápa* that his poetry is stiff and unpleasing to the throat and that he has only *arnarleir* to offer when composing his praise of Bishop Guðmundur the Good.<sup>26</sup>

Similarly unflattering self-portraits of poets continue to surface three centuries later. In the *mansöngur* of the sixth *ríma* of the cycle *Rímur af Flóres og Leó*, the farmer-poet Bjarni Jónsson (1560–1640) expresses the hope that all those who perform the poem will “stirða kveða mæð í málið” (chant eloquence into the stiff language) so that the narrative will be as little damaged as possible by his versifying.<sup>27</sup> Although the oral dimension of his poetry is in the foreground in this *mansöngur*, he also envisions the dismal spectacle of the written of the *rímur* as “á rustugan pappír rituð orð” (written words on dingy paper).<sup>28</sup> Here, the paper's dirty appearance mirrors the supposedly *saurugur* (soiled, mucky) or awkward nature of his rhymes, in direct contrast to the clear *lögur* (liquid) representing the poetic mead.

An early modern *skáld* did not rely on paper to compose and perform poetry. An abundance of kennings survive from the early modern period that emphasise the fun-

22 Margrét Eggertsdóttir 2021; 2014; 1996.

23 Gísli Sigurðsson 2018.

24 Snorri Sturluson, *Uppsala-Edda*, 202.

25 Quinn 1994.

26 *Den norsk-islandske skjaldedigtning*, vol. B 2, 372.

27 Bjarni Jónsson/Hallgrímur Pétursson, *Rímur af Flóres og Leó*, 74–75.

28 Bjarni Jónsson/Hallgrímur Pétursson, *Rímur af Flóres og Leó*, 75.

damentally oral nature of the poetic act, such as pushing a boat out to the sea of sound, growing a flower on the heights of the mind or holding a feast in the hall of speech.<sup>29</sup>

## Sharing Paper

If books played a secondary role in the composition and performance of poetry, they were critical for dissemination and preservation of poetry, encouraging poets to conceive of their compositions as enduring lines on a page. The history of book production in Iceland began centuries before the Reformation, with evidence of both clerical and lay participation and ownership.<sup>30</sup> Although vellum had been used to preserve religious and profane poetry, paper facilitated the growth of personal book ownership and the written circulation of everything from translated Lutheran hymns to epic *rímur* cycles. Finnur Sigmundsson estimated that 78 *rímur* survive from the period before 1600. This number nearly doubles to 148 in 1600–1700 and rises again to 248 in 1700–1800.<sup>31</sup>

Early modern *rímur*-poets increasingly assumed that their work would be performed orally but scribally transmitted. This could be a cause for anxiety, since poets had limited control of their work in manuscript circulation. Bjarni Jónsson begins the above-mentioned *Rímur af Flóres og Leó* with an introductory *mansöngur* that asks scribes to take care in copying their exemplars:

*Bið eg alla bragða þess,  
sem bögunar skrifa og læra,  
að lýta ei mín ljóða vers  
né laginu burt úr færa.*<sup>32</sup>

I ask all those who copy and learn these jingles  
to not mar or distort my verses.

At the same time, paper enabled poets to assert greater artistic control over their own work through scribal publication. Poets began to assemble large anthologies of their own poetry, the oldest of which were likely those of Einar Sigurðsson of Eydalir (1539–1626) in East Iceland and Ólafur Jónsson of Sandar (1560–1627) in the Westfjords.<sup>33</sup> The introduction to the poetic anthology *Gígja*, compiled by the Rev. Guðmundur Erlendsson of Fell in Sléttuhlíð (c. 1595–1670) in North Iceland, presents the book as

<sup>29</sup> See e. g., Reykjavík, National and University Library of Iceland (henceforth NULI), JS 232 4to, ff. 411v, 422v.

<sup>30</sup> Stefán Karlsson 2000.

<sup>31</sup> Finnur Sigmundsson 1966, vol. 1, ix. For a list, see vol. 2, 189–192.

<sup>32</sup> Bjarni Jónsson/Hallgrímur Pétursson, *Rímur af Flóres og Leó*, 5. Hallgrímur Pétursson expresses a similar wish in the ninth *ríma* of the *Rímur af Lykla-Petri og Magelónu*.

<sup>33</sup> Þórunn Sigurðardóttir 2021a; Lindholm 2022; Einar Sigurðsson, *Ljóðmæli*; see also Sveinn Yngvi Egilsson 2011a.

a two-stringed instrument, the *gígja* (gigue), on which the performer can choose to ‘play’ a serious or a light-hearted melody.<sup>34</sup>

The rise of material and artefactual philology has brought increased attention to the materials of production and the scribal networks supporting post-Reformation manuscript culture in Iceland.<sup>35</sup> Although the focus of the present chapter is on active poets rather than directly on scribes, poetry permeated most aspects of everyday life, including book production. Like their medieval counterparts, early modern Icelandic scribes sometimes added verses or final jingles of their own to the manuscript page.<sup>36</sup> The scribe Bjarni Jónsson of Snæfjallaströnd, who completed a copy of Ólafur Jónsson’s anthology on 12 December 1655, ended with an elegant pen-and-ink vignette and a *dróttkvætt* verse claiming that “jlla var pappijrs pella, / parud” (the paper-hide was poorly scratched).<sup>37</sup>

In a sub-Arctic landscape shaped by glaciers and volcanism, paper could assist poets in establishing and maintaining literary connections across vast physical distances and treacherous terrain. No regular postal system existed before the end of the 18th century, but correspondents were able to send letters through informal networks.<sup>38</sup>

Epistolary poems known as *ljóðabréf* (verse epistles) became a popular genre for both educated poets and ordinary Icelanders to share news.<sup>39</sup> “Sparadu huorcke blek nie blad” (spare neither your ink nor your leaf), commanded the young poet Stefán Ólafsson when writing to his friend Árni Jónsson of Geirastaður in one such verse epistle from c. 1639.<sup>40</sup> Stefán had left his childhood home of Kirkjubær in East Iceland to attend the Latin school at Skálholt in South Iceland, and he requested a comic letter from Árni to cheer him up.

Surviving early modern Icelandic letters indicate that paper was used sparingly for personal correspondence and that Stefán expected Árni to send less than a full sheet of paper in reply. A letter dated 22 April 1670 from the Rev. Bjarni Arngrímsson to his sister (and poet) Hildur Arngrímsdóttir apologises that he has been unable to write due to a shortage of paper.<sup>41</sup> The unevenly cut paper measures only around 165 mm wide by 115 mm high, which was triple-folded and closed with a row of stitching on each side. Stefán’s own poem is a mere nine four-line stanzas long, and it is likely that his original verse epistle (not preserved) was folded into a similarly tiny packet.

34 JS 232 4to, ff. 2r–3r, cf. Parsons 2020; Rósa Þorsteinsdóttir 2016.

35 Rohrbach 2019; Davíð Ólafsson 2017; Driscoll 2010.

36 Thorndike 1956; Thorndike 1937; Driscoll 2004.

37 R-AMI, NKS 139 b 4to, f. 127v. For a description of the manuscript, see Springborg 1969, 300–302. On the scribe, see Gísli Baldur Róbertsson 2010.

38 Heimir Þorleifsson 1996–2004.

39 Þórunn Sigurðardóttir 2021b; 2020; Rósa Þorsteinsdóttir 2006.

40 R-AMI, AM 439 12mo, f. 23v. Cf. Stefán Ólafsson, *Kvæði*, vol. 1, 11.

41 R-AMI, AM 1058 V 4to, f. 47. The letter was preserved in the binding of R-AMI, AM 89 8vo. On Hildur Arngrímsdóttir and Bjarni Arngrímsson, see Jón Ólafsson, “Um þá lærðu Vídalína”, 86–97, and Jón Ólafsson, *Safn til íslenskrar bókmenntasögu*, 74–75, 230.



At Skálholt, Stefán was at a central location where paper was in relatively abundant supply.<sup>42</sup> However, paper and poetry also facilitated the exchange of knowledge about more peripheral regions of the country, including the tiny, isolated fishing community of Grímsey far to the north of the mainland, which the parson-poet Guðmundur Erlendsson described in his *Rímur af Sál og Davíð* from c. 1632–1634.<sup>43</sup>

Paper increased the speed at which reliable, first-hand news of events could be obtained. On 2 September of 1625, the subglacial volcano Katla in South Iceland suddenly erupted, unleashing a violent glacier outburst flood that swept through the farmland to the south of the volcano. On 15 September 1625, district administrator Þorsteinn Magnússon (1570–1655), who lived at the former monastery site of Þykkvabær, sent a day-by-day account of the eruption's progress to the Rev. Gísli Oddsson in Holtsstaður, who lived to the west of the worst-affected area, with instructions to pass it on as quickly as possible to Bishop Oddur Einarsson of Skálholt, magistrate Gísli Hákonarson of Bræðratunga and the Danish king's representative Niels Hansson at Bessastaðir.<sup>44</sup> The haste with which Þorsteinn wrote is clear from his letter's postscript, which states that a boy had just arrived from the east with news that ash fall from Katla had reached as far as Fell in Hornafjörður in the extreme southeast of the island.

On hearing the news, the parson-poet Ólafur Jónsson of Sandar in the Westfjords wrote to Þykkvabær and asked for a copy of Þorsteinn's report and news of how the community was faring. Þorsteinn complied on 4 March of 1626, enclosing a letter with a teasing proposal that Ólafur reward him by repaying him for the paper used for the purpose “j þessare papijrs eklu” (in this dearth of paper); he adds that this is a joke and that his friend Ólafur should not take him seriously.<sup>45</sup>

Ólafur Jónsson was among Iceland's leading poets at the time, and his motivation in obtaining a lengthy account of the apocalyptic scenes and sounds under Katla's distant shadow was likely to compose a poem on the disaster. Ólafur had previously composed a long narrative poem on the 1615 massacre of the Basque whalers, in which he depicted the whalers as a scourge sent by God to punish the Icelanders.<sup>46</sup>

Ólafur died in 1627, and no poems on the Katla eruption are known to survive. However, it was shortly thereafter that Guðmundur Erlendsson composed his *Ræningja-rímur*, an innovative *rímur* cycle detailing the 1627 Barbary pirate raids. These events took place far from Guðmundur's farm in the north, but he based his *rímur* on a long report compiled in the south.<sup>47</sup>

<sup>42</sup> Margrét Eggertsdóttir 2010; Springborg 1977.

<sup>43</sup> Parsons 2012.

<sup>44</sup> “Skýrslur um Kötlugos”, 200–215.

<sup>45</sup> R-AMI, AM 422 III 4to, f. 13v.

<sup>46</sup> Kári Bjarnason 2006.

<sup>47</sup> *Tyrkjaránið á Íslandi*, 465–496.

## When Paper Runs Short

Given paper's importance for early modern Icelandic literary culture, acute paper shortages are a reoccurring subject of complaint. Merchants did not maintain a permanent, year-round presence in Iceland, and difficult winter sailing conditions on the North Atlantic meant that trade remained a seasonal activity until the late 18th century, when merchants licensed to trade in Iceland were required to reside on the island and chartered market towns were established.<sup>48</sup> From the 15th century to the beginning of the 17th, most merchant ships came either from England or the German port cities of Hamburg and Bremen.<sup>49</sup> In 1602, Icelanders' access to the European paper trade narrowed to a single legal channel: merchants authorised to trade by the Danish crown.<sup>50</sup> The monopoly was lifted in 1787, but not until 1855 were Icelanders permitted to trade with merchants based outside of the kingdom of Denmark-Norway.

Whereas earlier English and Hanseatic trade can be characterised as pre-colonial, it was gradually replaced by a colonial system of trade in which Icelanders were on the economic periphery and had no direct control of the origins, quality or prices of the products they bought.<sup>51</sup> Before 1777, Copenhagen-based monopoly trading companies were not permitted to establish colonial infrastructure or settlements on the island and were subject to regulations limiting foreigners' participation in economic activities within Iceland. Iceland was managed as a dependency of Denmark rather than a colony, and negotiation of Iceland's relationship to Denmark and the Danish crown took place within mutually recognised legal and administrative channels.<sup>52</sup> Economic relations were not, however, on an equal footing. If, following Gosden, the focus is shifted to colonialism as manifested in material culture and the disproportionate cultural dependence of one party on another, then Iceland belonged to a colonial periphery that traded less-valued goods for more-valued Danish imports, a feature of trade that is particularly pronounced during the period 1684–1702.<sup>53</sup>

The oldest sources on Icelandic paper shortages date from c. 1600, but trade-related paper shortages continue to be recorded even in the work of 19th-century poets such as Þórarinn Jónsson.<sup>54</sup> In 1605, the Rev. Jón Egilsson (b. 1548) completed a paper manuscript of his historical *Biskupsannálar* on the lives of the bishops of Skálholt. The original was lost in the 18th century, but Árni Magnússon successfully obtained a younger copy from 1709 that he compared in 1724 with Jón Egilsson's autograph. According to a note by Árni Magnússon, Jón Egilsson ended his manuscript with the following jingle:

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<sup>48</sup> Sigfús Haukur Andrésson 1988.

<sup>49</sup> Holterman 2020; Mehler/Gardiner 2013.

<sup>50</sup> On the Danish-Icelandic trade monopoly, see Gísli Gunnarsson 1987.

<sup>51</sup> Mehler/Gardiner 2013; Pétur Hrafn Árnason 1997; Jón J. Aðils 1919.

<sup>52</sup> Helgi Þorláksson 2021.

<sup>53</sup> Gosden 2004.

<sup>54</sup> Þórarinn Jónsson, *Fimmtán tíðavísur um árin 1801–1815*, 181.

*Ecki er nu þilturinn papirs rikur,  
þó prestur eigi ad heita,  
obirgðar maður mun einginn slikur,  
ecki ma því neita;  
hvar finnst annar honum likur,  
hver sem fer ad leita.<sup>55</sup>*

This lad has no wealth of paper, even if he's called a priest. Never has there been such a destitute man—one can't deny it. Though one looked far and wide, nowhere would his like be found.

One of the best-preserved collections of early modern Icelandic poetry belongs to the parson Bjarni Gissurarson of Þingmúli in East Iceland (1621–1712), who was Stefán Ólafsson's first cousin. Like many close family members, Bjarni was a talented poet who pursued a career in the clergy. He collected many of his own poems into larger poetry anthologies, three of which have survived: Oxford, Bodleian Libraries, MS Boreal 78, Copenhagen, Royal Danish Library, Thott 473 4to and Reykjavík, National and University Library of Iceland (henceforth NULI), Lbs 838 4to. The youngest of Bjarni's poems date from 1711, when he was ninety and still an active poet, scribe and correspondent.<sup>56</sup>

Bjarni's poems provide a glimpse of the everyday pleasures and frustrations of a poet. They also document the scarcity of paper and other imported goods during the first years of the 18th century. By this time, a strict system of trade had been implemented whereby Icelanders were only permitted to trade with a single Copenhagen-based merchant who had paid for the rights to a designated region of the country (*Separathandelen*), and harsh penalties were enforced for even minor infringements by Icelanders.<sup>57</sup> The prices of both import and export goods were determined by the Danish crown, and Icelandic customers had few rights in the event that the merchant ship was unable to make harbour at the trading site.

A poem dated 1708 describes how the merchant Niels was delayed in arriving to Bjarni's trading harbour of Reyðarfjörður due to sea ice, personified as “Grænlandingurinn gamall og reidr” (the ancient, angry Greenlander), a more formidable force even than the guns of war. Bjarni is in a predicament, since the paper on which to make his complaint is on board the ship. He plays with the meaning of *blað*, comparing the raised “wrinkle” on his page (in the sense of a furrowed brow) to a knot on a birch tree:

*Hier a bladinu hruckan rys  
sem hnutr ä skogax bare,  
pappyrinn fyrer utan js  
er nu a danska fare.<sup>58</sup>*

Trouble rises here on the page like a knot on a forest-leaf. The paper, beyond the ice, is now on a Danish ship.

The merchant Niels was again absent from Reyðarfjörður in the summer of 1710, inspiring Bjarni to compose a poem with the heading “Reidfirdyngar lyta tydum j hafid,

55 R-AMI, AM 390 4to, unfoliated note by Ármi Magnússon.

56 Harpa Hreinsdóttir 2007; Jón Marínó Samsonarson 1960.

57 Jón J. Aðils 1919, 131–178.

58 NULI, Lbs 838 4to, f. 121v.

sakna kaupmanns og firre hlunnenda” (The people of Reyðarfjörður look constantly to the sea, miss the merchant and their former comforts):

*Kaupmann Niels kiemur nu snart  
og kastar j Reidarfirde,  
kramid glansar mikid og mart  
sem mektuga budin hirder.<sup>59</sup>*

The merchant Niels will soon come and cast anchor in Reyðarfjörður. The plentiful trinkets gleam, which the mighty trading post will claim.

The poem goes on to list the alluring goods that await in the coming merchant ship: staples such as salt, flour, Norwegian timber, knives, iron, fishing hooks and luxuries such as tobacco, alcohol, silk, anise, ginger, honey, sugar and sweet bread. As a contemporary recipient would have understood, not all these luxury items would have been on board the Danish merchant ship destined for Reyðarfjörður.<sup>60</sup> The poem ironically imagines the missing ship as a site of boundless abundance, overflowing with exotic pleasures.

A second comic poem follows with the heading “Godur er huor geinginn, lijka nu kaupmenn sem annad” (The departed are always dear, the merchants as anyone else). In this poem, Bjarni observes that tobacco and alcohol supplies have dwindled to almost nothing, and plants and grasses are being substituted for imported grain. He next turns to the impact on Iceland’s epistolary culture, which is similarly impacted:

*Atla eg brief umm Jsaland,  
einka lytil fare j bland,  
octavistar og annad smatt,  
ef ecke er skriffad a rodid grätt.*

I suspect that precious little is being used for letters in Iceland—skimpy octavos and other scraps—if one does not write on grey fish-skin.

*Pappyr vyda einginn er,  
eflaust fæcka titlarnar  
hoffdyngianna og hædsta din  
eff hindrast leinge siglijngin.*

There is widely no paper to be had, and the rich folk’s titles<sup>61</sup> and highest praise will surely dwindle if sailing is disrupted for long.

*Ristu fordum runer a trie  
reckar j fyrre óldimne,  
syn a mille um sio og torg  
sendu kieble og spiollidin mórg.*

In days of yore, men carved runes in wood and sent each other many rune-sticks and tablets by sea and land.

*Vpp meiga taka a minn sann,  
aftur ad nyu sidinn þann,  
unger og gamler Jslands menn,  
eff undan geingur pappyrinn.*

Icelanders young and old might well take up that custom again if the paper dries up.

<sup>59</sup> Lbs 838 4to, f. 147r.

<sup>60</sup> Cf. Hrefna Róbertsdóttir 2012.

<sup>61</sup> I. e., the extravagant titles by which letter-writers addressed high-status recipients.

*Bórkur er til og næfrin nög  
ad nema og fa umm allann skog:  
vel meiga bændur bera sig ad,  
med bleke og penna ad skriffa ä þad.*<sup>62</sup>

There is plenty of [birch] bark to be found and collected in the forests, and farmers might take to writing on it with pen and ink.

Bjarni's poetry anthologies describe a marginal society in which hunger is always present in the community and sometimes even in the poet's own household. Bjarni Gissurarson's relationship to paper — like alcohol, tobacco and grain — is mediated by the absent merchant, but he resists the identity of the paper-starved poet. In a poem sent to his adult son Henrik, he jokes that he will need to learn to write on vellum and skate-skin since his paper has run out, and he makes a similar suggestion in another verse epistle to his friend Guðrún Finnbogadóttir in the summer of 1710. His poem to Guðrún reveals that the paper he has scrounged up for his letter is decades-old and in fragile condition: "þad er nu meira enn þriatjige ara / þoler ei vel eg um þad pära" (it is over thirty years old and can badly withstand my scribblings).<sup>63</sup>

The final poem in Lbs 838 4to repeats these sentiments. If Niels fails to make his appearance this year with paper, then men will be forced to write on fish and animal skin, and the situation proves the truth of the old proverb: "einginn veit hann atte huad / adur fyrre enn miste þad" (you don't know what you have until it's gone).<sup>64</sup> By this time, Bjarni had learned that the probable cause of Niels' absence was yet another military conflict between Denmark and Sweden, and he hoped for a favourable outcome for the Danish. The poem ends with a prayer for peace and a glimpse of a vision of deliverance into heaven from the misery of the world.

In examining Denmark's relationship with its dependent territories in the North Atlantic, Karen Oslund makes a distinction between hunger and scarcity that resonates with Bjarni's reflections on the paper shortages troubling the people of the Eastfjords:

Hunger [...] exists and has always existed in the Arctic. Scarcity, on the other hand, has to be created. Scarcity is not what exists, but what is perceived to be missing [...] and often in the history of the Arctic this scarcity is part of an apparatus of colonialism and a piece of imperial dynamics. It is a type of deficiency which calls on a state administration for action.<sup>65</sup>

In Bjarni Gissurarson's poetry, "Niels" is a symbol of scarcity and abundance, yet he hints that both are illusions. Like paper, the outward trappings of human abundance are fleeting and rapidly consumed. Poetry cannot be restrained by the availability of paper on which to record it; nature contains a plentiful supply of other writing surfaces. Ultimately, heaven represents the true state of abundance to which the soul should aspire; paper and other commodities that come with the summer ships are mere human trinkets.

<sup>62</sup> Lbs 838 4to, f. 148r.

<sup>63</sup> Lbs 838 4to, f. 146v.

<sup>64</sup> Lbs 838 4to, f. 149v. This poem is also quoted in the introduction to this volume.

<sup>65</sup> Oslund 2015, 34.

## Breaking Down Paper

One of the earliest Icelandic poets to reflect critically on the natural origins of paper is likely Eggert Ólafsson (1726–1768). Eggert was a naturalist educated at the University of Copenhagen, and scientific rationalism infuses his poetry. His best-known poem is *Búnaðarbálkur*, a long and ambitious poem on farming practices in which he explores what he sees as the corrupt relationship between Icelandic nature and the island's human population.<sup>66</sup>

This broken relationship is also the underlying theme of *Teflöskuvísur*: verses on a cracked and repaired bottle being used by its peasant owner as a teapot. Unlike *Búnaðarbálkur*, the tone of *Teflöskuvísur* is comic, but the poem's underlying message is equally earnest.<sup>67</sup> The poem is an object biography in which the speaker is the bottle itself, who challenges the reader to mend the relationship between human and nature and—as in *Búnaðarbálkur*—to see beyond the glamour of imported goods and identify the raw natural materials from which they have been produced.

According to the poet's footnote, white paper had been used to plaster over the crack over which the poem was written. The paper was not originally intended as a text-bearing surface but has allowed the bottle/teapot to 'speak' its complaint. It laments that it is being used to brew tea from leaves imported from China, which are ruining its health, when it might instead be filled with wholesome herbal tea made from Icelandic flowers. Just as the poet decomposes tea into dried and supposedly mouldy and stinking plant leaves, the paper becomes "línið hvítt" (the white linen) in the poem.<sup>68</sup> As when Eggert Ólafsson refers to coffee as "kola-mylsna" (ground charcoal) in *Búnaðarbálkur* with a detailed footnote explaining the reference, he adds a footnote to *Teflöskuvísur* to explain that white linen means linen paper, although he does not use the opportunity to suggest a paper substitute.<sup>69</sup>

While this might seem like an ecocritical approach to a modern reader, the poet is in fact advocating for increased exploitation of natural resources in Iceland, following the utilitarian thought of the day.<sup>70</sup> In 1752–1757, Eggert Ólafsson and his colleague Bjarni Pálsson travelled to all regions of Iceland in a research expedition financed by the Royal Danish Academy of Sciences and Letters, and he closely documented the island's flora and fauna. He offers a practice-oriented 'stock-taking' of nature in his poetry that contrasts with Bjarni Gissurarson's earlier observations on possible paper substitutes, which are casual and need-based during a period of acute shortage. *Teflöskuvísur* and *Búnaðarbálkur* depict nature as a source of economic prosperity and personal well-being, the

<sup>66</sup> Guðrún Ingólfssdóttir 1999.

<sup>67</sup> Sveinn Yngvi Egilsson 2011b; Vilhjálmur Þ. Gíslason 1926, 222–223.

<sup>68</sup> Eggert Ólafsson, *Kvæði Eggerts Ólafssonar*, 146–147.

<sup>69</sup> Eggert Ólafsson, *Kvæði Eggerts Ólafssonar*, 47. The coffee substitute promoted in *Búnaðarbálkur* is roasted juniper berry.

<sup>70</sup> Bayerl 2001; Meyer/Popplow 2004.

main barrier to which is human ignorance. The enlightened reader must recognise the difference between a trade item such as linen paper and one such as coffee beans or tea leaves that leads to the waste of domestically available ‘commodities’ in nature.

## Hidden Surfaces?

Paper was the one core element of early modern Icelandic book production that did not come from the immediate environment. Since Iceland has an abundance of birdlife, including populations that moult in Iceland, suitable pen-feathers could be gathered and cut by members of any social class. Ink could be made from abundant tannin-rich bearberry (*Arctostaphylos uva-ursi*) boiled with willow twigs, the oldest recipes for which date from the 17th century.<sup>71</sup> The scholar and poet Jón Jónsson Therkelsen (23 December 1774–31 July 1805), an orphaned farmer’s son from West Iceland who eventually succeeded in being admitted to the University of Copenhagen, describes how he found a seabird’s feather in his eighth year to serve as his pen and traded food scraps for homemade ink from a boy from a neighbouring farm.<sup>72</sup>

The near-invisibility of paper in poetry contrasts strikingly with the pen, which is frequently the subject of gender-bending folk riddles in which a speaker describes being violently transformed from a woman (i. e., feminine *fjöður*, feather) into a man (i. e., masculine *penni*, pen).<sup>73</sup> In writing about writing, imagery of birds is colourfully invoked by Icelandic poets and amateur scribes, who compare their hand to *hrafnaspark* (scratching of ravens). A manuscript from the mid-18th century includes a four-line verse chastising an unknown Einar for writing like a raven, while one of the scribes of a manuscript from c. 1676 apologises for his (or her) raven-like pen-strokes.<sup>74</sup> Although the feather has been cut, it has not been fully domesticated, and the traces of the unruly bird remain on the page.

## Conclusion

In early modern Iceland, paper was power. For Icelandic poets, linen paper had no imagined lowly past life as rags. Paper essentially began its existence as a trade commodity in a ship, and its scarcity was perceived as the outcome of trade disruptions

71 Ólafur Halldórsson 1989, 78–79.

72 Steingrímur Jónsson, *Æfisaða Jóns Jónssonar Therkelsen*, 9–10. See also Sigurður Gylfi Magnússon/Dauið Ólafsson 2017, 130–131. On the different types of bird feathers that could be gathered in Iceland, see Guðvarður Már Gunnlaugsson 2005.

73 *Íslenzkar gátur*, ed. by Jón Árnason, 140–154.

74 NULI, ÍB 323 8vo, f. 28v; NULI, JS 204 8vo, f. 109v. On the latter manuscript, see Margrét Eggertsdóttir 2017, 134–135; Þórunn Sigurðardóttir 2017a, 315–317; 2017b.

rather than the finite nature of resources required for production. The Danish-Icelandic trade monopoly increasingly encouraged poets to associate paper shortages with merchants' failures, and a tension existed between paper-intensive administrative activities implemented by the Danish bureaucracy and Icelanders' desire to put paper to other uses, including letter-writing and manuscript production.

Beyond the colonial dimension explored through the poetry of Bjarni Gissurarson and Eggert Ólafsson, pre-modern Icelandic poetry reveals how distance from the raw materials and sites of production fundamentally altered the perception of paper. In communities in early modern Europe where plant fibres were visible on the human body as well as in books, poets drew attention to the human and plant identities symbolically attached to the discarded clothing from which those books came. In Icelandic poetry, however, it is the ecological 'residue' of other elements of book production that surface most strikingly, in particular pen-feathers. Few Icelanders had seen a flax plant growing in a field or visited a village downstream from a paper mill. In a sub-Arctic environment where ecoliteracy was crucial to survival, the invisibility of paper's origins encouraged poets to separate the page from its nature.

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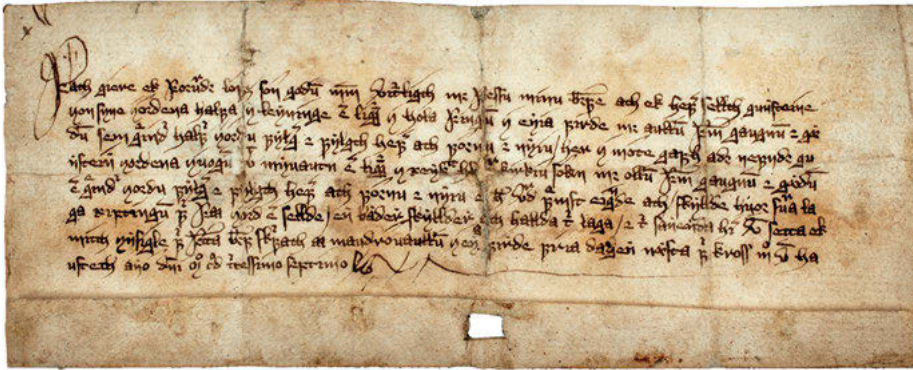
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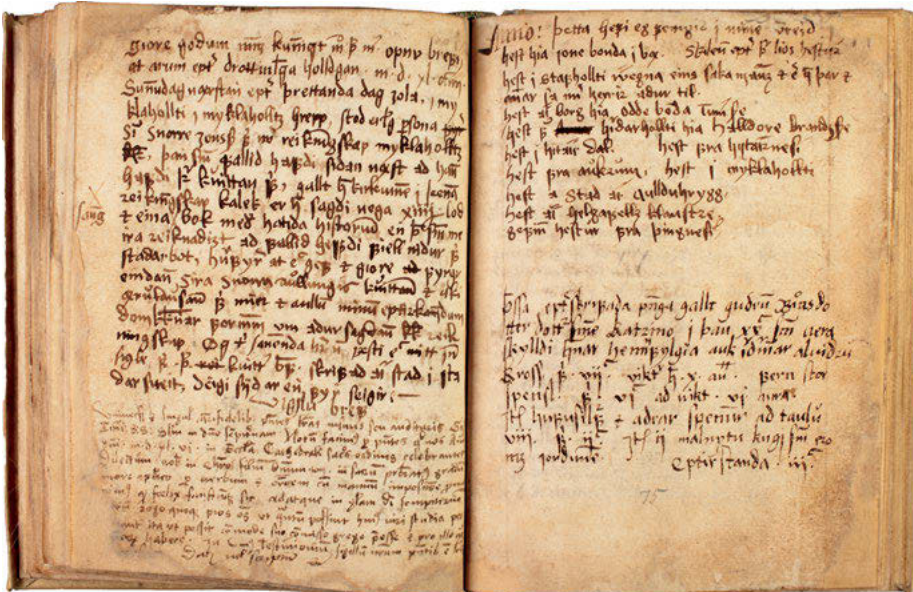
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## **Appendix: Colour Images**





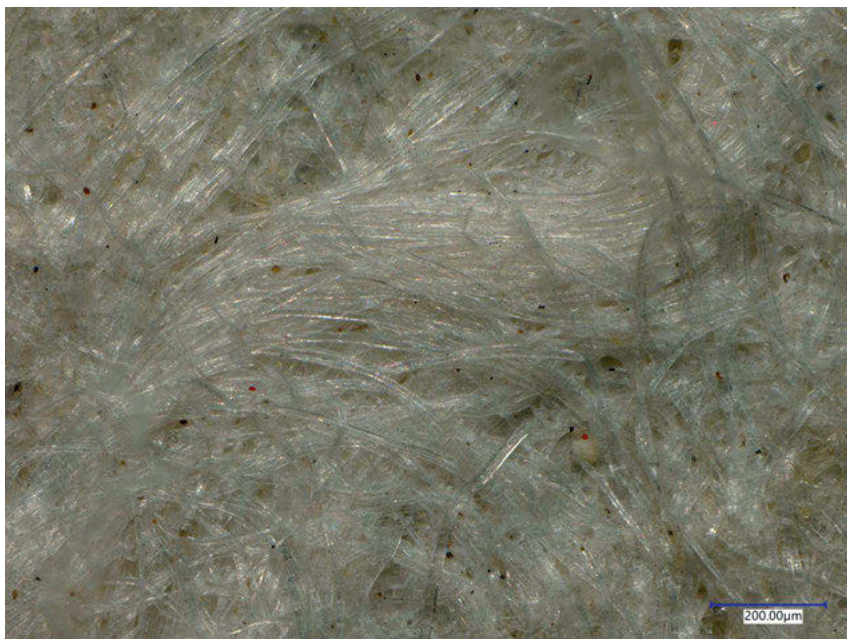
Hufnagel Fig. 1: Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM Dipl. Isl. Fasc. X,6 (Möðruvellir, 13/09/1437), the oldest surviving paper document. — 19



Hufnagel Fig. 4: Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM 232 8vo (1539–1548), notebook of Bishop Gissur Einarsson, ff. 74v–75r. — 28



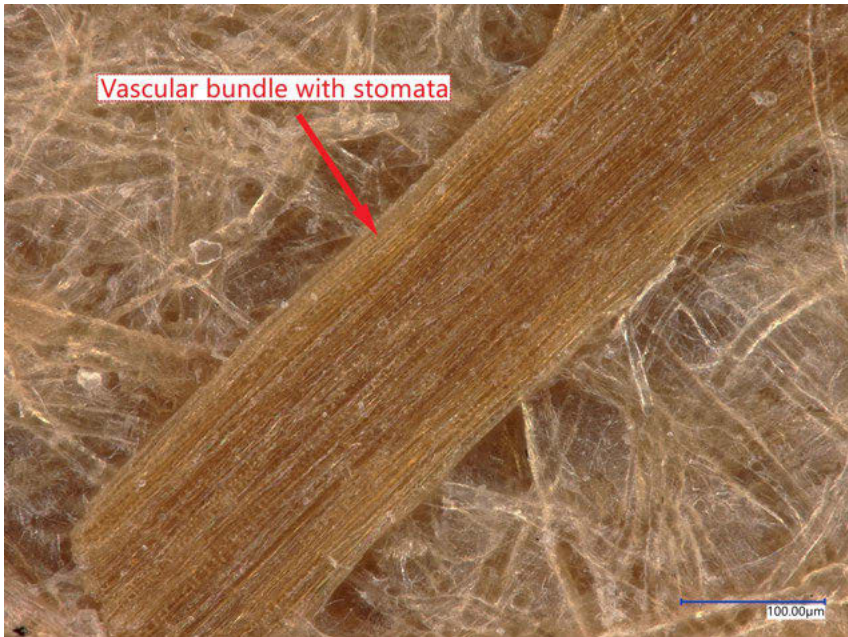
**Xu Fig. 1:** Observing the surface of paper. — 75



**Xu Fig. 2:** Rag paper with a clump of linen fibres (200x). Fernão Mendez Pinto, *Les Voyages Advantvrevx de Fernand Mendez Pinto*, Paris 1628. — 79

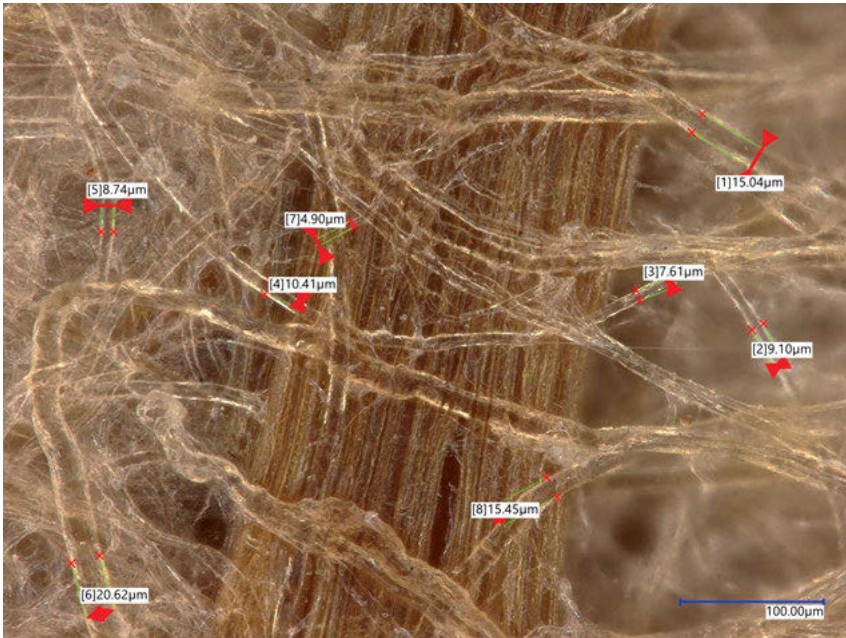


**Xu Fig. 3:** Flax fragment (1000x). Fernão Mendez Pinto, *Les Voyages Advantvrevx de Fernand Mendez Pinto*, Paris 1628. — 79

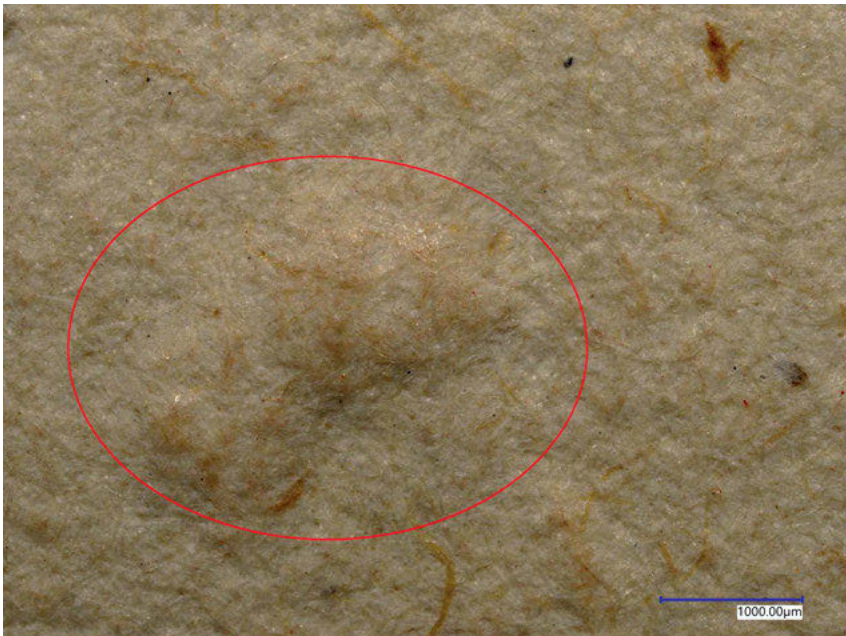


**Xu Fig. 4:** Straw fragment (500x). Johan Helffrich, *Kurtzer vnd warhafftiger Bericht/ Von der Reiss aus Venedig nach Hierusalem [...]*, Leipzig 1582. — 79

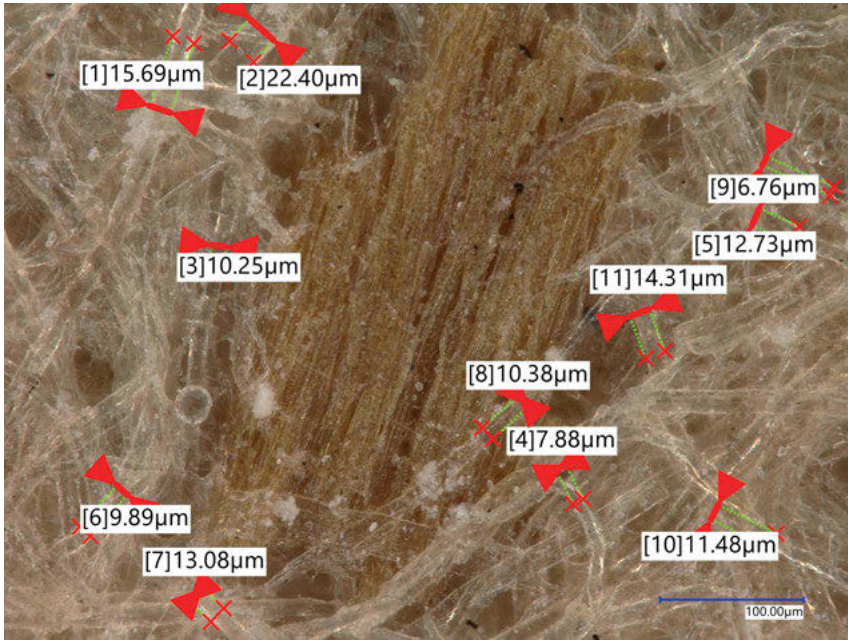




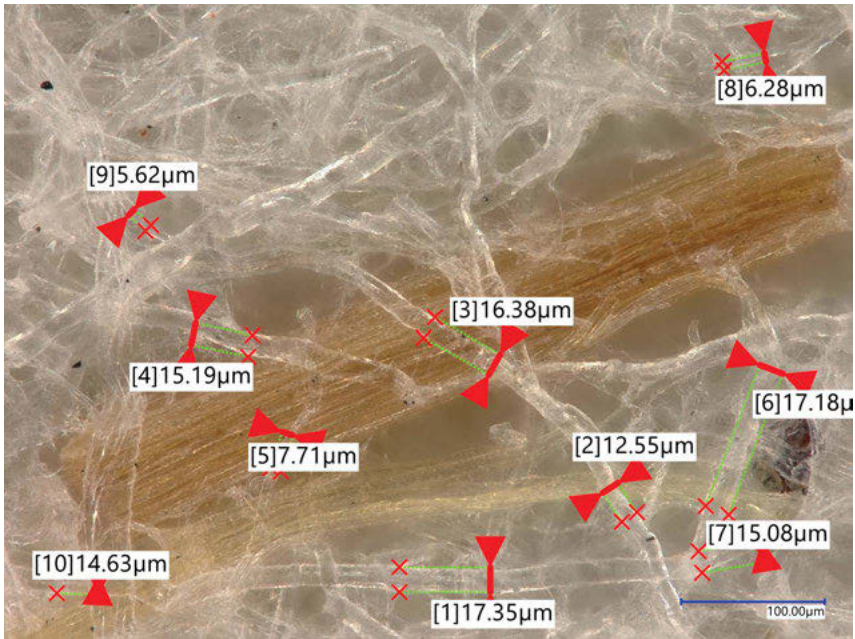
**Xu Fig. 5:** Straw fragment (500x). Johan Helffrich, *Kurtzer vnd warhafftiger Bericht/ Von der Reiss aus Venedig nach Hierusalem [...]*, Leipzig 1582. — 80



**Xu Fig. 6:** Rag paper with a clump of thread (50x). Fernão Mendez Pinto, *The Voyages and Adventures, of Fernand Mendez Pinto*, London 1653. — 80



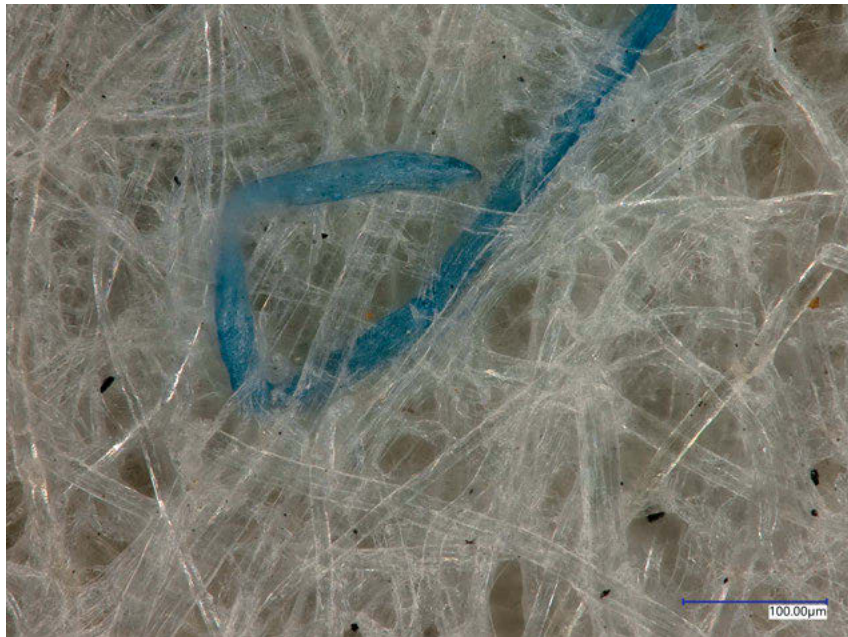
**Xu Fig. 7:** Rag paper with a straw fragment (500x). Fernão Mendez Pinto, *The Voyages and Adventures, of Fernand Mendez Pinto*, London 1653. — 81



**Xu Fig. 8:** Suspected rice straw fibres (500x). *La Commedia*, Venice 1491. — 81



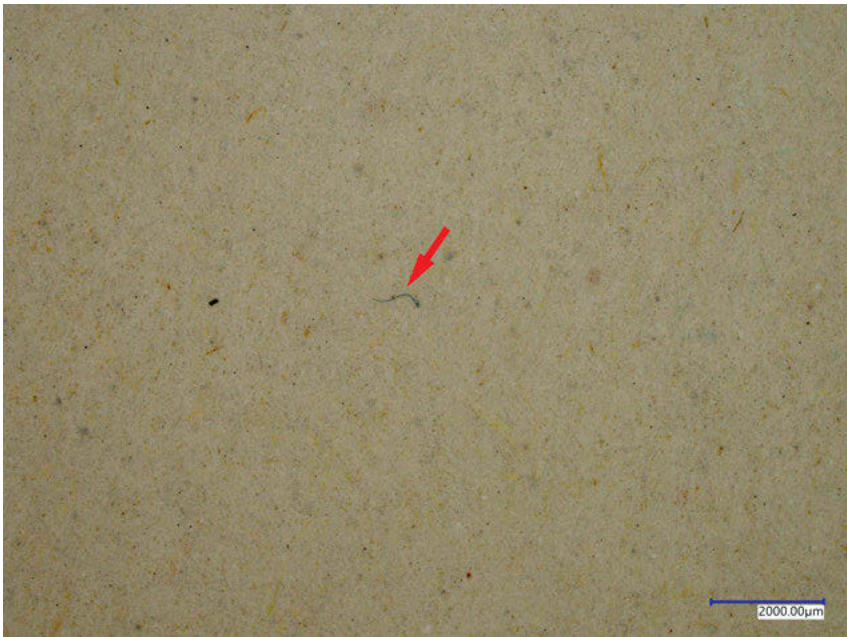
**Xu Fig. 9:** Blue fibres (20x). *La Commedia*, Venice 1491. — 81



**Xu Fig. 10:** Indigo- or woad-dyed flax or hemp fibre (500x). Fernão Mendez Pinto, *Peregrinaçam de Fernam Mendez Pinto, e por elle escrita*, Lisboa 1678. — 84



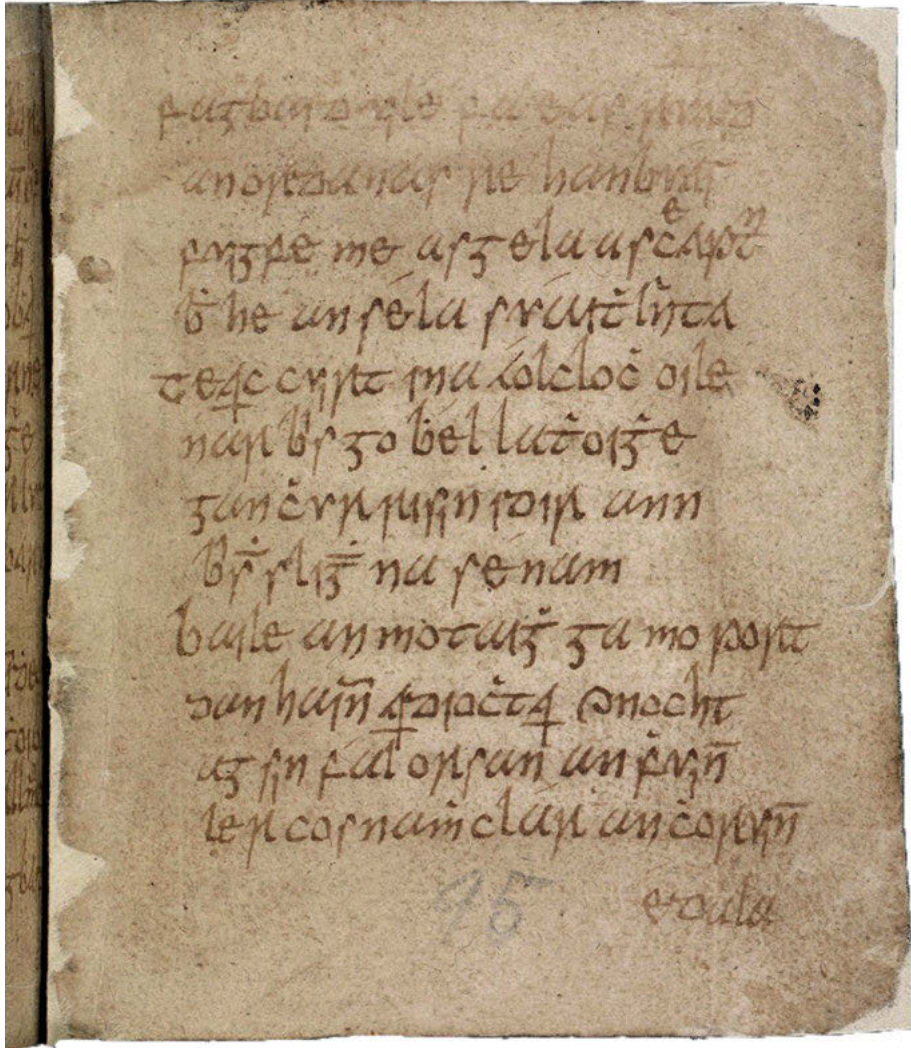
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**Xu Fig. 12:** Blue fibre in Chinese paper (20x). *Yongle Encyclopedia (Yongle Dadian)* 11599, 1562. — 86

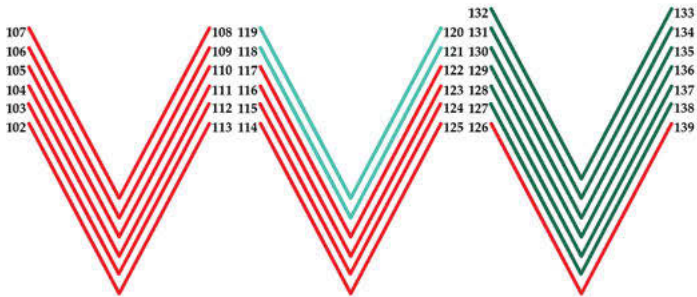
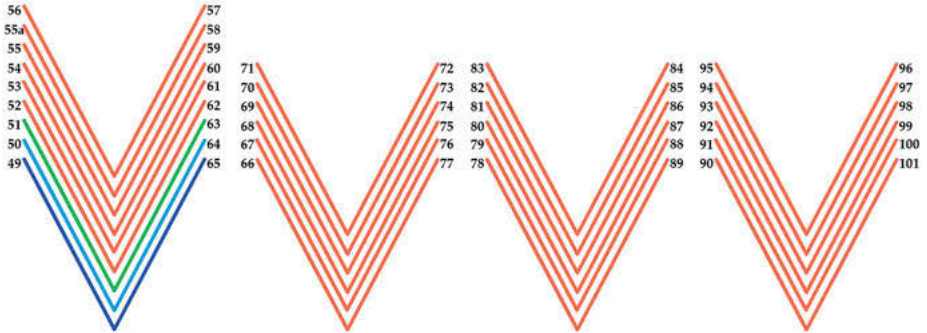
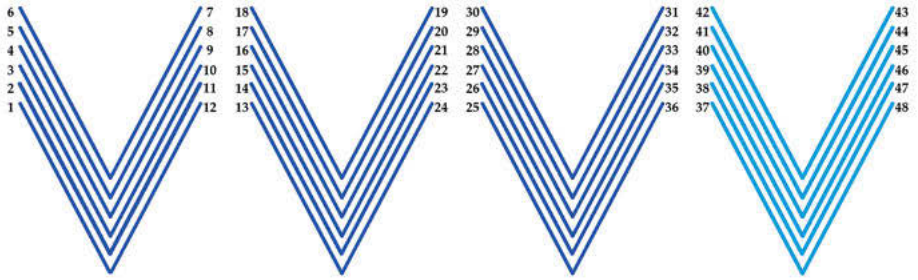


Ó Macháin Fig. 1: Mac Cruitín Fragment, pastedown consisting of paper bearing Gaelic text, late 17th/early 18th century. — 152

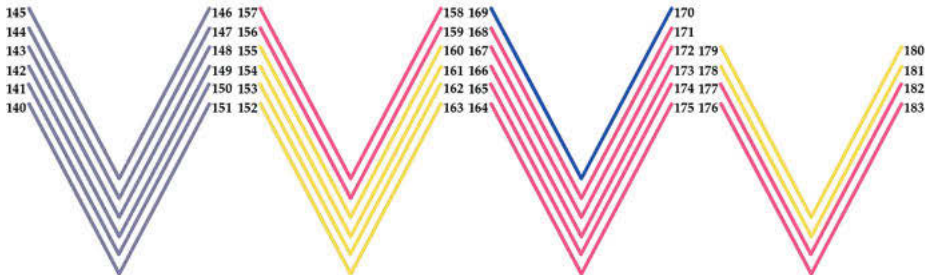


Ó Macháin Fig. 2: Dublin, National Library of Ireland, MS G 201, f. 95r (8.5 × 7 cm), the smallest paper manuscript in this survey, 17th century. — 157

PART 1 (around 1422/1430)



PART 2 (around 1435/1440)



Stiegler Fig. 4: Collation of Melk Abbey library, Cod. 900/part 1 and 2. Identical watermarks. — 182



Hesselberg-Wang/Palandri Fig. 1:

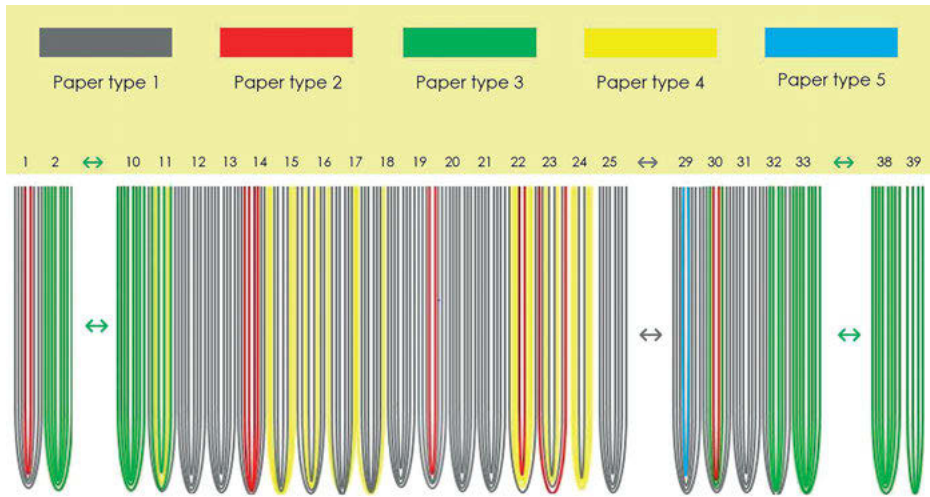
The movable types used to print the *Missale* are based on medieval Gothic handwriting and printed in red and black. The musical staves are printed in red, while the notes themselves, when present, have been added later by hand (NB D Pal 44). — 192



Hesselberg-Wang/Palandri Fig. 2:

NB D Pal 42 *Missale Nidrosiense* is a full leather binding of Gothic type. It was the main book used during mass. It followed the church year and the calendar of saints' days, and it contained songs, prayers and bible lessons. — 196

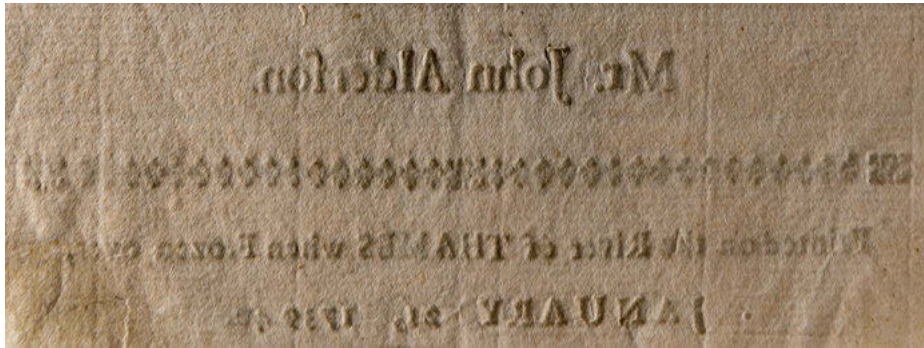
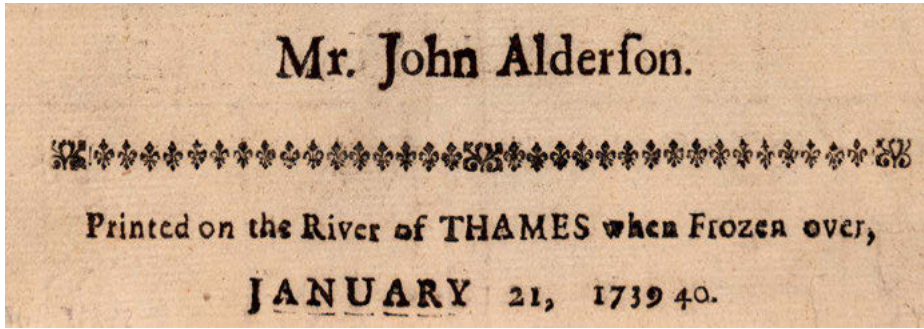




**Hesselberg-Wang/Palandri Fig. 3:** The alternation of the different types of paper in *Missale NB D Pal 44*. It is practically identical in all 10 volumes analysed. — 199



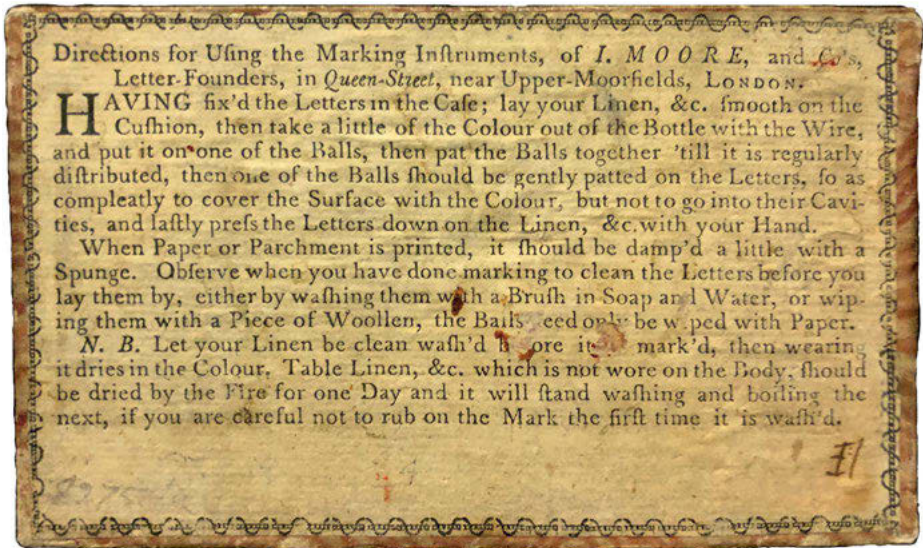
**Hesselberg-Wang/Palandri Fig. 5:** Using magnification (8x), it is possible to see the printing sequence of colours, first red and then black. — 202



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Day Fig. 7: Instructions for use of Isaac Moore's cushion. — 228



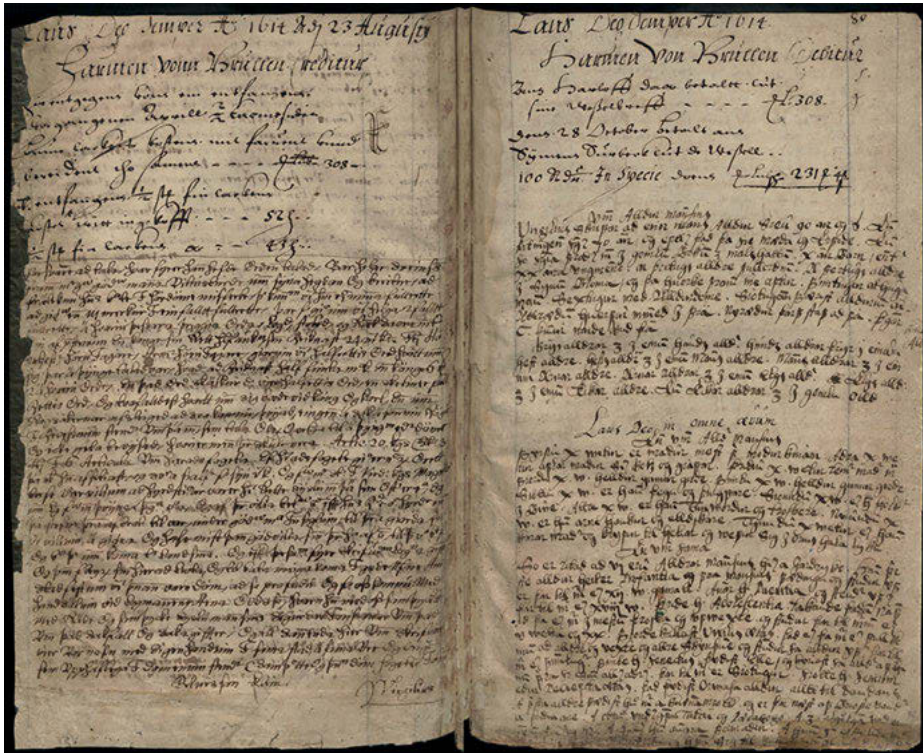
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Halldóra K./Jón Kristinn E./Rannver H. H. Fig. 3a: Title page (f. 1r) in JS 6 4to. — 266



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Halldóra K./Jón Kristinn E./Rannver H. H. Fig. 4: The main text has been written around two receipts, debit and credit, stretching over the top half of ff. 79v and 80r in Lbs 228 fol. — 274



Halldóra K./Jón Kristinn E./Rannver H. H. Fig. 5: The watermark from Lbs 228 fol., shown with the marks from Windsbach (1614) and Dorpat (1613). — 275



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Gæbe Credit

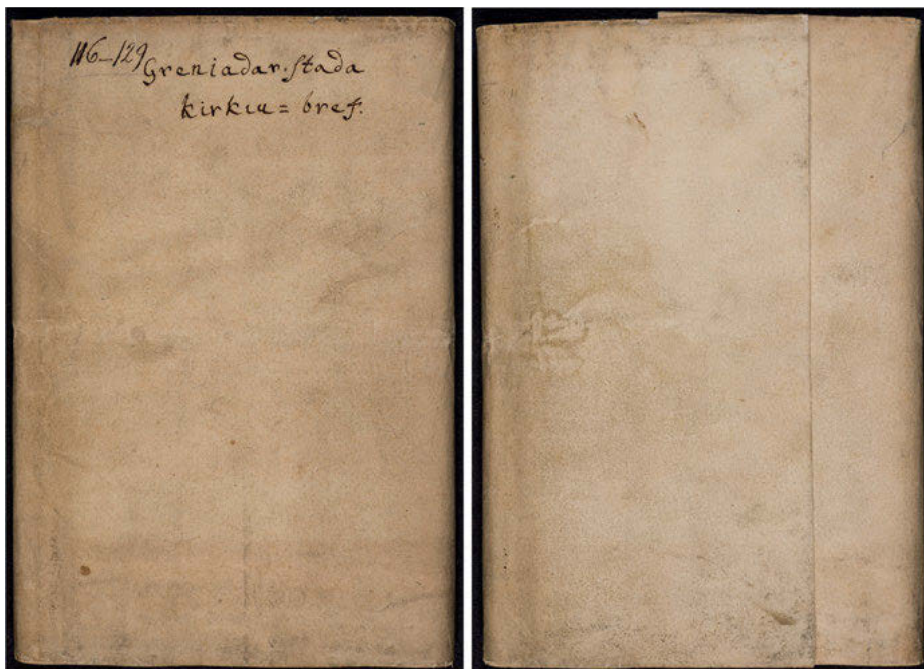
Linné & Dorice

1	per [illegible]	25	30	---
	per 10 Dito		5	---
	per 10 Dito		5	---
1	per [illegible]	10	5	---
1	per [illegible]	5	5	---
1	per [illegible]	4	5	---
1	per [illegible]	9	5	---
1	per [illegible]	6	5	---
1	per [illegible]	14	5	---
1	per [illegible]	8	5	---
2	per [illegible]	22	10	---
1	per [illegible]	7	5	---
1	per [illegible]	14	5	---
1	per [illegible]	2	5	---
2	per [illegible]	11	10	---
2	per [illegible]	18	10	---
6	per [illegible]	25	30	---
Dato [illegible]				
1	per [illegible]	22	5	---
1	per [illegible]	19	5	---
1	per [illegible]	21	5	---
32	[illegible]		160	---
Den 31 December				
7	per [illegible]		28	---
39	Linné [illegible]		188	---

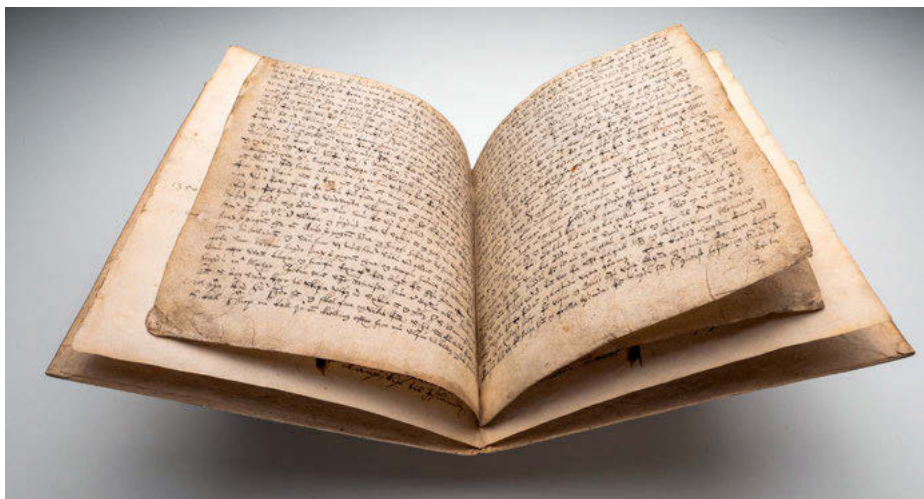
Linné 188

Halldóra K./Jón Kristinn E./Rannver H. H. Fig. 6b: Merchant's account book Lbs 89 fol. — 277

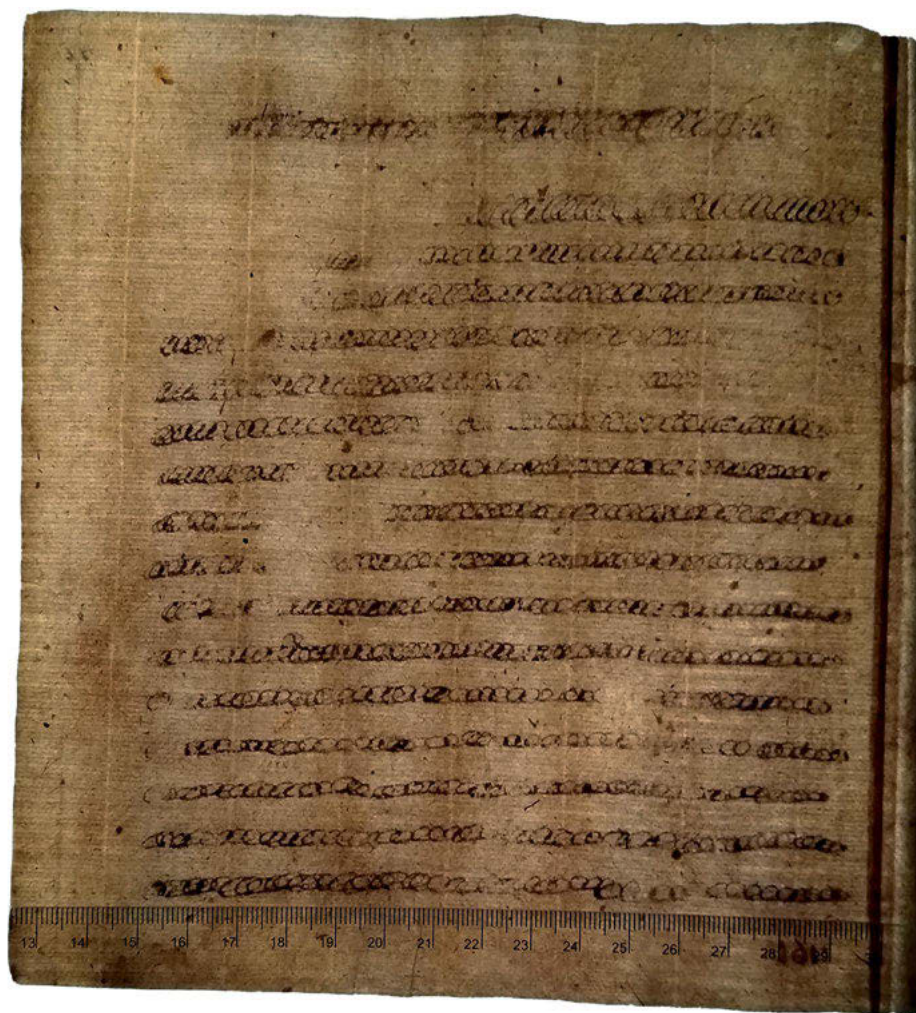




**Stegmann Fig. 2:** Front and back of the organising wrapper surrounding charter copies with the shelfmark Reykjavík, The Árni Magnússon Institute for Icelandic Studies, AM Dipl. Isl. Apogr. 116–129. — 286



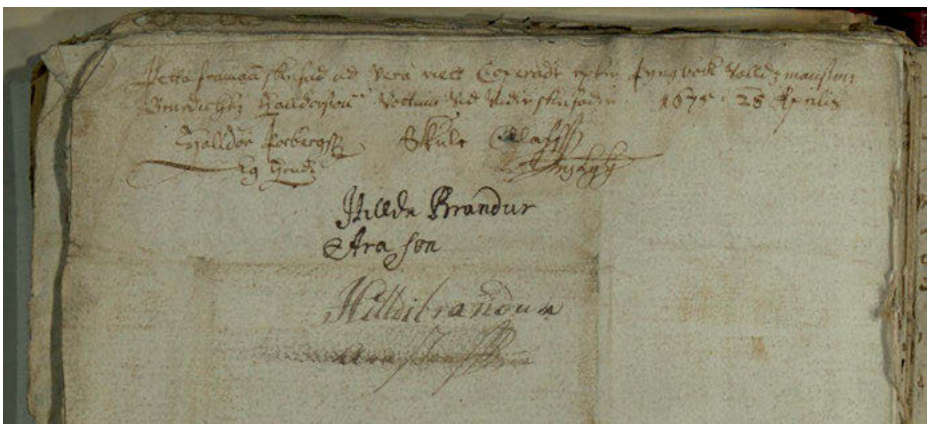
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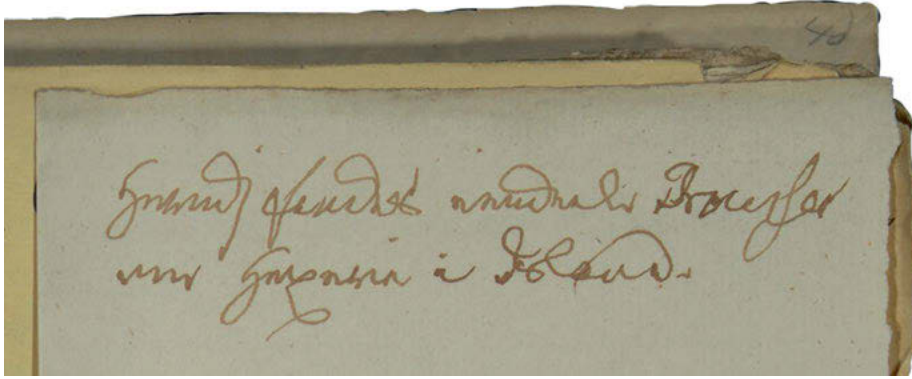
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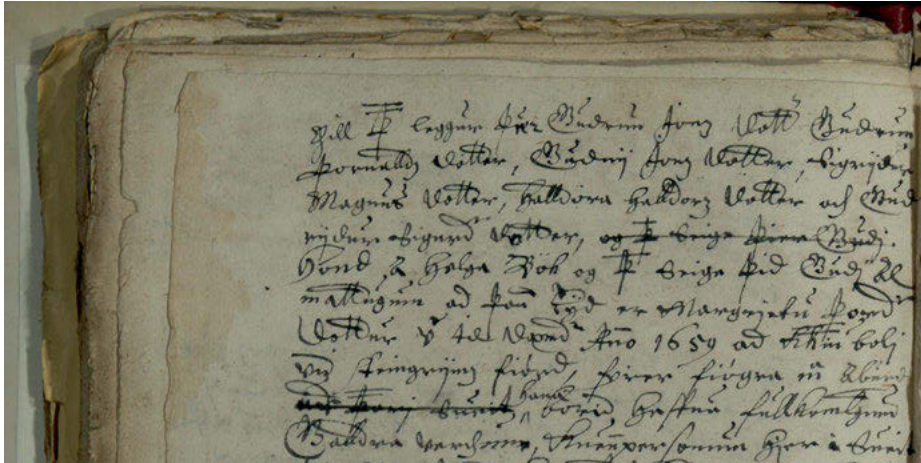
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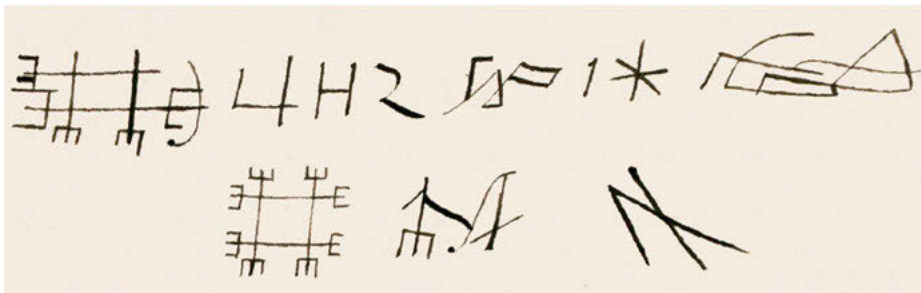
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