

Manuscripts and Performances in Religions, Arts, and Sciences

Studies in Manuscript Cultures



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Manuscripts and Performances in Religions, Arts, and Sciences



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Laure Miolo and Hanna Wimmer

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Contents

Antonella Brita, Janina Karolewski, Matthieu Husson, Laure Miolo and
Hanna Wimmer

Introduction — 1

Manuscripts for Performances

Alexander Weinstock, Martin Jörg Schäfer

**Making and Using Manuscripts in Theatre: The Material Dynamics of Two
Nineteenth-Century *Nathan der Weise* Prompt Books — 17**

Mathieu Ossendrijver

**Performative Aspects of Assyrian Celestial Divination and Babylonian
Astronomical Diaries — 39**

Eva Ferro

**Pocket-Sized Liturgy: A Fifteenth-Century Breviary from the Abbey of San Zeno
Maggiore — 55**

Agathe Keller

**Performing Multiplications Beyond the Text of Some Sanskrit Mathematical
Commentaries — 73**

Laure Miolo

**A Bibliophile Performing Eclipse Computations: Lewis Caerleon and His
Notebook — 117**

Manuscripts in Performances

Karen Desmond

**Medieval Music Rolls, Scribes and Performance: The Extant Rolls of Thirteenth-
Century English Polyphony — 189**

Matthieu Husson, Samuel Gessner

**Astronomical Computation as a Performance: Determining Planetary Positions
with the Manuscript Erfurt, Angermuseum, 3134 — 211**

Jochen H. Vennebusch

The ‘Orchestration’ of Manuscripts: Ottonian Gospel Books from Bamberg Cathedral and Their Liturgical Use — 241

Karin Becker

Reading the Psalms: The Relationship between Visual Organisation and Ritual in Medieval Latin Psalter Manuscripts — 273

Silpsupa Jaengsawang

The Use of *Anisong* Manuscripts at Funerals in Northern Thailand and Laos — 303

Manuscripts as Performers

Laura Fernández Fernández

The Palace as ‘Theatre of Knowledge’: Performing with Manuscripts in the Alfonsine Court — 337

Antonella Brita

Performing (with) Multiple-Text Manuscripts in the Making of the Ethiopian Sainthood: Matter and Devotion in Ethiopia between the Fourteenth Century and the Present Time — 371

Heidi Buck-Albulet

Performing *Renga* with Manuscripts — 425

Laura Albiero

Liturgical Practice in the Light of Medieval Liturgical Books — 453

Felix Heinzer

Objects or Actors? Medieval Latin Manuscripts in Ritual Performances — 471

Contributors — 511

Index of Written Artefacts — 515

Antonella Brita, Janina Karolewski, Matthieu Husson,
Laure Miolo and Hanna Wimmer

Introduction

1 Opening words

Books have long been used in a wide variety of performances in many cultures, ranging from religious rituals to scholarly practices and from courtly etiquette to theatre performances. They contain and preserve instructions about the performances, covering utterances, movements and actions. They are interacted with by human actors as part of the performance, and sometimes they themselves are the centre of performances. Books of this kind were handwritten for centuries – indeed, for millennia in some cultures. Even in the era of the printed book and our current digital era, handwritten or hand-annotated books still continue to play an important role in many kinds of performances, allowing individualised solutions to be found for keeping records and transmitting information.

This volume presents a collection of papers by experts from a wide variety of disciplines, each with their own methods and approaches. Together, they offer a panorama of perspectives on how manuscripts can be studied as objects and actors in various kinds of performances. Situated at the juncture between manuscript studies and performance studies, they analyse the various roles that manuscripts play in a broad range of performances in different religions, arts and sciences. They consider situations where humans, manuscripts and other kinds of natural or supernatural entities interact. While some of the contributions focusing on contemporary manuscripts rely on the authors' direct observations, all of the papers analyse the performances in which manuscripts are involved from the material, textual and visual evidence provided by the manuscripts themselves.

The manuscripts studied here are shaped by the performances in which they participate, while also shaping the performances in which they are involved. Developing tools on a case-study basis in order to unravel, explore and study the complex relationships between manuscripts and performances is the central purpose of this volume. In order to enter this largely uncharted territory, rather than prescribing a rigid theoretical and methodological framework to follow, we invited the authors to use their own expertise and methodological toolkits to propose a suitable approach to the specific challenges posed by the manuscripts and their religious, artistic or scientific domains. Thus, each chap-

ter contributes in its own way to enriching the notion of performance and to deepening the way in which a manuscript can be studied from its own particular understanding of performance. In addition to the specific new research results outlined in each article, it is this diversity of concrete methodological propositions presented by authors from a wide range of scholarly disciplines that is the strength of this collective volume.

To start off, it may be useful to provide a rough sketch of how ‘performance’ is generally conceived of in the various papers that weave manuscript and performance studies together. We take it that in a performance, the performers engage in a planned and intentional series of actions that are meant to have a particular effect on the audience. This description contains three key expressions that we shall simply touch on initially. First, our understanding of performers is very broad and includes individuals, groups and objects. Groups can either act in synchrony, such as when a group of singers perform a song together on stage, or in diachrony when the ‘same’ musical piece is performed in a community, for instance – perhaps in a ritual context – over the course of generations or when a standard astronomical observation programme is conducted for centuries and stored in a dedicated archive by the astronomers. Objects of many kinds can play a crucial role in performances, so much so that they themselves can be regarded as performers. They may be ‘natural’ sites, buildings, altars, different kinds of instruments or, of course, manuscripts. Second, these different networks of performers engage in a series of actions that is often regarded as the performance itself. By using the word ‘planned’ here, we are attempting to express the essential fact that the series of actions must be perceived as being deliberate by the performers (and generally the audience as well), and not just as something random. Moreover, the planning of performances also involves temporality and spatialisation. Finally, audiences are also understood in a highly inclusive way: they include both the performers and any witnesses of the phenomena produced during the performance who are able and willing to give a meaning to these phenomena.

A performance is a communicative act, regardless of whether it is planned or spontaneous, conducted orally or done in writing. Generally, this kind of communication is conceived of as existing *in performance* only, that is, deployed instantaneously during the performance. However, the temporality of a performance covers a larger array of implications and possibilities. When broadly considering a performance as an action, it includes a certain degree of preparation, practice and iterations preceding its concrete realisation. Similarly, once the action itself is accomplished, its recording and transmission may also be considered an integral part of the performance. These periods of time preceding

or following a performance must be included in the investigation as well since they are intrinsically linked to the elaboration and diffusion of the performance. Consequently, we regard the different stages of the construction and rendition of a performance as an integral part of the performative process.

In addition, this volume of SMC seeks to highlight the different processes at the heart of the performance leading to the creation of performative rules or customs, and to explore the resulting appropriation and adaptation of the performance in various cultural and social settings. In this context, there is no tension between the singular and collective endeavours taking part in the act of performance, but a complementarity over time. The *medium* or the channel of the textualisation and transmission of the performance – the manuscript – may also be seen as a vehicle of memorisation. In some cases, the techniques and principles of memorisation may become a performance per se, as in the example of the medieval *ars memoriae* ('art of memory').

The contributions to the volume follow different approaches, ranging from codicological, philological and art-history methodologies to more ethnographical ones based on direct observations. In most cases, they are attempts to use various means to re-enact or reconstruct the performance in which manuscripts are involved as a way to inspect and study the relationship between manuscripts and their performance. This sheds a particular light on the material, visual and intellectual aspects of manuscripts and reconfigures the view on these aspects and their mutual relations. Consequently, the papers reveal the ways in which manuscripts were produced and used, and how they functioned in the environment in which they circulated.

The 'performing' look at manuscript studies adopted in this book opens up a perspective where the relation between manuscripts, the practices that shape them, and related networks of individuals, groups and objects is the central focus. The issues of temporality and spatialisation also come to the fore in analysing the manuscripts themselves and the performances in which they play a role. For instance, the timing and spatial arrangement of a performance can be found in a manuscript. Some books contain information about when the performance takes place, how long certain actions last or where the performers, audience and objects should be and at what distance from each other. At the same time, details about time and space that are not recorded in manuscripts or known to us can be reconstructed by participating in or observing the performances.

Conversely, the collection of case studies presented here also reflects views that will no doubt enrich performance studies. First, it does so in a temporal dimension by revealing ways and methods that allow performances to be recon-

structured from various kinds of clues and traces found in manuscripts. We hope that our book will be used as a kind of repository of propositions for different approaches that allow the history of different types of performance practices to be explored in systematic ways. Second, the scope of what is usually considered in performance studies has been broadened here to include various textual and artistic practices as well as scientific and religious endeavours. In some ways, this broadening of such a wide range of socially embedded creative practices under the umbrella term of ‘performance’ produces a manuscript-sources-based platform suitable for further anthropological and philosophical research on the significance of these practices for various local cultures.

In light of this, we have chosen to organise the contents of the book according to three different ways in which manuscripts function in relation to a particular form of performance. The papers in the first section, ‘Manuscripts for performance’, discuss manuscripts that are used backstage for preparing and giving instructions for performances. The second section, ‘Manuscripts in performance’, presents manuscripts that are taken on stage, as it were, contributing to the enactment of performances. Finally, the last section, ‘Manuscripts as performers’, is on manuscripts that are performers in their own right, producing a desired effect on the audience.

2 Manuscripts for performance

A manuscript may be defined as one of the channels of communication that allow a user to prepare a performance or record it once it is finished. In this sense, the medium is the textualisation of the future or past performance. If the performance covers various cultural practices, it also implies a large number of different textual and writing practices. Taking this idea a step further, authors, scribes or readers can be considered performers of a book or a page.¹ The manuscript per se is difficult to assess as an instrument of performance; it is only when it is linked with the action of performance that it can be defined as such. It is certainly clearer when a manuscript was used to prepare a forthcoming performance – it could be a set of instructions or stipulated actions for the purpose of the performance. This is particularly striking in the case of medical recipes or religious rituals.² Other disciplines may also be involved, of course, as in arith-

1 Maxwell, Simpson and Davies 2013.

2 Skemer 2006; Jones and Olsan 2015.

metrical or astronomical canons, which rehearse instructions to accomplish a performative action. These instructions are written either as simple memoranda listing the different stages of the performance or as canonical rules to be followed to the letter. The *mise à l'écrit* of some words is also justified by their illocutionary force.³ The power conveyed by the writing and oral pronunciation of the utterance or word should not be underestimated. The written expression of the preparation of the performance also covers a large spectrum of practices, from musical notation, indications when to read a text, *écrits opportunistes* ('opportunistic writings'), informal writing and marginalia to formalised, commissioned texts.⁴ The narrative structure can also vary in accordance with innovations introduced by the scribes, which reflect changes in the performance practices, or those required by an institution or the manuscript's commissioner. However, the structure also varies in relation to the different practices found in the geographical area in question, the identity of the owner and the reader, and various other factors.

These writings are therefore rarely fixed. On the contrary, they are subject to the hazards experienced by their containers. A manuscript was often passed from hand to hand, texts were amended and notes were made near them. If a text was written in anticipation of its performance, its textualisation also guaranteed its survival after the performance and made it available for changes or a different audience. Instead of fixity, the textualisation of the performance-to-be enabled its adaptability in future. This adaptability implies different practices and modes of circulation: the text may have been circulated as part of a textual tradition – with all that that implied regarding variations and changes – or it served as the basis for a new performance. In any event, texts and manuscripts of this kind were produced for the purpose of being performed in the first instance. A manuscript can also preserve texts that testify to past performances. This sometimes happened when an existing text was amended after a performance to improve the set of instructions for the next performance. The practice is particularly common in scientific observations and experiments as part of the performative action, permitting one to enhance and enrich a set of instructions. As a matter of fact, despite their repetitive dimension, most of these rules, instructions and memoranda were regarded as temporary and adaptable by contemporary users.

The entanglement between the individual and collective traditions of the texts and manuscripts is also worth underlining. An individual can make a writ-

³ Austin 1975. The term is also used in Jones and Olsan 2015, 409.

⁴ Tura 2005.

ten record of a performance in order to use it as an aide-mémoire for the different stages and sequences of actions and utterances in the performance. This record may then become an exemplar used by different groups as a result of its transmission. Furthermore, in Christianity, for instance, manuscripts with recordings or instructions about rituals were made to be diffused for communal use, either at a specific time or over several generations. This temporal dimension seems twofold: it includes a practical aspect – the fact of memorising the instructions to be performed – and an ontological aspect drawing upon the idea of transmitting information to future generations. The latter is linked to the inextricable relationship between a book and *memoria* ('memory'), a trope used by many authors and scholars over the years. Through the writing process, knowledge about performances is transmitted for the future and may even become a collective cultural asset at one point. The adaptivity of the instructions or rules relating to a performance also leads to successive written additions being made, resulting in several layers of practices and *memoria* accumulating over time. It is not unusual to find a series of predictions written in a manuscript at different times.⁵

As the memorial channel of a performance, a manuscript is certainly more striking when the performative act is shaped by a community or is the result of a collective practice. Unlike a single memory transmitted to a group, this is a collective practice or performance established as a rule and then appropriated by one or more individuals. The Latin term *canon* clearly states this kind of transmission; it refers to a custom, a rule or a set of instructions continuously adapted to different needs, uses or societies. The performance originating from an original collective endeavour laid the foundations for single or collective reworkings and appropriation in the future. No matter whether they are liturgical, astronomical, arithmetical, religious or scientific canons, they clearly reflect this process of creation and perpetual adaptation to different realities and different times.

Manuscripts are considered to be a medium of performance by Alexander Weinstock and Martin Jörg Schäfer in their paper dedicated to German prompt books of the late eighteenth and nineteenth centuries. These books detail theatrical performances and were intended to standardise and diffuse them. Although prompt books were produced to set a performance on paper, they were constantly adapted to the context of a specific theatre. Each prompt book is therefore unique, displays a great variety of practices and mentions different people. These manuscripts are significant evidence of the different aspects of a

⁵ Chardonnens 2007.

performance and its adaptability to different periods and contexts. A manuscript of this kind which is produced communally prepares and shapes the collective performance.

Two different aspects of the temporality of a performance are highlighted by Mathieu Ossendrijver in his article on Babylonian and Assyrian sources produced during the first millennium BCE. Babylonian sources have preserved information about the preparation and recording of the performance and sometimes include predictions and observations. The performance per se is not explained in astronomical diaries produced by Babylonian astronomers, contrary to Assyrian letters and reports revealing a great deal of information about performative rituals, observations and interpretation of the performance. The two types of sources are compared in terms of their underlying similarities, but the author also points out their differences in terms of how the performance was prepared and recorded and in terms of their performative processes.

The close link that exists between liturgy and private devotion is analysed by Eva Ferro. Her examination of the contents, format and visual organisation of a late-fifteenth-century breviary from the Abbey of San Zeno in Verona, Italy (Kremsmünster, Stiftsbibliothek, CC60) leads her to the conclusion that although the manuscript contains texts that were needed for the collective celebration of the liturgy, it was probably made for the abbot's personal use rather than for the monastic community's collective ritual practices. Thus, this manuscript reflects the simultaneous existence of a collective and individual performance.

Focusing on multiplication procedures in mathematical commentaries in Sanskrit, Agathe Keller explores the way in which a common mathematical operation was performed and then recorded to transmit and standardise a practice. Lists of solutions to mathematical problems contained in the commentaries she studies reveal a wealth of information about the material surface on which the operations or mathematical diagrams were originally performed or drawn. This article also testifies to the constant adaptability of the performance and its execution. The text was not fixed, but remained open to changes in terms of procedures. The generic aspect of the commentaries opens the way to many individual interpretations.

The appropriation of different sources originating from or shaping a performance and the production of new instructions and rules to perform are explored by Laure Miolo in her article about astronomer Lewis Caerleon's notebook. The temporality of the notebook, which was produced in the fifteenth century, is investigated here. The little book reveals an astronomical agenda devoted to eclipse computations. The different stages of Lewis Caerleon's learning of computational procedures highlight his scientific training based on the

different sources he assembled and adopted. He pursued and adapted these works to suit his personal agenda, creating his own way of computing eclipses. His observations are also recorded, but more as a means to legitimate computational practices than for the observational performance per se.

3 Manuscripts in performance

While manuscripts can play an essential role in preparing a performance, they are often essential to the performances themselves as well, regardless of whether these are religious rituals, musical or theatrical performances, scholarly research or teaching. Direct, multi-sensory interaction with the manuscripts is an essential part of performing with them: manuscripts are touched and handled, they are looked at, read and their contents are often vocalised (read out loud, chanted or sung). The ways in which manuscripts are part of the performance vary, as does the way in which they are embedded in their specific spatial and temporal settings. Perhaps the most obvious of these is that books are read from in many oral performances, whether during the Christian liturgy, a Buddhist monk's sermon, a musical performance or individual prayer.

While the performer(s) will sometimes only rely on manuscripts as a back-up aide-mémoire, some ritual performances such as the celebration of the Eucharist require the performer – in this case the priest-celebrant – to read every single word from the book, however familiar the wording may already be to that person. In addition to the words to be read and/or spoken by the performer, many other instructions about individual elements or the overall structure of the performance are present in manuscripts, too. These include musical notation, recitation marks and vocalisation aids instructing the performer about what words to use and how to pronounce, chant or sing them. Manuscripts made for complex performances that consist of a series of different readings and other actions may provide a structure for them by the manner in which their contents or paratextual elements are ordered. It is important to note, however, that the reading of linear texts is not the only way in which manuscripts can be used as tools for performance. Engaging with multi-graphic configurations such as tables and diagrams, maps and choreographic notation, for instance, calls for very different performative approaches.

While performances are shaped by manuscripts, manuscripts are also shaped by the performances for which they are used: from the choice and order of their contents to their visual organisation and material form. The second part of this volume contains five contributions that analyse the processes in which

performances and manuscripts shape each other. They all have a strong focus on the material and visual evidence of manuscripts, while also considering how these objects were embedded in the performance spatially and temporally.

Karen Desmond focuses on manuscripts used by singers in thirteenth-century England that are quite unlike the codices in which most medieval music has been transmitted to us: not the codex, but rather the scroll met these performers' requirements, and experimental approaches to the visual organisation and later additions and modifications testify to the performers' ongoing creative and pragmatic engagement with these manuscripts.

Matthieu Husson and Samuel Gessner's article investigates the ways in which a manuscript could be used for astronomical computation. The authors conclude that the physical handling of the manuscript, in particular the intense engagement with the tables and diagrams that are part of this highly sophisticated scholarly tool, shaped the user's understanding of the astrological phenomena investigated, highlighting both the potential and the limitations of such an approach.

Three articles are dedicated to the roles of manuscripts in religious performances. Jochen H. Vennebusch looks for evidence of how the staggering number of gospel books and gospel lectionaries that are known to have been part of the treasury of Bamberg Cathedral at the time of its foundation may have been 'orchestrated' throughout the year and within the topography of the cathedral. Lacking contemporary descriptions or instructions regarding this, the author focuses on passages in the manuscripts that are highlighted in various ways, both those that are part of the original commission and those that were added later to books that were initially produced for other churches.

Karin Becker's detailed analysis of the visual organisation of medieval psalter manuscripts in relation to their use for celebrating the Divine Office reveals the difficult relationship between the demands of a complex series of liturgical performances and the wish to preserve the Psalms in their entirety and in the original biblical order. The result of this is intricately structured and visually sophisticated manuscripts whose correct use, however, requires extensive knowledge of the structure and elements of the Divine Office, which is not explained in the manuscripts themselves. Frequent additions indicate that later users tried to include more instructions and structuring aids in the manuscripts.

Silpsupa Jaengsawang's contribution to the volume focuses on more recent manuscripts used in Buddhist funerary rituals in Laos and Thailand. In a ritual of this kind, a monk gives a sermon to an audience by relying on specific manuscripts. The article analyses the production of such manuscripts, their dedication to a particular monastery and their circulation in order to reveal their role

in the ritual performance. Part of an ongoing tradition, these manuscripts combine conservative characteristics like the oblong shape of the ‘pothi’ (palm-leaf manuscript), regardless of the actual material the manuscript is made of, with adaptations to the changing habits and skills of the producers and monks who perform with them.

4 Manuscripts as performers

Manuscripts can be essential for performance ‘behind’ or ‘on’ the stage, as the two previous sections show. In some instances, they can be regarded as performers in themselves. This corresponds to situations where the reading, handling, display or even production of manuscripts during a performance makes them the direct protagonists of the performance and not simply a medium to be used for or during the performance. In these contexts, the different layers of the complex relations between the actions of the performances and the textual, pictorial and material characteristics of the manuscripts interact more sharply. The temporality embedded in the manuscripts, their multi-sensorial physical presence and the effect that this presence has on the audience, the ways manuscripts organise the knowledge they transmit diachronically and synchronically, and the role of the individuals involved in their production, circulation and use are all aspects that are connected in various ways and that make the manuscripts powerful representatives of their contents and the knowledge that their commissioners possessed.

The articles in the third and last part of the volume reveal the interplay that exists between content, materiality, use and function in manuscripts by considering them as the main actors in a ‘network’ of performances. As such, manuscripts may ‘perform authorisation’: they have an authorising role to play by testifying and sanctioning the sacrality of the texts and images they transmit and legitimising their circulation. Besides authorisation, manuscripts may ‘perform authority’ as well: they have an authoritative role of witnessing royal political power or, when displayed (in a church, for example), ensuring the correctness of the performances as a kind of ‘judge’. Manuscripts may also ‘perform stability’: they ensure the stability or ‘purity’ of traditions over the centuries and preserve them from change, sometimes because of the fear that texts and material components may lose their efficacy once innovated. In the end, manuscripts may also ‘perform an embodiment’ of the holy figures described in their texts and images: the books act as material instantiations of saints, for instance, and

convey the supernatural power of these exalted figures by touching or rubbing the body of people who are ill or needy.

Apart from the often spectacular ways in which manuscripts can have profound effects on audiences, many of which are defining experiences, there is a striking commonality in the various cases found in this final section: manuscripts can become performers themselves when actors consciously establish a relation between manuscripts and performances. Sometimes, this is only apparent indirectly through various clues in the manuscripts, while in other cases it is more obvious, for instance when the object of the performance is the production of a manuscript or its use in healing and protective rituals. There are even situations where this performativity of manuscripts is so deeply embedded in a cultural setting that practical and speculative bodies of knowledge and beliefs are developed in order to account for it and ensure a socially beneficial and controlled exercise of this power.

Laura Fernández Fernández analyses a corpus of scientific manuscripts commissioned by the Castilian king, Alfonso X, nicknamed ‘the Wise’ (1221–1284), which were produced in his royal scriptorium. For the king, this undertaking – commissioning manuscripts reflecting different forms of the arts and multifaceted domains of knowledge – was an essential part of his cultural project and his political ideals. These manuscripts were primarily diplomatic and political tools designed to induce specific effects in his contemporaries and less a way of fostering the arts and sciences, however. Whatever their purpose was, they shaped the king’s persona in historiography.

Antonella Brita’s article is concerned with a large body of hagiographic manuscripts produced in Ethiopia from the fourteenth century onwards. The textual and codicological features of these multiple-texts manuscripts evolved over the course of time, which helps in understanding profound evolutions in the religious life of the communities where these manuscripts were produced, used and circulated. In particular, this shows how local saints were increasingly incorporated into the devotional practices of the country, which had previously only related to foreign saints. The inclusion of texts on local saints in the manuscripts legitimised them as holy figures worthy of worship, reciprocally transforming even the materiality of the manuscripts. Thus, the manuscripts performed veneration practices and contributed to shaping the local religious identity. The author also analyses how some of the holiness virtues of saints are partly present in (the texts and images of) a manuscript and can be transmitted to the participant in devotional and healing rituals. By reading words from a manuscript out loud, for instance, the officiant’s breath is embedded with spe-

cific virtues which can be transmitted to water simply by blowing on it. This water is then used for healing and protective purposes.

In her paper, Heidi Buck-Albulet considers a situation where the production of a manuscript is one of the central elements of a performance, namely collective poetry-writing in Japan. The tradition of producing *renga* manuscripts collectively began there several centuries ago and has been kept up to this day. Like Antonella Brita, Heidi Buck-Albulet was able to rely on her own direct observation of such performances. Comparing the manuscripts produced in different contemporary contexts to those from the pre-modern period, she studies the mutual relations between the manuscripts, the poems they contain and the collective procedures followed to produce the poem and manuscript. Finally, relying on an analysis of the terminology employed by the participants to describe these performances, she demonstrates that they possess elaborate knowledge of the relationship between the manuscripts and their performance, which is then compared to our own analytical categories as historians.

In her survey of Latin liturgical manuscripts, Laura Albiero analyses their relationship to performance in three different respects, which broadly correspond to the three parts of this book. Echoing the articles by Heidi Buck-Albulet and Antonella Brita in some ways, albeit in a very different setting, she points out how the making of liturgical manuscripts can be understood as a performance in itself. Given the religious and ritual nature of the performances with which these manuscripts are connected, the author highlights the foundational role of manuscript production and use within religious institutions, thus demonstrating that the cultural and social performativity of the manuscripts investigated goes beyond the actual ritual in which they are direct performers.

The religious and political performativity of manuscripts as described by historical actors themselves is the underlying thread in Felix Heinzer's contribution. The author makes use of the actor-network theory developed by Bruno Latour and others in presenting three case studies from the context of Western Latin Christian tradition. He highlights the agency of manuscripts in a network including human partners and analyses how books acted and were used as material representatives of the divinity and authority of saintly and historical figures.

5 Closing words

Overall, this collection of essays is a preliminary exploration of an uncharted area lying between manuscript studies and performance studies. We hope it will draw the attention of scholars from both communities to the great scientific

potential of this interdisciplinary approach to our written heritage. We also wish that the various case studies outlined here and the innovative methodologies they often introduce will serve as a basis for developing new and possibly more systematic research programmes on the performative dimension of manuscripts in the wide range of creative processes of an artistic, ritualistic or scientific nature in different cultural settings.

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References

- Austin, John Langshaw (1975), *How to Do Things with Words: The William James Lectures Delivered at Harvard University in 1955*, Oxford: Clarendon.
- Chardonnens, Sándor (2007), *Anglo-Saxon Prognostics, 900–1100* (Brill's Studies in Intellectual History, 153/3), Leiden: Brill.
- Jones, Peter Murray and Lea T. Olsan (2015), 'Performative Rituals for Conception and Child-birth in England, 900–1500', *Bulletin of the History of Medicine*, 89/3: 403–433.
- Maxwell, Kate, James R. Simpson and Peter V. Davies (eds) (2013), *Performance and the Page = Pécia: Le Livre et L'écrit*, 16.
- Skemer, Don C. (2006), *Binding Words: Textual Amulets in the Middle Ages*, University Park, PA: Pennsylvania State University Press.
- Tura, Adolfo (2005), 'Essai sur les marginalia en tant que pratique et documents', in Danièle Jacquart and Charles Burnett (eds), *Scientia in margine: Études sur les marginalia dans les manuscrits scientifiques du Moyen Âge à la Renaissance* (École Pratique des Hautes Études, Sciences historiques et philologiques, 5; Hautes Études médiévales et modernes, 88), Geneva: Droz, 261–380.



Manuscripts for Performances

Alexander Weinstock, Martin Jörg Schäfer

Making and Using Manuscripts in Theatre: The Material Dynamics of Two Nineteenth- Century *Nathan der Weise* Prompt Books

Abstract: The article deals with the status and use of prompt books in the Western literary theatre of the late eighteenth and nineteenth centuries. It focuses on the German-language tradition and the materials of the Hamburg-based collection Theater-Bibliothek. Prompt books at that time contained the literary basis of a theatrical performance, which, however, had to be constantly adapted to the actual conditions of the theatre. Whenever a prompt book was used, it was revised accordingly, so that each of these written artefacts also displays its own material performance. The article presents the manuscript practices employed in this process and the theatrical contexts in which these written artefacts were used. This is then further illustrated by the example of two prompt books from the nineteenth century.

1 Introduction

The double meaning of the phrase ‘performing (with) manuscripts’ quite accurately refers to an influential constellation in the history of western European theatre. In its various centres in early modern Europe, the dramatic text was increasingly considered as the centre of a theatrical performance. The action on stage was based on a text that, at some point, had been written down by hand, and then practised by the actors. They performed ‘with’ a manuscript in that, historically, most European theatre cultures had a prompter, i.e. someone who fed the actors their lines should they become stuck. Traditionally, the prompter was close to the stage but hidden with the manuscript in hand (or a print edition that had been updated manually). In this sense, the manuscript was materially present during the performance; prompters ‘performed with manuscripts’ in order to support the manuscript-based performance on stage.

The second meaning, ‘performing manuscripts’, refers to the material dynamics characteristic of these written artefacts. When in use, they were revised whenever the production was changed, i.e. lines were added or cut, information on the scenery was altered, etc. In becoming a living document of a specific performance history, each of these written artefacts also put a material perfor-

mance in its own rights on display. Until recently, scholars of literature, theatre and both had dedicated little attention to the written artefacts in question, i.e. to the material intersection of literary foundation and theatrical processes. Historically, this intersection was the prompt book. It contained a master copy of the dramatic text that, when put to use, was adapted, and updated according to the various requirements of the respective theatre production. Several hands might have been involved in this, turning each book into a unique multi-layered written artefact that interconnects the multiple agents and technologies, making theatre an overall set of cultural practices. In this sense, it is the manuscript that starts to perform.

This paper will focus on these specific artefacts in which both meanings coincide on a material level: prompt books were the manuscripts (or sometimes hybrid written artefacts) on which a theatrical performance relied. As a functional element of the respective processes, they were, in their material dynamics, performative themselves. A first step introduces the contexts in which prompt books were used, and the ways in which this use took place, especially on a material level; and, at the same time, it will outline our methodological approach. A second step will then present a case study. The paper concentrates on the German theatre tradition, taking the Hamburg-based collection Theater-Bibliothek ('Theatre Library') with its mid-eighteenth- to mid-nineteenth-century materials as its distinct point of reference. It is a particularly rich collection that bears witness to the vibrant activities in one of Germany's theatre centres of the time. The Theater-Bibliothek includes around 3,050 spoken theatre books for 2,100 plays that were produced under various directors at the theatre at Hamburg Gänsemarkt from around 1765 to 1850. Most of these artefacts are bound paper manuscripts with a cardboard cover in various sizes. About five hundred are printed books, which were revised by hand when put to use.¹ Samples of both types, prompt books based on manuscripts as well as on printed books will be considered in the following.

¹ Today, the Theater-Bibliothek belongs to the Staats- und Universitätsbibliothek Hamburg Carl von Ossietzky (hereafter SUB), and the manuscripts and prints have been indexed for the digital HANS library catalogue (<https://spezialkataloge.sub.uni-hamburg.de/hans-handschriftenkatalog.html>). Each index includes a short description of the material status of the artefact (for example 'with multiple corrections, additions, corrections and paste overs'). The collection of the Theater-Bibliothek and its digital representation are introduced in Neubacher 2016. Throughout the article, items of the Theater-Bibliothek appear with their identification number only.

2 Prompt books in eighteenth- and nineteenth-century German theatre: materiality, use, and context

In the course of the eighteenth century, the beginning of a far-reaching transformation of theatre took place in the German-speaking areas. Initially influenced by the French theatre tradition of the seventeenth century, intellectuals devised an understanding of theatre that was meant to elevate its social reputation and change its aesthetic practices. In this context, a literary text was posited as the central element of a performance. Text-based performances were to replace the improvisations by actors and actresses that had been dominant until then. These improvisations would combine rather loosely connected scenes, focus on physical action and respond immediately to the mood of the audience. Instead, what happened on stage was then stipulated quite meticulously. Characters, conflicts and storylines had been written down beforehand in a text that was then supposed to be staged as a dramatic score.² Counter-currents persisted for a long time.³ Nevertheless, the performances began to rely more heavily on these particular types of ‘scripts’⁴ that had set out in writing what was to happen on stage (but still left all the things not spelt out to custom or chance). Thus, the new theatre practices generated their very own manuscript practices.

For a given theatre production the prompt book was this dramatic score: a master copy that did not only contain the full text but also the modifications and amendments that occurred during its integration into the theatrical processes. In other words, these written artefacts merge a production’s literary point of reference with the concrete requirements regarding its staging.⁵ In late eighteenth-century Hamburg, they were often created by the prompter who would copy the content from a model that the theatre usually either commissioned from the author or that had already been published and could simply be purchased. In many cases, the prompter would outsource this process or parts of it to other scribes who he would then supervise. Of course, mistakes could

² Cf. Krebs 1985; Graf 1992; and Fischer-Lichte and Schönert 1999.

³ Cf. Münz 1979.

⁴ Cf. Schechner 2003, 68; cf. Müller-Schöll 2020.

⁵ While research in literary and theatre studies usually tends to focus on the dramatic text or the theatrical performance, the contributions in Schneider 2021 deal with these types of written artefacts. Using a slightly different conceptual framing, they study prompt books and related written artefacts in their historical contexts from the Middle Ages to contemporary theatre.

occur. Yet, as long as they did not impair the functionality of the artefact they could be ignored. Take for example Theater-Bibliothek, 1460, a prompt book of August von Kotzebue's play *Die Sonnen Jungfrau*.⁶ It was created by two different hands who might not have been equally familiar with the play. At some point, during a crucial scene in the fourth act, the second scribe took over. The scene consists of a dialogue between the character Rolla and the high priest who, at this point, reveals himself to be his father. The first scribe refers to this high priest as 'D. Ob.pr.', an abbreviation for 'Der Oberpriester' ('The High Priest'). Yet, there is also a high priestess in the play, and the scribe who took over during the scene apparently confused the two. He took up the abbreviation as 'Die Ob.P.' indicating with the definite article that he is referring to the female character. Obviously, he had not paid too much attention to the content he was copying as the character is explicitly addressed as an old man in the scene (Fig. 1).

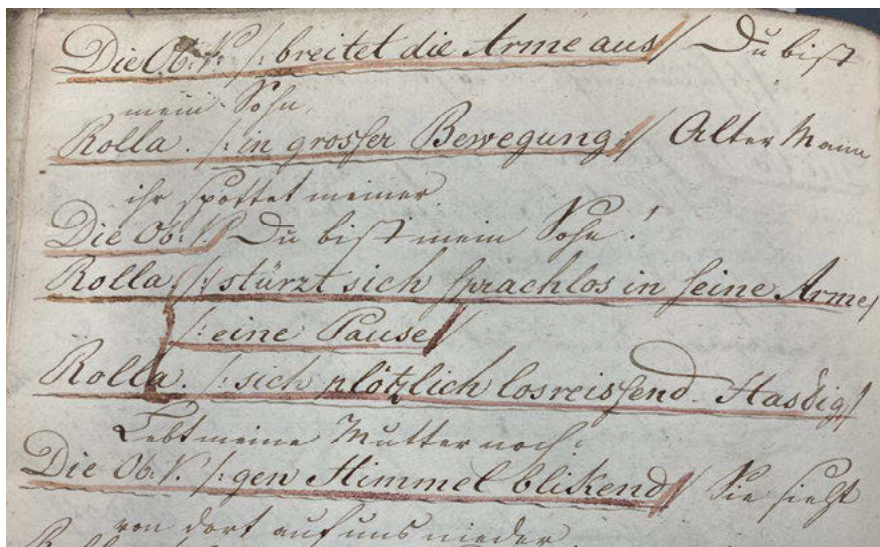


Fig. 1: Hamburg, SUB, Theater-Bibliothek, 1460, fol. 72^r.

⁶ In the printed version of the play, the title includes a hyphen: *Die Sonnen-Jungfrau*.

The mistake was never corrected; it did not affect one of the main functions of the book: being the prompter's tool to feed lines to the actors and actresses showing up on stage.

In the Hamburg collection, these lines, i.e. everything the characters say, are written down in German cursive (*Kurrentschrift*) whereas all other parts of the text, such as stage directions, *dramatis personae* or the details of the act, scene and plot are written in black letter (*Fraktur*) or in traditional book hands (*bastarda*). Nevertheless, a great variety of visual organisation can be observed even within the books of a single theatre company. The content is written on folded paper quires in whatever kind of commonplace paper and commonplace ink seemed to have been readily at hand. In some cases, different paper types were used for the same prompt book. The quires were then bound together between a simple cardboard cover. Size and colour may vary from prompt book to prompt book. All in all, the materials used are generally rather inexpensive as prompt books were mere objects of utility in their theatre contexts and not of a particular value as artefacts, but the purpose they had to fulfil was a complex one.

The prompters themselves, whose tasks historically went beyond feeding the actors and actresses their lines, were the main users. In Hamburg, for example, the prompter took care of the theatre company's library, i.e. he kept the manuscripts in good order as well as the casting record, the wardrobe record, a prop book and a stage set book that would contain the respective information for the repertoire.⁷ Generally, his area of responsibilities included anything that had to do with the written artefacts put to use in, or needed for, a production: props in writing, such as letters, were created by him. The prompter also supervised the scribes excerpting the single parts of a play for the performers, who would only receive copies of their own lines (or he would write these parts himself). His responsibility for the prompt books did not only encompass their creation, but also their very use in a given production. Of course, if required, a prompter had to prompt: the right lines with the right timing. He sometimes had to give signs for sound effects or changes of the lighting and the stage design during a performance. And he had to keep the content of the respective book up to date. Because once a prompt book was put to use, and for that duration, it was constantly modified according to the various pragmatic, technical and aesthetic requirements of a production: when a play was too long, its plot was too complicated, its content too drastic, or when there simply were not enough

⁷ An overview of the prompter's tasks and the requirements in Hamburg can be found in [Schröder] 1792, 16–18.

actors or actresses at hand, amendments were made, or the play as a whole was adjusted. All these aspects of using a prompt book corresponded with material operations. The functional integration of a dramatic text into theatrical processes took place through various manuscript practices in the respective book. This transformed the basis for the theatrical performance, i.e. for practices such as rehearsing and staging a play, into a performative written artefact as these ephemeral practices and processes manifested themselves in, and interacted, with the prompt book in a material fashion whenever it was updated.

For the actual prompting during a performance the prompter obviously had to be able to orient himself in his prompt book. The initial visual organisation that differentiated via distinct fonts between the character's lines and other textual elements was already of help as it intuitively indicated which part of the content potentially needed to be prompted.

In addition to the different fonts, the information concerning the speaking person, the setting of the scene and the occurring actions was sometimes underlined once or twice in the same or a different colour. All these distinctions gave the prompt book's content a clear arrangement from the outset. Yet, in order to further accentuate the different levels of the dramatic text, and therefore facilitate the use of the book during a performance, textual elements such as stage directions and indications of the setting were sometimes not only underlined, but also marked with a bracket or even crossed out (as of no specific interest to the prompter).

There were also cases in which the prompter did not only need to know what, but also when, to prompt or rather: when not to. Occasionally, one finds the word 'pause' written next to a certain part of the text. It is a note to the user of the book, which reminds the prompter that any silence on stage at this moment is no mistake, but intended by the actor or the actress as part of his/her role. An example for such an amendment that directs the prompter's performance during the performance of a play can be found in Theater-Bibliothek, 2029, a prompt book that contains famous Hamburg theatre director and actor Friedrich Ludwig Schröder's adaptation of William Shakespeare's *King Lear*. Schröder himself played the title-role for many years. In the scene where Lear is rejected by his two daughters Gonerill and Regan, and slowly realises their fundamental betrayal, he utters with the most severe disappointment: 'Ich gab Euch alles!'⁸ [I gave you all!] It is known that, in his portrayal of the old king, Schröder remained silent here for a moment, and only said the respective words after a while, thereby turning them into a verbal representation of the psycho-

⁸ Theater-Bibliothek, 2029, p. 50.

logical process.⁹ Close to the respective line in the prompt book, the word ‘pause’ is inserted once with pencil and once with dark ink. Nothing could be less conducive to the theatrical effect than the prompter interrupting the dramatic pause. Since the pencil addition is somewhat ambiguous as to the occurrence of the pause (before or after Lear’s reply), the one in ink seems to have been added subsequently to eliminate any doubt (Fig. 2).

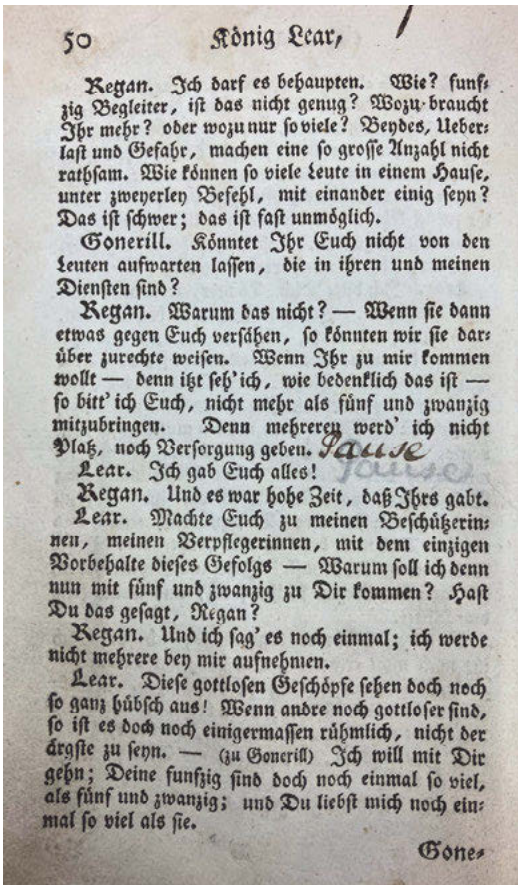


Fig. 2: Hamburg, SUB, Theater-Bibliothek, 2029, p. 50.

⁹ A quite detailed description of Schröder’s depiction of Lear, blended with interpretations and assessment, was published by Johann Friedrich Schink in 1790, who had been working at that time as a librettist and dramaturg at the Hamburg theatre, cf. Schink 1790, 1087–1142.

Another type of information prompt books often contain regards the technical dimension of a performance, as, apart from feeding lines, it often also was the prompter's task to give the cues for sound effects, for changes of lighting and scenery, or for the curtain to fall between two acts.¹⁰ Take, for example, the sunrise during the second scene of the second act in *Die Sonnen Jungfrau*. It was represented via a gradual re-illumination of the stage. On fol. 27^r, the respective cues can be found that materially correspond to the process they indicate: first, top right and then, a little later, further down on the left '1 Seite Tag' ('first side day') and '2 Seite Tag' ('second side day') had been added in pencil (Fig. 3). The added information refers to the part of the lighting setup that was supposed to be illuminated, to the light mood and, due to the position on the folium, to the respective starting point for the illumination.

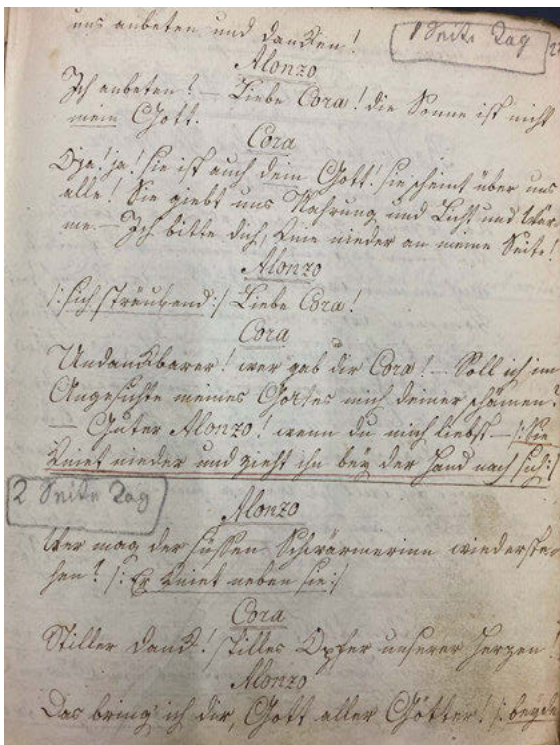


Fig. 3: Hamburg, SUB, Theater-Bibliothek, 1460, fol. 27^r.

¹⁰ Cf. Düringer and Barthels 1841, 1003–1006; 1136–1139.

Other cues include number signs which refer to any sort of sound that originates from off-stage and is connected to the actions shown as can be seen in the *König Lear* prompt book; or the word *Verwandlung* that refers to a change of scenery.¹¹ This type of information was connected immediately to the prompter's tasks during a performance and at the same time made it possible to repeat the performance in a similar fashion the night (or year) after. Such modifications also turned the text book into a technical score.

Apart from using the prompt book during a performance, the prompter also had to keep this material basis of both his own performance and the theatrical performance of the play up to date. As already mentioned, a play that was supposed to be staged needed to be adjusted to the concrete conditions and requirements of the theatre – on a technical, aesthetical and normative level. Elements of the play – dialogues, scenes or characters – were changed or left out when not enough actors and actresses were available, when it generally was too long, when the plot needed to be condensed, or when they conflicted with certain expectations and standards. The respective amendments had to be understood as updates in that none of them were final but always prone to new changes as circumstances may have demanded. Any modification could itself be modified again and so on. The prompt book was not deemed a container of sacrosanct content but a mere object of utility. It was not unusual that such amendments were inserted by different hands since productions would sometimes remain part of the repertoire for decades. A resumption after a long hiatus might have called for potential adjustments due to changing theatrical fashions, social customs or tone. Especially when a prompt book had been in use for a longer period and/or served as the foundation for different productions, its users are certain to have varied.

The most common types of amendments are deletions, additions and replacements of content. For example, when parts of the dramatic text were no longer supposed to be performed on stage, or when entire scenes were sometimes taken out of the play, the respective sections were crossed out – sometimes quite orderly with straight or crossing lines, sometimes in a rather hasty and chaotic fashion. In case a deletion was accompanied by an addition, when for instance the text of a character had been revised, the newly added content was written down somewhere nearby, in-between the lines or, when there was enough space, next to it in the margin. When there was not enough free space

¹¹ Cf. for example Theater-Bibliothek, 2029, p. 54. For some of these technical aspects, timing was very important in order to prevent that for instance a change of scenery that was supposed to happen in the back of the stage started before the action could move to the edge of the stage.

left, pieces of paper with the updated content were pasted over a part, sometimes even the entire folium or page, replacing what had been written there but was then no longer valid.

These different operations were carried out to establish the latest version of the foundation of a given performance on a material level. However, the material scope of a modification did not necessarily correspond to its importance on a content level. Sometimes this relation could be quite disproportional. When, for example, the above-mentioned theatre director Schröder tried to prevent his 1776 adaptation of Shakespeare's *Othello* from failing, he turned the tragic into a happy ending – an ending in which the raging and jealousy-driven Othello does not stab his innocent wife Desdemona. As the respective stage direction was no longer valid in the revised version of the play, it was simply crossed out. Six small strokes of black ink, a rather unremarkable deletion of the words 'Er sticht sie' ('he stabs her'),¹² materially correspond to the greatest possible change of the plot.¹³

In contrast, when the modifications were rather extensive, comprehensive, numerous and/or carried out by different hands, the use of a prompt book might have been impaired. Because even though any prompt book would be updated when put to use, their visual organisation did not provide too much space to do so. They needed to be handled and stored effectively and could not be too voluminous.¹⁴ As each modification used up the limited free space on a folium or page, a certain kind of tension was literally inscribed into the books: on the one hand, they needed to be up to date and on the other hand they had to be clearly arranged and legible in order to serve the prompter during a performance. Constant updates could then develop the potential to impede both purposes. At some point there is simply no more free space left on a folium or a page. And with several additions and/or deletions, with revisions that might as well revise prior revisions, it was quite likely to become unclear. The continuous use of a prompt book may push the artefact's usability to its limits in quite a literal fashion.

¹² Theater-Bibliothek, 571, fol. 84^v.

¹³ For an overview of the prompt book cf. Weinstock 2021; for an overview of Schröder's adaptation, the use of his source material and the changes he undertook in vain to save the failing production cf. Häublein 2005, 121–148.

¹⁴ While the print-based prompt books are generally octavos with a size of 10.5 × 16.5 cm, the size of the handwritten ones slightly varies: the dimensions of Theater-Bibliothek, 571 are 16.5 × 20.5 cm; they are 17.5 × 22 cm in the case of Theater-Bibliothek, 1988a, a prompt book of Gotthold Ephraim Lessing's *Nathan der Weise*, and 18.5 × 23.5 cm in the case of Theater-Bibliothek, 1379a, a prompt book of William Shakespeare's *Viel Lärmen um Nichts*.

The material traces of its use, the modifications and the amendments that manifest the theatrical processes to which a prompt book belongs and with which it interacts lead to another, crucial aspect for their understanding and analysis. They turn the material basis of a theatrical performance itself into a performative written artefact. The ways they emerge, react to each other and build layers of writing put a specific material performance¹⁵ on display that differs in each prompt book, even though the respective operations – deletions, additions or replacements – are rather standardised.

These performative written artefacts were an essential part of the theatrical performance, and an interdisciplinary approach is required to understand how they worked, how such a material performance takes place and what motivated its procedures. It is framed by a general perspective that draws attention to the inherent dynamics of written artefacts both on a content and a material level. Important references for such a perspective are a material philology as outlined by Stephen Nichols and the *critique génétique* as put forward by Almuth Grésillon. Based on medieval manuscripts, yet apparently not limited to them, Nichols has suggested to perceive a text ‘to be fundamentally unfixed, always open to new inflection’ and thus as something without a ‘definitive expression’.¹⁶ Operating with a similarly open conception of the written text, the *critique génétique*, as Almuth Grésillon has pointed out, focuses on the ‘ensemble ouvert des processus d’écriture’.¹⁷ It conceives of their respective dynamics as a ‘Performance-Akt der Textwerdung’.¹⁸ While the *critique génétique* is interested in this performative dimension with regard to groups of written artefacts that altogether form the *avant-texte*¹⁹ of an oeuvre, the analysis of prompt books is centred around the material performance of a single artefact that is put to use in theatre contexts. Yet, Grésillon is aware of the particular characteristic of such artefacts as she does not only point out that theatre texts ‘sont souvent de l’écriture “à deux mains”, c’est-à-dire le produit de plusieurs scripteurs’, which is due to the ‘rencontre entre un texte écrit et des données appartenant en propre à l’univers scénique (acteurs, voix, gestes, décor, espace, lumière)’.²⁰ She also stresses that given its interrelation to the dynamics and the requirements of the stage,

¹⁵ The term is adopted from Julia Nantke who uses it with regard to material experiments with books and print in the European early twentieth-century artistic avant-gardes. For an analysis of the respective *Materialperformanz* (‘material performance’), cf. Nantke 2017, 77.

¹⁶ Nichols 1997, 17.

¹⁷ Grésillon 2016, 12

¹⁸ Grésillon 2010, 304.

¹⁹ Grésillon 2010, 291.

²⁰ Grésillon 2008, 249.

‘L’œuvre théâtrale ne connaît en principe pas de version *ne varietur*; puisque chaque nouvelle mise en scène peut entraîner non seulement de nouvelles “visions”, mais aussi des rebondissements textuels’.²¹

An adequate analysis of prompt books needs to be undertaken against this backdrop. It has to combine approaches from manuscriptology, theatre and literary studies in order to fully comprehend the complex entanglement of dramatic text and theatrical adjustments, manuscript practices and aesthetic as well as social standards and expectations that take place in the material performance of a prompt book put to use. Otherwise, one will neither understand which operations formed the basis for the different layers of writing to emerge and how they interacted, nor which intra- and extra-theatrical requirements and demands motivated the respective revisions, nor that these revisions had the character of updates that were never final, but only valid until revoked. Only such an interdisciplinary perspective makes it possible to connect written artefact and cultural context; for example, to realise that the mentioned deletion of Othello’s murder was caused by negative audience reactions caused, in turn, by a transgression of both aesthetic and social norms in the play. Or that the revision of the technical annotations at the beginning of *King Lear*’s third act had to do with subsequently shifting this beginning to the next scene, probably in order to facilitate a change of scenery during the performance.²² All these factors affected the process of a theatre production – and it is this process that manifests itself in the material performance of the accompanying prompt book.

3 The material dynamics of two prompt books of *Nathan der Weise*: Schiller’s adaptation of Lessing’s play on the Hamburg stage

In order to illustrate the mentioned characteristics, the concrete revisions and the material performance that puts the respective dynamics and influences on display, a closer look will be taken at two prompt books in the following. The history of their use as well as their material biographies are strongly connected and intertwined. Both of them contain a copy of Gotthold Ephraim Lessing’s now famous (i.e. canonized) play *Nathan der Weise*, which is centred on the

²¹ Grésillon 2008, 266.

²² Cf. Theater-Bibliothek, 2029, pp. 54–55.

topic of religious tolerance and was originally published in 1779. Theater-Bibliothek, 1988a is a manuscript that consists of 102 sheets stitched together with rough thread in a simple cardboard binding. Theater-Bibliothek, 1988b on the other hand is based on a printed version of the play, which was heavily revised when the book was in use at the theatre. It is fair to assume that the books had been repeatedly put to use between 1803 and 1847, sometimes simultaneously, sometimes not.²³ The simultaneous use makes sense since Theater-Bibliothek, 1988a is designated as a copy for the so-called inspector (roughly an equivalent to today's stage manager), whereas Theater-Bibliothek, 1988b is designated as a copy for the prompter. However, this attribution was probably not correct at all points in time. Several modifications typical for prompt books can be detected in Theater-Bibliothek, 1988a with no corresponding operation in Theater-Bibliothek, 1988b. Vice versa, there are alterations in Theater-Bibliothek, 1988b that did not occur in Theater-Bibliothek, 1988a. Therefore, it can be assumed that both books were not always put to use simultaneously so that there were periods when only one of them was in use. Furthermore, it appears that Theater-Bibliothek, 1988a served as a book also operated and updated by a prompter, at least for some time.

A piece of information that is essential for understanding the material performance of both artefacts can be found right on the title page of Theater-Bibliothek, 1988a. The manuscript contains a version of Lessing's play 'für die Bühne abgekürzt v. Schiller' ('abbreviated for the stage by Schiller').²⁴ In fact, the famous author Friedrich Schiller created several stage adaptations of other writers' plays to make them more suitable for the stage (and to make some money on the side).²⁵ In the case of *Nathan der Weise*, one of his main adjustments concerns the size of the play, which still took more than three hours despite his extensive abbreviations. Jakob Herzfeld, who was a member of Hamburg theatre's board of directors, ordered a copy of Schiller's adaptation. It was sent to Hamburg and was the model for Theater-Bibliothek, 1988a. However, Theater-Bibliothek, 1988a, the Hamburg copy of Schiller's adaptation, was then further modified when put to use as a prompt book.

23 Since a recent Hamburg DFG-project has catalogued the related playbills, the dates of the performances and their changing participants can be identified in many cases. Cf. www.stadttheater.uni-hamburg.de. *Nathan der Weise*, for example, was performed forty-seven times over the course of forty-four years.

24 Theater-Bibliothek, 1988a, fol. 1^r.

25 For an overview of Schiller's stage adaptations in general cf. Müller 2004 and of *Nathan der Weise* in particular 171–193.

On the one hand, information such as the directions for the actors' exits and entries, or the indication of a change of scenery, was systematically added; however, such information was important for a stage manager rather than a prompter. On the other hand, Theater-Bibliothek, 1988a contains many amendments that appear to be more important for a prompter. On fol. 28', for example, a reply by Sittah and the beginning of Saladin's subsequent reply had been cancelled. As a consequence, this operation turned two replies by Saladin into one. To highlight this connection and to indicate where the new reply continues after the cancellation, a vertical sinuous line was inserted that guides a potential user, for example a prompter, through the updated content (Fig. 4).

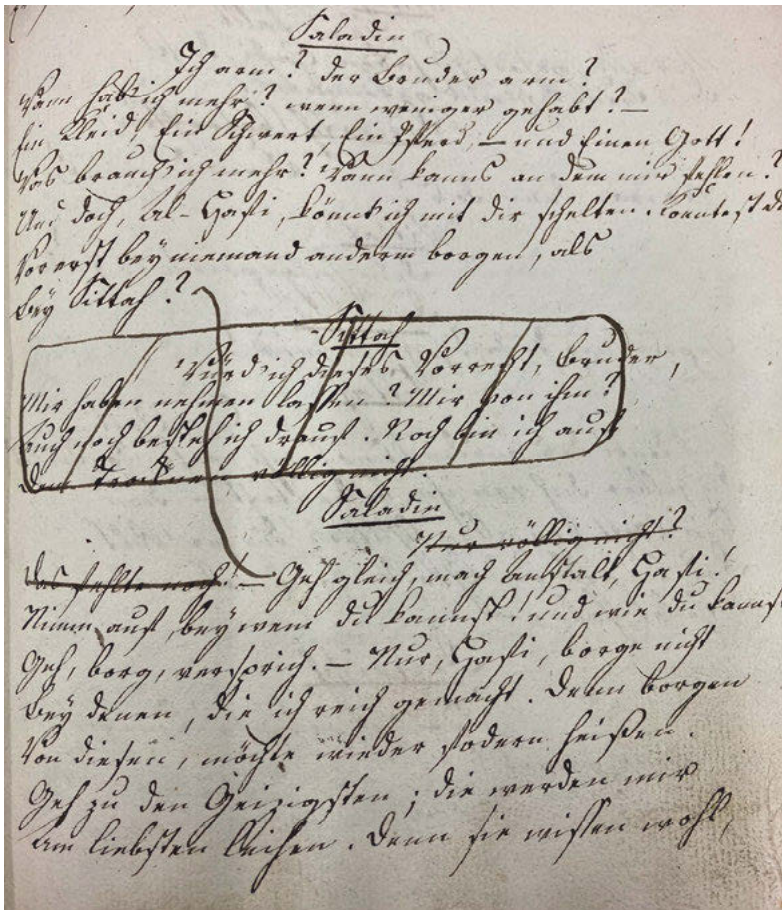


Fig. 4: Hamburg, SUB, Theater-Bibliothek, 1988a, fol. 28'.

In Theater-Bibliothek, 1988b, the print designated as a prompter's book, the same section looks quite different. Even though the modifications are significantly more extensive, they entail exactly the same reply by Saladin as in Theater-Bibliothek, 1988a. This is no coincidence. Theater-Bibliothek, 1988b is based on a printed copy of *Nathan der Weise*, published in 1791 and available for purchase. However, when put to use in Hamburg theatre, the print was shaped by extensive abbreviations that established a Schiller-version of the text in the first place. This example shows that in order to do so the content of one and a half pages had been cancelled and partly replaced by pasting a piece of paper over the upper half of page 66. Its content follows the reply at the top of page 65, which then continues right below the piece of paper and then extends almost down to the bottom of page 66 (Figs 5 and 6). The result is an identical reply in both books. Saladin says the same things in both books.

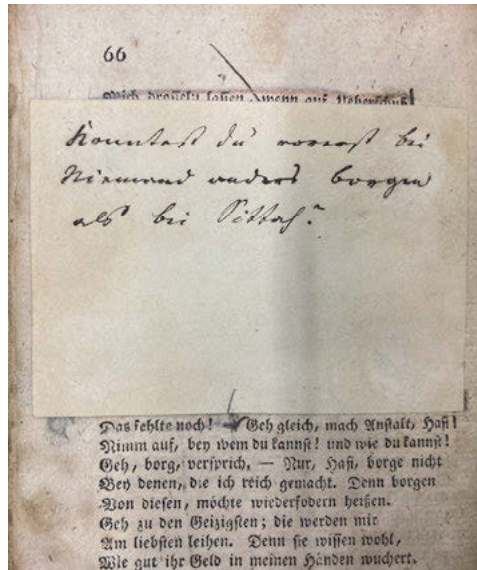


Fig. 5: Hamburg, SUB, Theater-Bibliothek, 1988b, p. 65.

Fig. 6: Hamburg, SUB, Theater-Bibliothek, 1988b, p. 66, detail.

Interestingly, there are traces of opposing dynamics in Theater-Bibliothek, 1988a – modifications reinserting passages of Lessing's text that had been left out in Schiller's revision. On fol. 44^v, in the middle of one reply, a little triangle and a little number sign have been added. The same signs can be found on an

extra piece of paper pasted onto the folio as an extra sheet in the book. The content of this extra sheet is supposed to be added between the triangle and the number sign on fol. 44^v. It contains lines from Lessing's original version of the play that re-extend the abbreviated scene (Fig. 7).²⁶

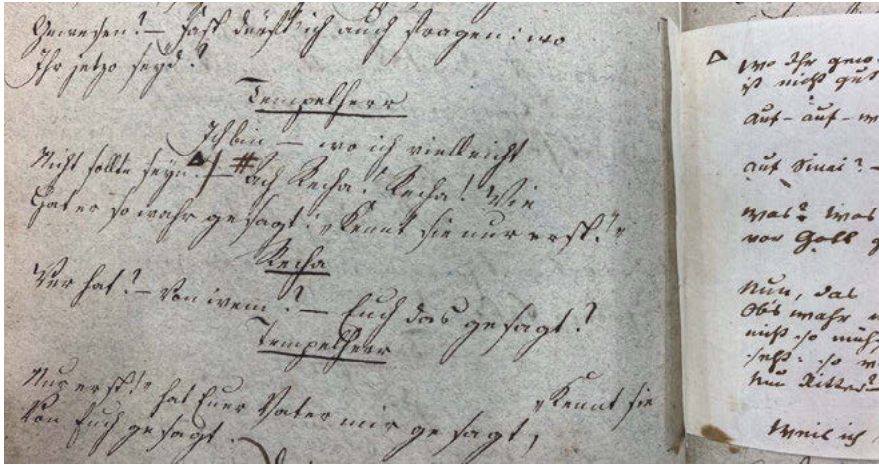


Fig. 7: Hamburg, SUB, Theater-Bibliothek, 1988a, fol. 44^v.

So, on the one hand, there is Lessing's printed play with abbreviations mainly following Schiller's adaptation – and, on the other hand, there is a manuscript containing a copy of this adaptation in which some omitted parts of Lessing's text were added again.

The various updates in both books do not always mainly concern the play's duration. Sometimes they affect the content quite significantly as the almost picturesque ensemble of modifications in the fourth scene of the fourth act in Theater-Bibliothek, 1988b exemplifies (Fig. 8).

²⁶ The respective section in the print was at some point partly cancelled, but this cancellation was repealed again in a later revision. Cf. Theater-Bibliothek, 1988b, p. 104.



Fig. 8: Hamburg, SUB, Theater-Bibliothek, 1988b, p. 170.

What seems quite chaotic at first sight is by far no random scribble but the result of various updates; i.e. a multi-layered revision of the dramatic text. In this part, Saladin defends Nathan against the Templar's accusation of actually believing his own religion to be superior. At least, this is what he does before the revision and what, according to the logic of the character, he should still be doing afterwards. However, it remains somewhat unclear whether the praise at the end of the enriched version really comes from him and, due to the excessive material performance, it is questionable which version of the text was ultimately valid.

The red pencil is the first instrument in this multi-layered sequence of amendments and this pencil already establishes three different versions of the dialogue. At first, it only takes out the Templar's reply and the beginning of Saladin's subsequent reply so that the connection still works. Ultimately, 'Nathans Los ist diese Schwachheit nicht' ('this weakness isn't Nathan's fate'),²⁷ referring to superstition and self-righteous religious delusion, is supposed to be included in all these versions. A second modification by the red pencil puts these words in the Templar's mouth before a third modification shifts it back to Saladin, cancelling the Templar's reply. This is also the version the grey pencil establishes at some point. The black ink is now somewhere in between. With the respective section framed in black ink, the *weg* ('leave out') and the cancellation of the latest red-pencil modification, indicated by the *bleibt* ('remains'), the second red-pencil version seems to be confirmed: the Templar praises Nathan. Yet, the slightly bent vertical line on the right side seems to include the Templar's respective reply and therefore seems to coincide with the third red-pencil version. If one interprets this vertical line to be a bit shorter and coextensive with the frame, then the praise of Nathan connects to the Templar's underlined reply. The other way around, it would be connected to Saladin's prior response. The latter is likely to be the case. It would simply make no sense at this point if the Templar praised Nathan for not succumbing to self-righteous religious delusion, when that is precisely what he has just accused him of. The multiple layers of revisions and the back and forth of cancellations, and their subsequent, cancellations create material ambiguity where there is great clarity at the content level.

Even though such complex cases might not be solved completely, it becomes obvious that the multiple layers in a prompt book are interconnected. They do not only modify the initial content but also respond to each other, further modifying prior modifications. The logic behind this is always the same, no matter if there are one, two or five different revisions: it is always the latest revision that counts, that suspends the validity of previous operations and that

²⁷ Theater-Bibliothek, 1988b, p. 169.

itself is only valid until recalled by any further potential amendment. One of the many amendments in the print, namely the first red-pencil version, establishes the Schiller version (Theater-Bibliothek, 1988a); the others lead to different versions of the text. Interestingly, the respective section in Theater-Bibliothek, 1988a was not revised at all.²⁸

Nonetheless, examples of such a back and forth of modifications can also be found in manuscript Theater-Bibliothek, 1988a, for example on fol. 69^v (Fig. 9).

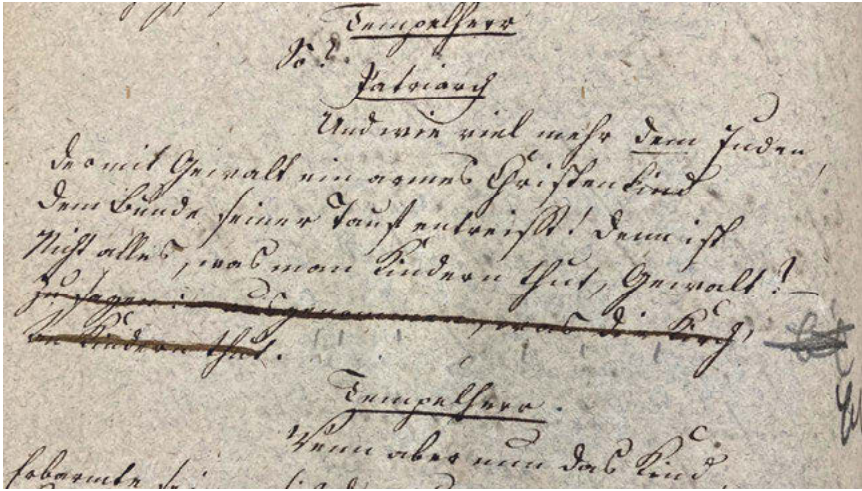


Fig. 9: Hamburg, SUB, Theater-Bibliothek, 1988a, fol. 69^v.

Apparently, it is materially less chaotic, but the principle is the same: a part of the reply of the Patriarch – a negative character and an example for religious zeal – is cancelled with black ink. This is then revoked with a *bl*, which is written in pencil and stands for *bleibt* ('remains'). This operation is absolutely typical for the use of a prompt book. But the pencil taking back the ink, thus cancelling a cancellation, is in turn also cancelled. The *bl* is crossed out, which revalidates the initial cancellation. Subsequently, another *bl* is added with a pencil, establishing what is to be the final version at this point. In this final version, the cancelled lines remain part of the reply, which is also supported by the little pencil strokes below the respective lines.

²⁸ Cf. Theater-Bibliothek, 1988a, fol. 74^v. The revisions in the middle of the folium are related to the revisions on the bottom of Theater-Bibliothek, 1988b, p. 169.

From a material point of view there is nothing odd or unusual about this last revision. It looks like any other deletion in this prompt book or in others, but the underlying motivation differs: these lines have not been cancelled to shorten the scene. It is more likely that they were cancelled because they portrayed a negative image of the Church. The Patriarch says, ‘Denn ist / Nicht alles, was man Kindern tut, Gewalt? – / Zu sagen: – ausgenommen, was die Kirch’ / An Kindern tut’ (‘Is not everything one does to children some form of violence? Except of course, what the Church does to children’).²⁹ The cancellation in question regards the last two verses. It clearly makes the Patriarch appear less negative when they are left out. In several similar cases in Theater-Bibliothek, 1988a, mainly deletions are used to significantly reduce the negative light in which a fanatic form of the Christian religion is depicted in the play.

In contrast to modifications regarding the scenery or the duration of a play, it is fair to assume that these modifications were not motivated by theatrical requirements; nor were they motivated by aesthetic norms such as the alteration of particularly violent actions or an indecent language. They occurred in order to avoid a conflict with a powerful institution that had traditionally held a remarkably bad opinion on the performing arts.³⁰ Materially, however, they do not differ from the other types of modifications in the book.

The two *Nathan der Weise* prompt books are typical examples for the use of such written artefacts. As part of their integration into theatre processes, they are revised and updated according to both intra- and extra-theatrical requirements and demands. The concrete operations that correspond to these influences turn each prompt book itself into a performative written artefact that is operated by a prompter when the play is being performed. The respective written artefact displays a material performance that is individual in each prompt book. This material performance has to be the focus of interdisciplinary analysis that is necessary to better comprehend this type of written artefact: not only does it interconnect the respective operations, the deletions, additions, replacements and their dynamics, but also the written artefacts and their artistic and cultural contexts.

²⁹ Theater-Bibliothek, 1988a, fol. 69^v.

³⁰ A similar yet more explicit example for amendments that did not emanate from the internal practices of theatre, but instead represent the influence of extra-theatrical agencies are censorship notes. In case of the Hamburg prompt books such notes that granted approval, mostly only after certain modifications of the play, can be found on the last page of the respective written artefacts. For an overview on censorship in theatre as established during the Hamburg French period from 1811–1814, cf. Stoltz 2016; for a closer look on how these notes and the respective demands take place on a material level, cf. Schäfer 2021.

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References

Primary sources

- Theater-Bibliothek, 571 = Hamburg, SUB, Theater-Bibliothek, 571. [Manuscript of *Othello oder Der Mohr von Venedig: Ein Trauerspiel in 5 Aufzügen von Schackespear, s.l., c. 1776*; with numerous handwritten additions].
- Theater-Bibliothek, 1460 = Hamburg, SUB, Theater-Bibliothek, 1460. [Manuscript of *Die Sonnen Jungfrau: Schauspiel in fünf Aufzügen*, Hamburg, c. 1790; with numerous handwritten additions].
- Theater-Bibliothek, 1988a = Hamburg, SUB, Theater-Bibliothek, 1988a. [Manuscript of *Nathan der Weise: ein Schauspiel in fünf Aufzügen von Lessing für die Bühne abgekürzt v. Schiller*, earlier title: *Nathan der Weise: ein dramatisches Gedicht in fünf Aufzügen von Lessing für die Bühne abgekürzt v. Schiller*, Hamburg, c. 1803; with numerous handwritten additions].
- Theater-Bibliothek, 1988b = Hamburg, SUB, Theater-Bibliothek, 1988b. [Print of Gotthold Ephraim Lessing, *Nathan der Weise: Ein Dramatisches Gedicht, in fünf Aufzügen*, 3rd edn, Berlin: in der Vossischen Buchhandlung, 1791; with numerous handwritten additions].
- Theater-Bibliothek, 2029 = Hamburg, SUB, Theater-Bibliothek, 2029. [Print of *König Lear: Ein Trauerspiel in fünf Aufzügen. Nach Shakespear*, Hamburg: gedruckt bey J. M. Michaelsen, 1778; with numerous handwritten additions].

Secondary sources

- Düringer, Philipp Jakob and Heinrich Ludwig Barthels (eds) (1841), *Theater-Lexikon: Theoretisch-practisches Handbuch für Vorstände, Mitglieder und Freunde des deutschen Theaters*, Leipzig: Otto Wigand.
- Fischer-Lichte, Erika and Jörg Schönert (eds) (1999), *Theater im Kulturwandel des 18. Jahrhunderts: Inszenierung und Wahrnehmung von Körper – Musik – Sprache* (Das achtzehnte Jahrhundert: Supplementa, 5), Göttingen: Wallstein.
- Graf, Ruedi (1992), *Das Theater im Literaturstaat: Literarisches Theater auf dem Weg zur Bildungsmacht* (Studien zur deutschen Literatur, 117), Tübingen: Niemeyer.

- Gréssillon, Almuth (2008), *La mise en œuvre: Itinéraires génétiques* (Textes et manuscrits), Paris: CNRS Éditions.
- Gréssillon, Almuth (2010), “‘Critique génétique’: Gedanken zu ihrer Entstehung, Methode und Theorie”, in Kai Bremer and Uwe Wirth (eds), *Texte zur modernen Philologie* (Reclams Universal-Bibliothek, 18724), Stuttgart: Reclam, 287–307.
- Gréssillon, Almuth (2016), *Éléments de critique génétique: Lire les manuscrits modernes* (Textes et manuscrits), Paris: CNRS Éditions [1st edn: 1994].
- Häublein, Renata (2005), *Die Entdeckung Shakespeares auf der deutschen Bühne des 18. Jahrhunderts: Adaption und Wirkung der Vermittlung auf dem Theater* (Theatron, 46), Tübingen: Niemeyer.
- Krebs, Roland (1985), *L’idée de ‘théâtre national’ dans l’Allemagne des Lumières: Théorie et réalisations* (Wolfenbütteler Forschungen, 28), Wiesbaden: Harrassowitz.
- Müller, Marion (2004), *Zwischen Intertextualität und Interpretation: Friedrich Schillers dramaturgische Arbeiten 1796–1805*, Karlsruhe: Universitätsverlag.
- Müller-Schöll, Nikolaus (2020), ‘Skript-basiertes Theater’, in Karin Nissen-Rizvani and Martin Jörg Schäfer (eds), *TogetherText: Prozessual erzeugte Texte im Gegenwartstheater* (Researchen, 155), Berlin: Theater der Zeit, 77–98.
- Münz, Rudolf (1979), *Das andere Theater: Studien über ein deutschsprachiges teatro dell’arte der Lessingzeit*, Berlin: Henschel.
- Nantke, Julia (2017), *Ordnungsmuster im Werk von Kurt Schwitters: Zwischen Transgression und Regelmäßigkeit* (spectrum Literaturwissenschaft, 59), Berlin: De Gruyter.
- Neubacher, Jürgen (2016), ‘Die Aufführungsmaterialien des Hamburger Stadttheaters’, in Bernhard Jahn and Claudia Maurer Zenck (eds), *Bühne und Bürgertum: Das Hamburger Stadttheater (1770–1850)* (Hamburger Beiträge zur Germanistik, 56), Frankfurt am Main: Peter Lang, 23–36.
- Nichols, Stephen G. (1997), ‘Why Material Philology?’, *Zeitschrift für deutsche Philologie*, 116: 10–30.
- Schäfer, Martin Jörg (2021), “‘Vu et approuvé’: Censorship Notes in Hamburg Prompt Books from the French Period”, in Jörg B. Quenzer (ed.), *Exploring Written Artefacts: Objects, Methods and Concepts* (Studies in Manuscript Cultures, 25), Berlin: De Gruyter, 1041–1058.
- Schechner, Richard (2003), *Performance Theory*, New York, NY: Routledge.
- Schink, Johann Friedrich (1790), *Dramaturgische Monate*, vol. 4, Schwerin: Verlag der Bödnerschen Buchhandlung.
- Schneider, Martin (ed.) (2021), *Das Regiebuch: Zur Lesbarkeit theatraler Produktionsprozesse in Geschichte und Gegenwart*, Göttingen: Wallstein.
- [Schröder, Friedrich Ludwig] (1792), ‘Gesetze des Hamburgischen Theaters’, *Annalen des Theaters*, 9: 3–22.
- Stoltz, Dominik (2016), ‘Theaterzensur in der Franzosenzeit (1806–1814)’, *Schätze der Stabi* <<https://blog.sub.uni-hamburg.de/?p=20422>> (accessed on 13 January 2022).
- Weinstock, Alexander (2021), ‘Traces of a Scandal: The Prompt Book for Friedrich Ludwig Schröder’s Othello Adaptation in Hamburg’, *Artefact of the Month*, 5 <<https://www.csmc.uni-hamburg.de/publications/aom/005-en.html>> (accessed on 13 January 2022).

Mathieu Ossendrijver

Performative Aspects of Assyrian Celestial Divination and Babylonian Astronomical Diaries

Abstract: This contribution explores performative aspects of Assyrian celestial divination and Babylonian astronomical diaries and related texts during the first millennium BCE. While the sources for Assyrian celestial divination contain much evidence about observational and ritual performances, astronomical diaries and related texts are mainly concerned with observation and prediction. It is argued that the Assyrian evidence can shed light on some poorly documented performative aspects of astronomical practices in Babylon.

1 Introduction

Inspired by theatre studies, the humanities have experienced a performative turn since the 1980s. In a parallel development, research on Mesopotamian scholarship shifted towards an approach focused on actors and their networks, practices and contexts.¹ Performative aspects of Mesopotamian culture have thus far been addressed primarily in relation to practices that are inherently performative, such as rituals,² funerary practices,³ healing practices,⁴ cultic songs and music.⁵ In other areas of Mesopotamian scholarship, performances have not received much attention. The present paper explores performative aspects of the astral sciences as practised in Assyria and Babylonia during the first millennium BCE. In Mesopotamian religion and scholarship, the Moon, the Sun, the planets and the stars were all conceived of as deities or manifestations of deities.⁶ Adapting a definition of performativity proposed by Richard Schechner to the Mesopotamian setting,⁷ performances are understood as bodily activi-

¹ Rochberg 2004; Robson 2019a.

² See Pongratz-Leisten 1994; Schwemer 2011; Parpola 2017; and Krul 2018.

³ Laneri 2006.

⁴ Johnson 2020.

⁵ See Mirelman 2010; Gabbay and Mirelman 2011; Löhnert 2011; Volk 2006; and Ziegler 2011.

⁶ Rochberg 2004.

⁷ Schechner 1988, 20.

ties undertaken in the presence of at least one other person or *divine entity*. The advantage of this definition is that it allows activities performed by scholars, rituals addressed at astral deities and astronomical observations by single scholars to be approached within the same framework. The relatively well-documented performances of the practitioners of celestial divination at the Neo-Assyrian court (seventh century BCE) are explored first before turning to the production of astronomical diaries and related texts in Seleucid and Parthian Babylon (c. 330 BCE – 75 CE). The evidence for performances in these corpora is complementary in some respects. The Assyrian sources inform us mainly about performances in observation, interpretation and ritual practice. The Babylonian sources are concerned with observation and prediction, but reveal little about their performance. I propose that the Assyrian sources can shed light on some poorly documented performative aspects of the astronomical practices at Babylon.

2 Performances in celestial divination at the Neo-Assyrian court

The richest evidence of performative aspects of Mesopotamian astral science is contained in the letters and reports which the practitioners of celestial divination, i.e. ‘astronomers’,⁸ sent to the Assyrian kings at Nineveh (c. 680–650 BCE).⁹ Underlying this practice was the assumption that celestial phenomena are a form of ‘heavenly writing’ in which the gods reveal their decisions about future events.¹⁰ The king used the predictions inferred from celestial signs to guide his actions and negotiate a favourable future for himself and his country.¹¹ If a sign was unfavourable, rituals existed to appease the gods and annul the prediction. The astronomers referred to their service as ‘carrying out the watch of the king’.

8 Mesopotamian scholars of the astral sciences are referred to as astronomers here regardless of whether they practised celestial divination, astronomical observation, horoscopic astrology or other forms of astral science.

9 The sources cover parts of the reigns of Esarhaddon and Assurbanipal. Regarding the astronomers’ reports, see Hunger 1992. See Parpola 1993 on their letters. For reports and letters about extispicy, see Starr 1990. For more on divination at the court, see Maul 2018, and for more on scholarly communities, see Robson 2019a.

10 Rochberg 2004.

11 Maul 2018.

It is important to note that the Akkadian verb ‘to watch’ (*našāru*) covers both visual perception and protection, as Simo Parpola has described:¹²

A plain rendering is incapable of expressing the full meaning of the phrase (‘watch of the king’), which involved watching, guarding and protecting the king [...]. This the court scholars did by watching for and interpreting signs that the gods sent and advising the king how these signs should be reacted to; by guarding the king’s behaviour in cultic and other areas to prevent him from becoming cultically impure or from performing some task on an inauspicious day; by protecting the king from portended evil and divine wrath through apotropaic rituals [...]; [and] by restoring the harmony between the king and the gods through ritual purification ceremonies.

‘Carrying out the watch of the king’ was therefore an inherently performative practice.¹³ It was performed in teams of collaborating scholars headed by a chief scholar with access to the king.¹⁴ Four kinds of performances alluded to in the letters and reports are briefly addressed for the present purpose. First, the observations themselves. They were often performed by single scholars, presumably at home, but some reports mention joint observations, as in the following report by chief scholar Issar-šumu-ēreš:¹⁵

[As to] what the king, my lord wrote to me: ‘The clouds were dense, how did you observe that the gods [moon and sun] saw each other [in opposition]?’ They dispersed before day-break; when he [the moon god Sin] whom the king, my lord, knows, revealed himself, we saw where Sin was standing. It amounts to an actual observation. Now, does not the king, my lord, [indeed] hear that they saw each other on the 14th?

Issar-šumu-ēreš is replying to a letter in which the king questioned the reliability of an observation. He affirms its validity, stressing that he was not the only witness. Joint observations are also mentioned in a report by a scholar called Balasî,¹⁶ who had a disagreement with his associate Nabû-aḥḥe-ēriba:¹⁷

Concerning Mercury, about which the king my lord wrote to me: yesterday Issar-šumu-ēreš had an argument with Nabû-aḥḥe-ēriba in the palace. Later, at night, they went and all made observations; they saw [it] and were satisfied. From Balasî.

¹² Parpola 1993, xx–xxi.

¹³ For comprehensive accounts of the practice of celestial divination at the Assyrian court, see Koch 2015; Maul 2018; and Robson 2019a.

¹⁴ Parpola 1993, xxv–xxvii.

¹⁵ Hunger 1992, no. 21.

¹⁶ He was the scholarly advisor and teacher of crown prince Assurbanipal (Parpola 1993, xxv).

¹⁷ Hunger 1992, no. 83.

As in legal practice, reports based on testimony by multiple witnesses were more authoritative than reports by a single witness. Moreover, each scholar could scrutinise the performance of the other, and disagreements could be resolved *in situ*.

Uncovering the meaning of the signs was primarily a text-based operation which required profound knowledge of divinatory literature, in particular compendia of omens, i.e. collections of statements of the kind ‘if P, then Q’. In their reports, the scholars usually quote a selection of omens from these compendia, rather than describing the phenomena in their own words. This reflects the authority of the omen compendia, which had the status of divinely revealed knowledge. The astronomers were called ‘scribes of *Enūma Anu Enlil*’, after the main compendium of celestial omens entitled *Enūma Anu Enlil* (‘When Anu and Enlil’). It comprised about seventy tablets arranged in more or less coherent groups dedicated to lunar, solar, meteorological, planetary and stellar phenomena.¹⁸ After the omens that were considered relevant for interpreting an observed phenomenon were identified, they were compared and evaluated, which could require the use of commentaries and consultations with colleagues. It was also common practice to seek confirmation or annulment of the celestial signs through extispicy (divination by inspecting the entrails of sacrificed animals). In this case, the extispicy specialist (*barû*) addressed a prayer to the sun god and divine judge Šamaš, asking him to write down a verdict in a sheep’s body. The signs on the sheep’s liver were then interpreted and their predictions compared with those inferred from the celestial signs.¹⁹

It was not always sufficient to pass on the information to the king in written form. A third type of performance was a consultation in which scholars at the court reported their interpretations to the king and advised him about possible action to take. Sometimes the king had to be convinced with the help of authoritative texts, as mentioned in the following report by chief scholar Issar-šumu-ēreš:²⁰

[Omen quotations concerning a full moon.] Let them bring in that writing board of *Enūma Anu Enlil* which we wrote, let the king, my lord, have a look. Also, let them give us the Akkadian writing board of the king; the ‘Three Stars Each’ should be drawn on it. A courtier should be appointed to open the seal, to supervise the drawing.

¹⁸ Regarding the order of the tablets, see Fincke 2001. For more on their content, see Koch 2015.

¹⁹ Maul 2018.

²⁰ Hunger 1992, no. 19; Robson 2019a, 122.

Some consultations took place in a sacred enclosure by the river called a *qersu*, as mentioned in the following report:²¹

[To the king, my lord, your servant Nabû-aḥḥē-ēriba. Good health to the k]ing, my lord! May [Nabû] and Marduk bless the king, my lord! Concerning the report on the eclipse of [the moon god] Sin about which the king, my lord, wrote to me – they used to receive and introduce all the reports of the scribes of Enūma Anu Enlil into the presence of the father of the king, my lord. Afterwards, a man whom the father of the king, my lord, knew used to read them to the king in a *qersu* on the river bank. Nowadays it should be done as it suits the king, my lord.

This underscores the ritual nature of the consultation and the divine origin of the message that was conveyed to the king.

Finally, there are ritual and other performances aimed at counteracting unfavourable predictions or protecting the king. Since the astronomers were also competent in various ritual disciplines,²² they sometimes performed these rituals themselves, as mentioned in a report by the scholar Adad-šumu-ušur:²³

As to the ritual about which the king my lord spoke, we shall perform it this night of the 22nd day before Dilbat [Venus] and the Arrow [Sirius]; the cultic singers [*kalû*] will also perform. If [the weather god] Adad thunders in the middle of the Bull (Taurus), the king will conquer a country not belonging to him.

More often the scholars advised the king to have some ritual performed by unnamed specialists.²⁴ The most common rituals against unfavourable signs are known as *namburbû*, which involved symbolic ritual performances as well as recitations.²⁵ In the case of a lunar or solar eclipse, the substitute king ritual could be enacted, as is mentioned in several letters and reports from Niniveh.²⁶

²¹ Parpola 1993, 57 (no. 76); Robson 2019a, 105. The *qersu* also played a role during the substitute king ritual, cf. Parpola 1993, 168 (no. 210): ‘The (king as) “farmer” (cover name) goes to the *qersu*, enters the reed hut, sits down, returns from the *qersu*’.

²² Robson 2019a, 109.

²³ Hunger 1992, no. 163.

²⁴ See, for instance, Hunger 1992, no. 288, a report about the conjunction of Mars and Jupiter: ‘This is a bad sign for all lands. Let the king my lord perform a *namburbû* and so make its evil pass by’.

²⁵ Maul 1994.

²⁶ An overview of the Mesopotamian evidence for this ritual can be found in Huber 2005, 342–356.

3 Astronomical diaries and related texts in Seleucid and Parthian Babylon

Around 1,000 fragments of astronomical diaries and related texts dating between c. 650 BCE and 75 CE were excavated near Babylon's main temple Esagila, sanctuary of the supreme god Marduk (Bel). The astronomers who wrote these texts were called 'scribes of *Enūma Anu Enlil*' as in earlier times. No private correspondence of the Babylonian astronomers comparable to the letters and reports from Niniveh is available, but some information about their institutional, professional and private lives can be gleaned from colophons and from administrative documents from temple archives. They were employed as priests at the Esagila and received a fixed income for their astronomical services (see below). They belonged to a small cluster of scholarly families in which the priestly and scholarly professions were passed on from father to son. Having received a scribal, priestly and scholarly education and being employed at Babylon's main temple, they were also competent in ritual and cultic affairs. The authors of the diaries and related texts were steeped in a cultic tradition with strict and elaborate rules regarding what counts as appropriate and correct performance. Moreover, they carried out their astronomical activities in a setting where all kinds of ritual performances were enacted on a daily basis, probably with their own involvement. It seems plausible that this affected their performance of astronomical observations.

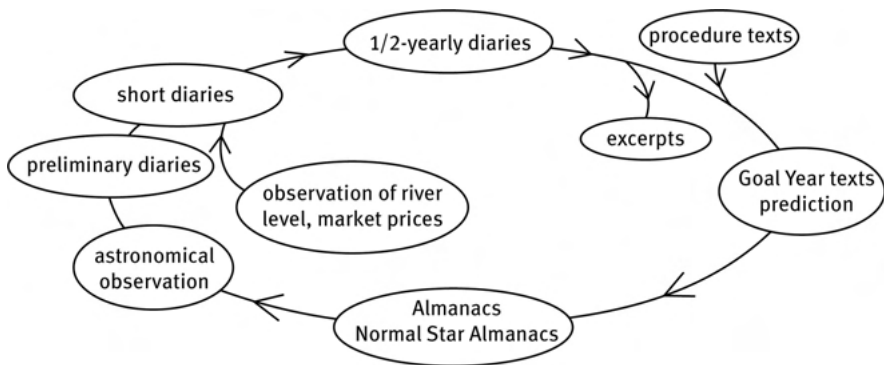


Fig. 1: Schematic representation of the production cycle of astronomical diaries and related texts (the lunar and planetary excerpts, most of which contain a selection of data for a single planet for up to several decades, have not been discussed in this article).

The present exploration focuses on the Seleucid and Parthian eras (c. 250 BCE – 75 CE) when all of the known textual genres of the diaries and related texts are attested, in particular short-term reports known as preliminary diaries and short diaries, half-yearly diaries, Goal-Year texts, almanacs, Normal-Star almanacs, and procedure texts with Goal-Year rules. As Fig. 1 shows, they are products of a cycle of operations involving both observation and prediction. What kind of performances are attested or implied in the different stages of the production cycle? We may start with short-term reports, which were the source for the diaries. Compared to half-yearly diaries, relatively few have survived because they were discarded once their content had been processed. In his pioneering study, Yasuyuki Mitsuma distinguishes two types of short-term reports.²⁷ ‘Preliminary diaries’ report astronomical and weather data, sometimes also the river level, for typically a few days. ‘Short diaries’ usually contain all categories of data known from the half-yearly diaries, including the market rates of agricultural commodities, and historical and local events, for intervals of at most c. two months. Both ‘preliminary diaries’ and ‘short diaries’ covering up to a few days are often written with progressively shallower signs since the tablet became more difficult to inscribe as the clay dried up from day to day. It follows that they were written as the data was collected.²⁸ Since the observations were made at the beginning and end of the night, the scholars must have used an artificial source of light and a water clock to measure time intervals and an instrument – perhaps one similar to a medieval Jacob’s staff – to measure the distance from the Moon or the planets to nearby fixed stars.

The astronomical watch was a thoroughly prepared and controlled procedure. Most phenomena that were reported were selected for observation and predicted in advance. Only a few unexpected or unpredictable phenomena were reported.²⁹ Astronomical phenomena that were expected, but could not be observed due to bad weather were replaced by predictions. This is attested in the earliest known diaries from the sixth century BCE. Modern scholarship has not yet reflected on the fact that such predictions are also present in preliminary diaries. A cursory inspection of the extant preliminary diaries³⁰ suggests that no predictable phenomena are omitted from these texts when bad weather prevented their

²⁷ Mitsuma 2015.

²⁸ It cannot be ruled out that the extant preliminary diaries were copied from original reports written on wooden boards inlaid with wax. None have survived from Babylon, but some half-yearly diaries do mention that they were copied from a wooden board.

²⁹ Sachs and Hunger 1988.

³⁰ Mitsuma 2015.

observation. The following quotation from a preliminary diary for Seleucid Era (SE) year 116, month II, days 10–17 (194 BCE) may serve as an example:³¹

Year [SE] 116. [...] Night of the 13th, moonrise to sunset 10;30 (UŠ); clouds, I did not watch.
[...] The 13th [...] Mercury's first appearance in the west in Aries; it was bright, high, sunset to setting of Mercury 15 [UŠ]; [theoretical] first appearance on the 11th.

On day 13, near full moon, the time from moonrise to sunset is reported as 10;30 UŠ (= 42 minutes), but is marked as 'not observed' (literally, 'I did not watch'). It follows that the reported number was computed. Mercury's first appearance in the evening is reported on that same day, along with the theoretical date of the phenomenon, day 11. It follows that predictive texts were consulted before and perhaps during the observation so that the astronomer knew which phenomena to observe, where to look and what to report if the expected phenomena could not be observed. Texts known as 'almanacs' and 'Normal Star almanacs' were almost certainly the source of these predictions (see below). It follows that in addition to a water clock, a measuring stick, a source of light and a clay tablet or wooden board inlaid with wax, the astronomers may also have carried along a predictive almanac and/or Normal Star almanac. This would, in turn, suggest that the astronomers had assistants with them or observed the stars in pairs, but there is no actual evidence to support this.

Half-yearly diaries, which are the most widely preserved subgenre, usually contain a highly stable selection of astronomical, meteorological, economic and historical data spanning around half a calendar year, i.e. six or seven months.³² Their compilation involved comparing, evaluating and copying short diaries kept by various scholars. This must have been done in a location where the short diaries were collected, presumably in the temple compound. The half-yearly diaries were produced for long-term storage in a reference library. The range of months in the diary was written on the upper edge of the tablet using the phrase 'Regular watch from month M to month N of year Y of (King) NN'. This allowed the scholars to retrieve a diary easily if the tablets were placed vertically on shelves or in brick niches, as is attested for some Babylonian libraries.

As mentioned above, most of the reported astronomical phenomena were also predicted. The diaries were indirectly the source of these predictions. The underlying method, known as the Goal-Year method in modern scholarship, is based on the principle that lunar and planetary phenomena return to nearly the

³¹ Sachs and Hunger 1989, no. 195E.

³² For editions of the astronomical diaries, see Sachs and Hunger 1988; 1989; and 1996. See Steele 2019 for an overview of their development.

same celestial position and calendar date after a characteristic Goal-Year period. For example, Venus phenomena get repeated after ninety-nine months, corresponding to approximately eight years. By copying Venus phenomena from a diary preceding a future month by ninety-nine months, Venus phenomena can be predicted for that month.³³ By the same principle, phenomena relating to the other planets, lunar eclipses, the appearance of the first crescent and so-called Lunar Six intervals were predicted, each with its own period expressed in months. The predictions that are incorporated in diaries from the sixth century BCE onwards were probably obtained with such methods.

From the third century onwards, lunar and planetary predictions are attested on special tablets known as Goal-Year texts.³⁴ Each Goal-Year prediction of an astronomical phenomenon required a record of the same phenomenon from an earlier year. This partly explains why the content of diaries was stable over many centuries. However, no Goal-Year method appears to have been available for some phenomena that were routinely reported, in particular the frequent Normal Star passages of the Moon, since they were not copied to Goal-Year texts. By c. 330 BCE, Babylonian scholars were predicting zodiacal positions of the Moon using the methods of mathematical astronomy, but these predictions do not seem to have been included in diaries and related texts. If the Moon's passage by a Normal Star could not be observed due to cloudy weather, this passage remained unreported, even in diaries written after 330 BCE.

The lunar and planetary data in Goal-Year texts is actually made up of direct quotations from half-yearly diaries. The enormous amount of work underlying the production of a single Goal-Year text is evident from the fact that its content originates from seventeen different half-yearly diaries.³⁵ Several features indicate that Goal-Year texts represent an intermediate stage of prediction. Their data is not conveniently arranged by the months of the Goal Year, but by planet – in six sections, and chronologically in each one. Due to intercalation, some Babylonian years contain thirteen months instead of the usual twelve. Using the example of the ninety-nine-month period for Venus, this means that the Goal-Year period sometimes separates two identical calendar months eight years apart and sometimes two shifted ones. It may therefore happen that the

³³ Steele 2011.

³⁴ For editions of the Goal-Year texts, see Hunger 2006.

³⁵ Distinct Goal-Year periods were used for Normal Star passages and synodic phenomena for Mars and Jupiter, while a single period was used for the other planets and the Moon. This was the Saros period of 223 months for the Moon (approx. 18 years), but some lunar predictions also relied on data preceding the months of the Goal Year by 229 months. Each Goal-Year text therefore contains quotations from $2 \times 4 + 4 \times 2 + 1 = 17$ different half-yearly diaries.

Venus section begins with quotations from month XII of the year preceding the Goal Year by nine years because that month corresponds to month I of the Goal Year, and analogously for the other months. Thirdly, the diary passages that were copied to Goal-Year texts still include accompanying weather phenomena, even though they were not considered to be predictable with the same method as planetary and lunar phenomena.³⁶

In the next stage, predictive almanacs and Normal Star almanacs were generated from the Goal-Year texts.³⁷ For the present purpose, suffice it to say that each almanac or Normal Star almanac contained data from one Goal-Year text re-arranged chronologically from months I to XII or XII₂ of the Goal Year.³⁸ If necessary, this involved replacing the original month names by the corresponding shifted months of the Goal Year. Accompanying weather reports were deleted and small corrections were made to the dates. The end products closed the production cycle and are likely to have guided the scholars in making their observations throughout the year.

As will be apparent, the production of astronomical diaries and related texts required a complex set of skills: scribal, practical, astronomical, computational, performative, administrative and collaborative. Compared to celestial divination at the Neo-Assyrian court, very little explicit textual evidence of the underlying practices and procedures is available today. Even though instructional texts played an increasing role in Late Babylonian scholarship,³⁹ the only known examples of such texts with a connection to the production cycle are several procedure texts with Goal-Year rules⁴⁰ (Fig. 1). This may indicate that some of the procedural knowledge underlying the production of diaries and related texts was not written down, but communicated orally and performatively, with experienced scholars explaining and demonstrating to junior scholars how to do things in the proper way. A rare insight into performative aspects of

36 Ossendrijver 2020.

37 See Hunger 2014 for editions of the almanacs and Normal Star almanacs. On the relationship between Goal-Year texts, almanacs and Normal Star almanacs, see Hunger 1999; Hunger and Pingree 1999, 139–182; Gray and Steele 2008. The exact set of procedures by which almanacs and Normal Star almanacs were compiled from Goal-Year texts and other sources has yet to be reconstructed.

38 Intercalation, i.e. the insertion of an additional month, could also trigger a renaming of the months. In the period of concern the additional month was either a second month XII, conventionally denoted XII₂, or a second month VI, conventionally denoted VI₂.

39 Ossendrijver 2015.

40 For Goal-Year procedure texts, see Brack-Bernsen and Hunger 2002; 2005–2006; 2008; and Britton 2002, 59–61.

the production cycle is provided by several administrative texts from the second century BCE documenting the decisions of the council of the Esagila. A tablet from 118 BCE reports their decision about the case of an astronomer who had come forward to claim a position at the temple:⁴¹

The assembly of the Esagila held council and declared as follows: ‘In month X, on day 15, year 129 [of the Arsacid Era], which is year 193 [of the Seleucid Era], we drew up a memorandum concerning our holdings, [namely] 1 mina of silver of Babylon standard and the arable land of Bēl-aba-ušur, scribe of *Enūma Anu Enlil*, son of Bēl-rēmannu, scribe of *Enūma Anu Enlil*, which he received for keeping the watch, [and which] we had [subsequently] assigned to Nabû-apla-ušur, cultic singer [*kalû*], scribe of *Enūma Anu Enlil*, son of Nabû-mušētiq-udda. Now Bēl-ušuršu, scribe of *Enūma Anu Enlil*, son of the aforementioned Bēl-aba-ušur, has come forward and demonstrated to us that he is capable of keeping the watch and we have seen ourselves that he is capable of everything [concerning] the watch [...]. We approached the aforementioned Nabû-apla-ušur to ask him to relinquish the field and the 1 mina of silver, the income of Bēl-aba-ušur, the father of Bēl-ušuršu [...]. From this year onwards, we shall pay him annually from our silver for keeping the watch and delivering the computed tables and the *mešhu* texts together with Lābaši, Murānu and Marduk-šāpik-zēri, the sons of Bēl-bullissu, [with] Bēl-aḥḥē-ušur and Nabû-mušētiq-uddi, the sons of Itti-Marduk-balātu, and with the other scribes of *Enūma Anu Enlil*’.

We learn that Bēl-ušuršu’s father had been employed as an astronomer. But in the meantime, another individual, Nabû-apla-ušur, had taken over his position, which Bēl-ušuršu now claimed for himself. In order to prove his suitability for it, he performed an observation before the council, which concluded that he was capable of ‘everything concerning keeping the watch’ and transferred the position to him. Apart from reporting observations, he was required to produce ‘computed tables’ – a reference to mathematical astronomy – and ‘*mešhu*-texts’ (the technical term for almanacs and/or Normal Star almanacs) together with his colleagues. It is not clear whether his skill in producing the predictive texts was also examined, although ‘everything concerning keeping the watch’ could be taken as covering the entire production cycle, including Goal-Year texts, almanacs, and Normal Star almanacs. Presumably, the astronomers also held regular meetings where preliminary diaries were collected, the production cycle was coordinated, observation schedules were decided and scribal and computational tasks were assigned, but none of these organisational tasks are documented in surviving texts.

41 BM 35559 (CT 49 144). Translation based on the edition by Rochberg 2000. For the authorship of the astronomical diaries see also Robson 2019b.

A comparison between the Assyrian and Babylonian sources discussed above reveals some notable differences. For one thing, prediction played an insignificant role in Assyrian celestial divination compared to Babylonian astral science.⁴² Conversely, the astronomical diaries and related texts are largely devoid of references to the ominous significance of the phenomena that were observed and predicted. Nevertheless, predicting the future by means of celestial divination and more recent forms of astrology was almost certainly the main purpose of the astronomical diaries and related texts. This is not directly evidenced in the diaries and related texts, but it is in separate genres such as Late Babylonian copies of the omen compendia, horoscopes⁴³ and other innovative astrological compositions, many of which remain to be investigated.

In spite of a lack of textual evidence, it is generally assumed that celestial divination was practised at the Babylonian court after the fall of Niniveh (in 611 BCE), which suggests that at least some of those who compiled astronomical diaries were engaged in these activities. Even after the Persian conquest of Babylonia in 539 BCE, when native Mesopotamian kingship disappeared, Babylonian astronomers are said to have offered their services to their foreign kings, including Alexander the Great.⁴⁴ Little is known about the institutional and social setting of horoscopic astrology, which emerged in the fifth century BCE. Some Babylonian temple astronomers apparently used their predictions to produce horoscopes for private citizens.⁴⁵ Since the fate of the newborn was not usually written down along with the horoscope, this information must have been communicated in a private consultation. We can only speculate about the performative nature of these consultations. Perhaps they were modelled on the astrological consultations conducted at the king's court.

References

- Brack-Bernsen, Lis and Hermann Hunger (2002), 'TU 11: A Collection of Rules for the Prediction of Lunar Phases and of Month Lengths', *SCIAMVS*, 3: 3–90.
- Brack-Bernsen, Lis and Hermann Hunger (2005–2006), 'On the Atypical Astronomical Cuneiform Text E', *Archiv für Orientforschung*, 51: 96–107.

⁴² Brown 2000.

⁴³ Rochberg 1998.

⁴⁴ Huber 2005.

⁴⁵ Rochberg 2016, 231–274.

- Brack-Bernsen, Lis and Hermann Hunger (2008), 'BM 42282+42294 and the Goal-Year Method', *SCIAMVS*, 9: 3–23.
- Britton, John P. (2002), 'Treatment of Annual Phenomena in Cuneiform Sources', in John M. Steele and Annette Imhausen (eds), *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (Alter Orient und Altes Testament, 297), Münster: Ugarit-Verlag, 21–78.
- Brown, David R. (2000), *Mesopotamian Planetary Astronomy-Astrology* (Cuneiform Monographs, 18), Groningen: Styx.
- Fincke, Jeanette C. (2001), 'Der Assur-Katalog der Serie *Enūma Anu Enlil* (EAE)', *Orientalia*, Nova Series, 70: 19–39.
- Gabbay, Uri and Sam Mirelman (2011), 'Two Summary Tablets of Balag Compositions with Performative Indications from Late Babylonian Ur', *Zeitschrift für Assyriologie*, 101: 274–293.
- Gray, Jennifer M. K. and John M. Steele (2008), 'Studies on Babylonian Goal-Year Astronomy I: A Comparison between Planetary Data in Goal-Year Texts, Almanacs and Normal Star Almanacs', *Archive for History of Exact Sciences*, 62: 553–600.
- Haubold, Johannes, John Steele and Kathryn Stevens (eds) (2019), *Keeping Watch in Babylon: The Astronomical Diaries in Context* (Culture and History of the Ancient Near East, 100), Leiden: Brill.
- Huber, Irene (2005), 'Ersatzkönige in griechischem Gewand: Die Umformung der *šar pūḫi*-Rituale bei Herodot, Berossos, Agathias und den Alexander-Historikern', in Robert Rollinger (ed.), *Von Sumer bis Homer: Festschrift für Manfred Schretter zum 60. Geburtstag am 25. Februar 2004* (Alter Orient und Altes Testament, 325), Münster: Ugarit-Verlag, 339–379.
- Hunger, Hermann (1992), *Astrological Reports to Assyrian Kings* (State Archives of Assyria, 8), Helsinki: Helsinki University Press.
- Hunger, Hermann (1999), 'Non-Mathematical Astronomical Texts and Their Relationships', in Noel M. Swerdlow (ed.), *Ancient Astronomy and Celestial Divination*, Cambridge, MA: MIT Press, 77–96.
- Hunger, Hermann (2006), *Astronomical Diaries and Related Texts from Babylonia*, vol. 6: *Goal Year Texts*, Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Hunger, Hermann (2014), *Astronomical Diaries and Related Texts from Babylonia*, vol. 7: *Almanacs and Normal Star Almanacs*, Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Hunger, Hermann and David Pingree (1999), *Astral Sciences in Mesopotamia* (Handbook of Oriental Studies, 44, Section 1: The Near and Middle East), Leiden: Brill.
- Johnson, Cale J. (2020), *Patients and Performative Identities: At the Intersection of the Mesopotamian Technical Disciplines and Their Clients*, University Park, PA: Eisenbrauns.
- Koch, Ulla Susanne (2015), *Mesopotamian Divination Texts: Conversing with the Gods. Sources from the First Millennium BCE*, Münster: Ugarit-Verlag.
- Krul, Julia (2018), *The Revival of the Anu Cult and the Nocturnal Fire Ceremony at Late Babylonian Uruk* (Culture and History of the Ancient Near East, 95), Leiden: Brill.
- Laneri, Nicola (2006), *Performing Death: Social Analyses of Funerary Traditions in the Ancient Near East and Mediterranean* (Oriental Institute Seminars, 3), Chicago: The Oriental Institute of the University of Chicago.
- Löhnert, Anne (2011), 'Manipulating the Gods: Lamenting in Context', in Radner and Robson 2011, 402–417.
- Maul, Stefan (1994), *Zukunftsbewältigung: Eine Untersuchung altorientalischen Denkens anhand der babylonisch-assyrischen Löserituale (Namburbi)* (Baghdader Forschungen, 18), Mainz: von Zabern.

- Maul, Stefan (2018), *The Art of Divination in the Ancient Near East: Reading the Signs of Heaven and Earth*, Waco, TX: Baylor University Press.
- Mirelman, Sam (2010), 'Performative Indications in Late Babylonian Texts', in Regine Pruzsinszky and Dahlia Shehata (eds), *Musiker und Tradierung: Studien zur Rolle von Musikern bei der Verschriftlichung und Tradierung von literarischen Werken* (Wiener offene Orientalistik, 8), Vienna: Lit, 241–264.
- Mitsuma, Yasuyuki (2015), 'From Preliminary Diaries to Short Diaries: The First and Second Steps in the Compilation Process of the Late Babylonian Astronomical Diaries', *SCIAMVS*, 16: 53–73.
- Ossendrijver, Mathieu (2015), 'Compendia and Procedure Texts in the Mesopotamian Astral Sciences', in J. Cale Johnson (ed.), *In the Wake of the Compendia: Infrastructural Contexts and the Licensing of Empiricism in Ancient and Medieval Mesopotamia* (Science, Technology, and Medicine in Ancient Cultures, 3), Boston: De Gruyter, 47–57.
- Ossendrijver, Mathieu (2020), 'Hellenistic Astronomy and the Babylonian Scribal Families', in Alan C. Bowen and Francesca Rochberg (eds), *Hellenistic Astronomy: The Science in Its Context*, Leiden: Brill, 426–439.
- Parpola, Simo (1993), *Letters from Assyrian and Babylonian Scholars* (State Archives of Assyria, 4), Helsinki: Helsinki University Press.
- Parpola, Simo (2017), *Assyrian Royal Rituals and Cultic Texts* (State Archives of Assyria, 20), Helsinki: Neo-Assyrian Text Corpus Project.
- Pongratz-Leisten, Beate (1994), *Ina šulmi irub: Die kulttopographische und ideologische Programmatik der akītu-Prozession in Babylonien und Assyrien im 1. Jahrtausend v. Chr.* (Baghdader Forschungen, 16), Mainz: Philipp von Zabern.
- Radner, Karen and Eleanor Robson (eds) (2011), *Oxford Handbook of Cuneiform Culture* (Oxford Handbooks in Classics and Ancient History), Oxford: Oxford University Press.
- Robson, Eleanor (2019a), *Ancient Knowledge Networks: A Social Geography of Cuneiform Scholarship in First-Millennium Assyria and Babylonia*, London: UCL Press.
- Robson, Eleanor (2019b), 'Who Wrote the Babylonian Astronomical Diaries?', in Haubold et al. 2019, 120–153.
- Rochberg, Francesca (1998), *Babylonian Horoscopes* (Transactions of the American Philosophical Society, 88), Philadelphia: American Philosophical Society.
- Rochberg, Francesca (2000), 'Scribes and Scholars', in Joachim Marzahn and Hans Neumann (eds), *Assyriologica et Semitica: Festschrift für Joachim Oelsner anlässlich seines 65. Geburtstages am 18. Februar 1997* (Alter Orient und Altes Testament, 252), Münster: Ugarit-Verlag, 359–377.
- Rochberg, Francesca (2004), *The Heavenly Writing: Divination, Horoscopy, and Astronomy in Mesopotamian Culture*, Cambridge: Cambridge University Press.
- Rochberg, Francesca (2016), *Before Nature: Cuneiform Knowledge and the History of Science*, Chicago: The University of Chicago Press.
- Sachs, Abraham J. and Hermann Hunger (1988), *Astronomical Diaries and Related Texts from Babylonia*, vol. 1: *Diaries from 652 B.C. to 262 B.C.*, Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Sachs, Abraham J. and Hermann Hunger (1989), *Astronomical Diaries and Related Texts from Babylonia*, vol. 2: *Diaries from 261 B.C. to 165 B.C.*, Vienna: Verlag der Österreichischen Akademie der Wissenschaften.

- Sachs, Abraham J. and Hermann Hunger (1996), *Astronomical Diaries and Related Texts from Babylonia*, vol. 3: *Diaries from 164 B.C. to 61 B.C.*, Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Schechner, Richard (1988), *Performance Theory*, revised and expanded edn, New York: Routledge.
- Schwemer, Daniel (2011), 'Magic Rituals: Conceptualization and Performance', in Radner and Robson 2011, 418–442.
- Starr, Ivan (1990), *Queries to the Sungod: Divination and Politics in Sargonid Assyria* (State Archives of Assyria, 4), Helsinki: Helsinki University Press.
- Steele, John M. (2011), 'Goal-year Periods and Their Use in Predicting Planetary Phenomena', in Gebhard J. Selz (ed.), *The Empirical Dimensions of Ancient Near Eastern Studies*, Vienna: Lit, 101–110.
- Steele, John M. (2019), 'The Early History of the Astronomical Diaries', in Haubold et al. 2019, 19–52.
- Volk, Konrad (2006), 'Musikalische Praxis und Theorie im Alten Orient', in Thomas Ertelt et al. (eds), *Vom Mythos zur Fachdisziplin: Antike und Byzanz* (Geschichte der Musiktheorie, 2), Darmstadt: Wissenschaftliche Buchgesellschaft, 1–46.
- Ziegler, Nele (2011), 'Music, the Work of Professionals', in Radner and Robson 2011, 288–312.

Eva Ferro

Pocket-Sized Liturgy: A Fifteenth-Century Breviary from the Abbey of San Zeno Maggiore

Abstract: In the following contribution the author analyses a particular example of a type of liturgical book known as ‘breviary’. First, the forms of Divine Office during the Middle Ages are briefly presented. Secondly, the author reflects on the nature and use of a portable breviary, using the late-fifteenth-century manuscript from the abbey of San Zeno Maggiore in Verona, Kremsmünster, Stiftsbibliothek, CC60. The particular nature and form in which this breviary is used is analysed by comparing its format, layout, and contents to other types of liturgical books. The author then concludes by underlining how portable breviaries, like the one presented here, could be considered liturgical as well as devotional: they were used privately, but also reflected the liturgical forms and contents of the community in which they were embedded.

1 Introduction

Historians are usually interested in the origins and first developments of any given historical phenomenon. Medieval music historians, for instance, are often interested in the process in which melodies first became fixed in writing;¹ historians of liturgy are frequently concerned with the origins and early forms of Christian rites and rituals;² literary historians mostly ask when a text came into being and by whom it was written. However, in this paper I would like to start at an end: I will begin at the end of the process leading to the unification of many liturgical books in the Middle Ages that had previously been used by different ritual actors into one single book manufactured for a single person to use. I would like to talk about the so-called ‘breviary’, a type of liturgical manuscript used by Christian clerics and monks to perform the Divine Office. By way of example, I will focus my attention on a particular manuscript, namely Krems-

1 Recapitulated in Hiley 1993, 362–363.

2 See Dalmais, Jounel and Martimort 1985.

münster, Stiftsbibliothek, CC60, a fifteenth-century breviary from the Benedictine abbey of San Zeno Maggiore in the northern Italian city of Verona.³

This paper will proceed in two directions. Firstly, using this breviary and, in particular, its transmission of the office for Saint Zeno, I will initially trace back some of the liturgical book types that preceded the breviary genealogically, and compare them to the breviary. The comparison will focus on codicology and the treatment of the liturgical texts. Secondly, I will explore the ritual performance in which this particular kind of liturgical book may have been involved.

2 The term ‘breviary’ and the forms of Divine Office

The Latin word *breviarium* used to define this type of liturgical book has a connection with the Latin adjective *brevis*, *breve* and indicates in general something *short* or *shorter*. In fact, the term was used to indicate any sort of textual abridgement; for instance, such made from a collection of law texts, or the shortened version of a historical or exegetical work.⁴ It was only around the first half of the thirteenth century that the word *breviarium* was used to indicate the type of liturgical book in question.⁵ Later, the term started to indicate the rite itself, namely the Divine Office that this book fixates in writing. Thus, the expressions ‘curial breviary’ or ‘basilical breviary’ also indicate the forms and structures of the Divine Office in a particular institution and not only the physical object ‘book’.⁶ Such forms and structure of the Christian Divine Office shall be briefly summarized here, so that some of the concepts used in the course of this article may become clear from the start.

The Divine Office is the second essential area of liturgical activity next to Mass, in which Jesus’s death on the cross is re-enacted through the celebration of the Eucharist. The celebration of the Eucharist, during which another series of liturgical actions is performed, is not a part of Divine Office. The term ‘divine office’ is the translation of the Latin *divinum officium*, which means divine duty or service. It designates the cycle of prayers, chants and lessons that are to be performed as a service to God by monks and the clergy every day, both at day and at night. A reference to this duty can be found in the Bible in Luke 18:1: ‘oportet semper orare et non deficere’ (‘It is one’s duty always to pray and never

³ For a detailed description of the manuscript see Fill 2000, 301–308.

⁴ See Lehmann 1949, 11–16; Palazzo 1998, 169.

⁵ See Gy 1990, 117.

⁶ See Thiel 1967, 2380.

to stop'). This perennial praise is maintained symbolically in the practice of Divine Office, during which prayer takes place at each hour of day-time and night-time. The office of important feast days began on the previous day before sunset, at the so-called vesper, which is a practice still upheld nowadays at Christmas. On most days, however, the office begins at matins, which take place during the night. During matins the office is sung three times, each one of them called a nocturne. The matins are followed by lauds, which are sung at day-break. During the day, office is sung four times, at the so-called canonical hours. It is time to sing vesper again before dark, and compline also takes place before going to bed.⁷

Different items and elements also constitute this service, namely chants, readings and prayers.⁸ The old-testamentary psalms were the spine of the liturgy of the hours: monks, for instance, had to sing the whole psalter (150 psalms) every week. The psalms were accompanied by antiphons, namely short texts, in prose or in verse, drawn from the psalter itself or from the Bible. They could also be non-biblical new compositions, mostly connected with the saint's biographical texts, called *vita*. Antiphons are only sung in connection with a psalm or a new-testamentary canticle (like the *Magnificat* during vesper or the *Benedictus* during lauds). Lessons also constituted one of the most important parts of the matins, and could also be taken from the Bible or from the saint's biographical text. A responsory, namely a chant with a text taken from the Bible or drawn from the saint's *vita*, was sung after a lesson. It consisted of two parts sung by different groups, namely the choir and the soloist.

3 Types of liturgical books and examples from the liturgy of Saint Zeno of Verona

In the Middle Ages, all these different textual and musical items were transmitted in different types of liturgical books. There were books for chanting, books for reading and books for prayer.⁹ The books were not only divided according to the type of items they contained, but also with regard to who was supposed to actually perform those items during the service. That's why they are sometimes

⁷ A complete account of the forms of medieval liturgy, both of Mass and Divine Office, is given by Harper 1991.

⁸ The most complete overview is found in Hiley 1993, to which I refer for the following paragraph.

⁹ See Heinzer 1995.

called *Rollenbücher*,¹⁰ role books. Some of these book types will be discussed in the course of this paper starting from the example of the manuscript Kremsmünster, Stiftsbibliothek, CC60. As a breviary, this manuscript contains all items that were needed for the celebration of the office, which were at this point no longer scattered in different books but collected in one single volume. The advantage of such a liturgical book is evident: all material needed for the ritual performance is summarized in a single manuscript and is often organized following the yearly liturgical cycle of the feasts.

While the breviary is much handier for its medieval user, it is also less easily studied by the modern researcher. The form and content of a liturgical *Rollenbuch* clearly reveal for which group of ritual actors it was intended to be used, but for whose use was a breviary intended? And how? The answers to these questions lie in the manuscripts themselves. To answer them by way of example the mentioned breviary Kremsmünster, Stiftsbibliothek, CC60 shall now be studied in more detail.

The reproduction of the manuscript (Fig. 1) almost accidentally reveals the manuscript's dimensions. The thumb of the curator on the top left corner of fol. 240^v gives an idea of the size of the book, which measures c. 18 × 13 cm and contains 386 pages, making it a thick but compact portable breviary.¹¹ The illuminated initial C in colour and gold leaf gives a good impression of the care with which this manuscript had been manufactured and of its material value.

The manuscript can be dated precisely thanks to some computistical texts that it contains. With these texts, the owner was able to calculate, among other things, the dates of the year's Sundays. The Sunday, or *dies dominica* ('day of the Lord') was of particular liturgical importance, and the liturgical service on this day was more elaborate than the one on a ferial day. Since these tables enable us to calculate the dates of the Sundays for the years 1467–1494, the codex must have been produced in 1467. The manuscript can also be localized thanks to its calendar, which was written by the main hand of the codex. The feasts listed here are typical for a Benedictine house (for instance the feast of Saint Benedict), and there are also some regional and local peculiarities that allow to determine precisely where it had been produced and used: namely in Verona, and, specifically, in the Benedictine abbey of San Zeno Maggiore.

¹⁰ Heinzer 2008, 301.

¹¹ Another form of breviary is known and was studied in Gy 1963. In this case, the breviary is called *à sections juxtaposées* or breviary of the first type. It was not intended to be carried around by the single priest or monk, but rather to be used in choir, see Gy 1963, 109.



Fig. 1: Breviary, Verona, 1467. Kremsmünster, Stiftsbibliothek, CC60, fol. 240r.

A closer look at the feast of San Zeno, the most important saint for the monastery, allows a more in-depth analysis of the manuscript. Zeno was the protector of the monastery, which literally belonged, with all its monks and its goods, to the saint himself. It was extremely important for the cloister that Zeno was buried here because it made the monastery the institution that could uniquely claim to possess the saint's earthly remains. Many texts composed in San Zeno Maggiore, liturgical and non-liturgical, state this repeatedly. They also add that the monastery had been built by Zeno himself, who, after converting the pagan city to Christianity, started building churches and preaching to the masses.¹² In this breviary, Zeno's physical presence in the monastery also plays a role. The *suffragia*, short prayers to be recited in a fixed order every day that changed from institution to institution,¹³ include an 'Oratio pro sancto Zenone, qui in presenti requiescit ecclesia' ('A prayer for Saint Zeno who lies in this very church').¹⁴ Furthermore, on the day of the feast for Zeno, the monks visited the crypt's cloister in procession. The tomb of the saint was placed there, so the monks performed some chants literally in front of the saint.¹⁵

The rubric on fol. 238^v (Fig. 2) reads 'In ordinatione sancti zenonis episcopi et confessoris', meaning that these elements were to be performed for the feast of the episcopal ordination of Zeno, namely on the 8 December. Here the text is distributed over two columns and the spaces between the lines are tight, while the margins, especially the bottom margin, are quite generously left blank. Furthermore, the scribe or decorator worked with three colours to mark the layout of the page: the texts indicating the feasts and elements of the office, for instance 'Ad vesperum hymnus' ('The hymn for vespers') or 'Ad Magnificat' ('[Antiphon] to the *Magnificat*'), are red; the texts of the chants, readings and prayers are written in dark brown ink. Initials are also marked by pen-flourished initials, which alternate in blue and red. Both the generous blank space at the bottom of the page as well as this elegant decoration reveal that the small codex was expensive.

¹² For the cult of Saint Zeno in Verona, see Ferro 2022.

¹³ See Harper 1991, 131.

¹⁴ See Fill 2000, 303. English translation: author's own.

¹⁵ This is testified by an almost contemporary liturgical book from the same abbey, namely the choral antiphonary Verona, Biblioteca Civica, 739 I, fol. 107^v which prescribes that a procession to the altar of Saint Zeno in the cloister's crypt has to be made after the first vesper.

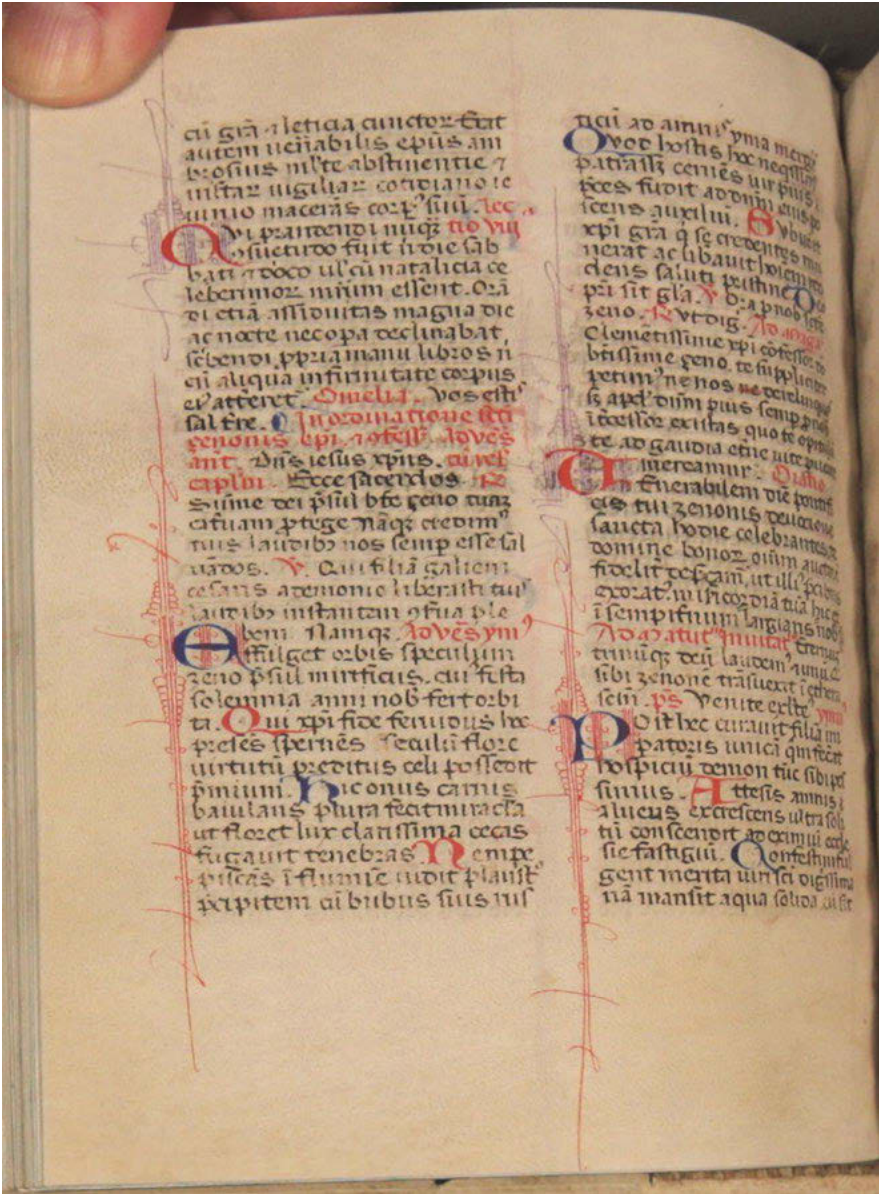


Fig. 2: Breviary, Verona, 1467. Kremsmünster, Stiftsbibliothek, CC60, fol. 238r.

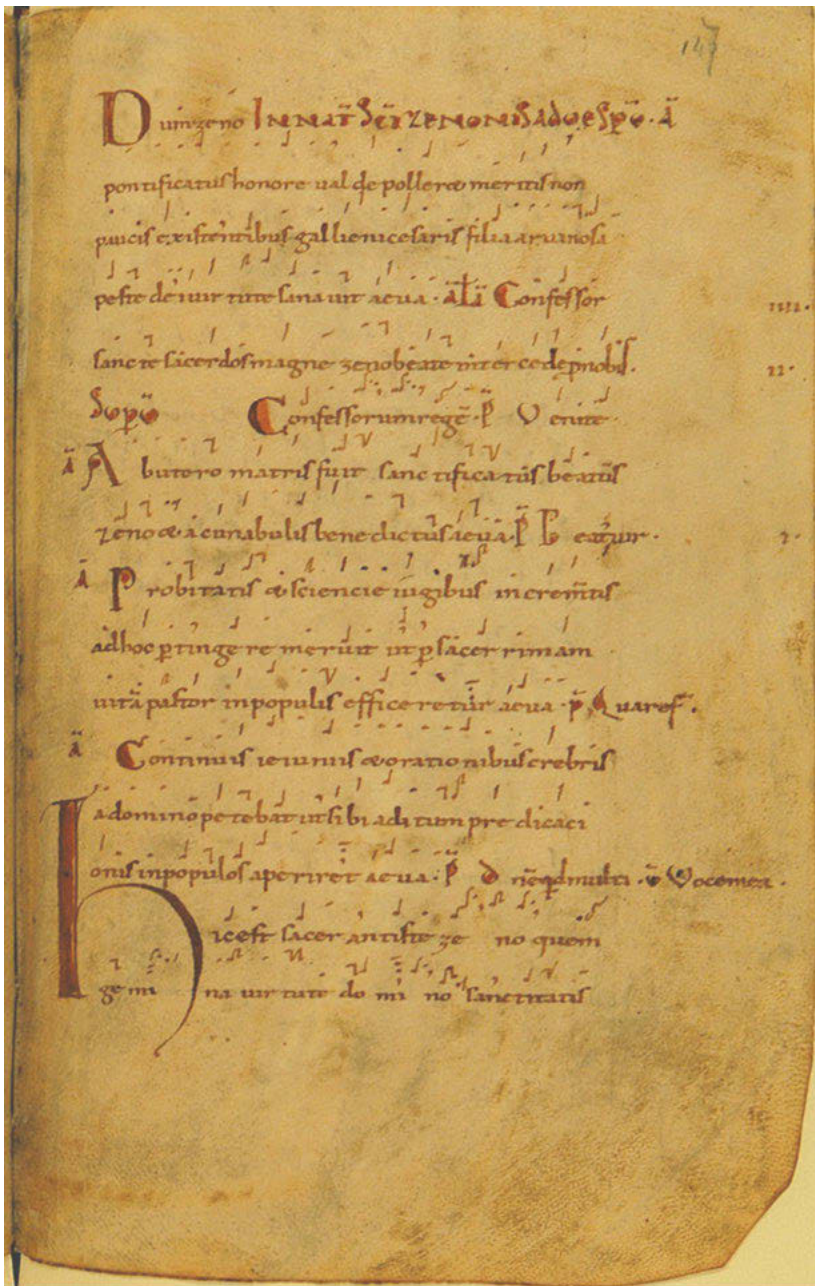


Fig. 3: Antiphony, Verona, late eleventh century. Verona, Biblioteca Capitolare, XCVIII(92), fol. 147r.

Furthermore, in this portable breviary, as in most manuscripts of this kind, the contents of the liturgy are fitted into the smallest space possible. In this case, on fol. 238^r for instance, one finds the incipit of the antiphons for the first vesper and of a short reading, a complete responsory, the hymn for vesper and the first half of the hymn for matins, the *Magnificat*-antiphon, the invitatory and a prayer. Precisely this layout and the compressed presentation of the liturgical material represent an innovation in the history of liturgical books. Take for instance the chanted elements of the office, namely antiphons and responsories. On fol. 239^r the manuscript transmits the responsory ‘Hic est sacer antistes’ and this responsory opens the series of the responsories of matins. Here no musical notation is registered, but on close inspection one can notice a slight difference in the script of the responsory in comparison to the one of the read or prayed elements.¹⁶ Chanted elements such as responsories and antiphons were usually transmitted in the so-called antiphonary, like the late-eleventh-century antiphonary from Verona (Fig. 3).

Fol. 147^r includes the rubric ‘In natale sancti Zenonis ad vesperum antiphona’ (‘The antiphon for vespers of the feast of Saint Zeno’) and some lines later ‘Alia antiphona’ (‘Another antiphon’). More antiphons, responsories and the incipits of psalms follow. It becomes clear that the antiphonary only transmits the chants and records their melodies, thus fixating the musical notation. The fact that only this particular content is transmitted in such a manuscript has a direct consequence on its layout, making it very different from the layout of our breviary. In the antiphonary one finds the script in a single column that extends over the whole page, not in two columns. Also, the interlinear spaces in the antiphonary are more abundant, and even the text that accompanies the melody must adapt its form to the musical notation: the single word is divided into syllables, and their position follows the distribution of the notes, or the groups of notes (*melismas*). Hence, the first important differences between a portable breviary and the liturgical manuscripts preceding its invention are that (1) the breviary transmits all material needed for the celebration of the office without distinguishing between different musical and textual genres, (2) it does not register the musical notation of the chanted elements and (3) its *mise-en-page* reflects the effort of transmitting as much text as possible in the smallest possible space.

In addition to these aspects, the treatment of the transmitted textual material also distinguishes a breviary from its ancestor book types, which is also evident in the breviary from San Zeno Maggiore. In column b of fol. 239^r, the

¹⁶ See, for instance, the text following the rubric ‘Lectio II’. On this aspect see also Gy 1990.

rubric ‘Lectio II’ introduces a text of a different genre, namely a reading, in this case the second lesson of matins. As in the case of Saint Zeno for the Veronese abbey, the textual material for such readings was often provided by the biography of the saint. During the liturgy on his or her feast day, and especially during the night office (matins), a long portion taken from the text of the saint’s life, or *vita*, was read aloud to the members of the cloister that were gathered in the choir of the church to perform the office. In this way the life and deeds of an exemplary individual, who in this case was also patron of the cloister, were meditated upon by the group. Furthermore, the significance and ‘formative force’¹⁷ of such a liturgical practice was enhanced by the chants (antiphons and responsories) that accompanied the readings and that were also mostly taken from the *vita* of the saint in question.¹⁸

Another earlier manuscript from the abbey of San Zeno Maggiore transmits the same *vita* of Saint Zeno, Verona, Biblioteca Capitolare, XCVI(90*). The manuscript can be dated to the late twelfth century and contains a collection of *vitae* of saints venerated in Verona at this time. But the manuscript did not only collect these texts, it was also used in liturgy, and can thus be categorized as a hagiographical lectionary for the office. This is indicated by a series of marginalia inscribed in the manuscript.

Firstly, at least two series of roman numerals in brown and red ink can be traced in the lectionary’s margins (Fig. 4).¹⁹ These indicate in which part of the night service these lessons were to be read. The *vita* of Zeno and other hagiographical texts transmitted in the codex are divided into eight or twelve lessons, which correspond to the number of readings required by the structure of the monastic night office. Hence, the codex was used by a monastic community, the abbey of San Zeno Maggiore, as a second set of marginalia indicates, and not by an episcopal church, like the cathedral of Verona, despite the fact that the manuscript ended up in the library of the episcopal chapter. As to the second set of marginalia, these comprise short rubrics written by a hand contemporary to the main text that indicate on which occasion the biography of Saint Zeno was to be read aloud. In the left margin of p. 282, for instance, the rubric reads ‘In translatione sancti Zenonis’, thus prescribing that this portion of the text was to be read during the feast of the so-called *translatio*, on the day (namely the 21 May) that the

¹⁷ Johnson 2011, 134.

¹⁸ See Heinzer 2011, 234.

¹⁹ The fact that different sets of numerals are to be found indicates that the length of the readings was modified during the Middle Ages. They also stand for the fact that this particular volume was continuously being used in the cloister over many years.

medieval monastic community celebrated as the date of the entombment of the saint's bodily remains into the crypt of the abbey. Also, not accidentally, this topic is narrated in the portion of text in question (ll. 3–5: 'Nunc necessarium nobis videtur translationis eius seriem notificare' ('Now we think it is necessary to report what happened when his [Zeno's] body was translated')).

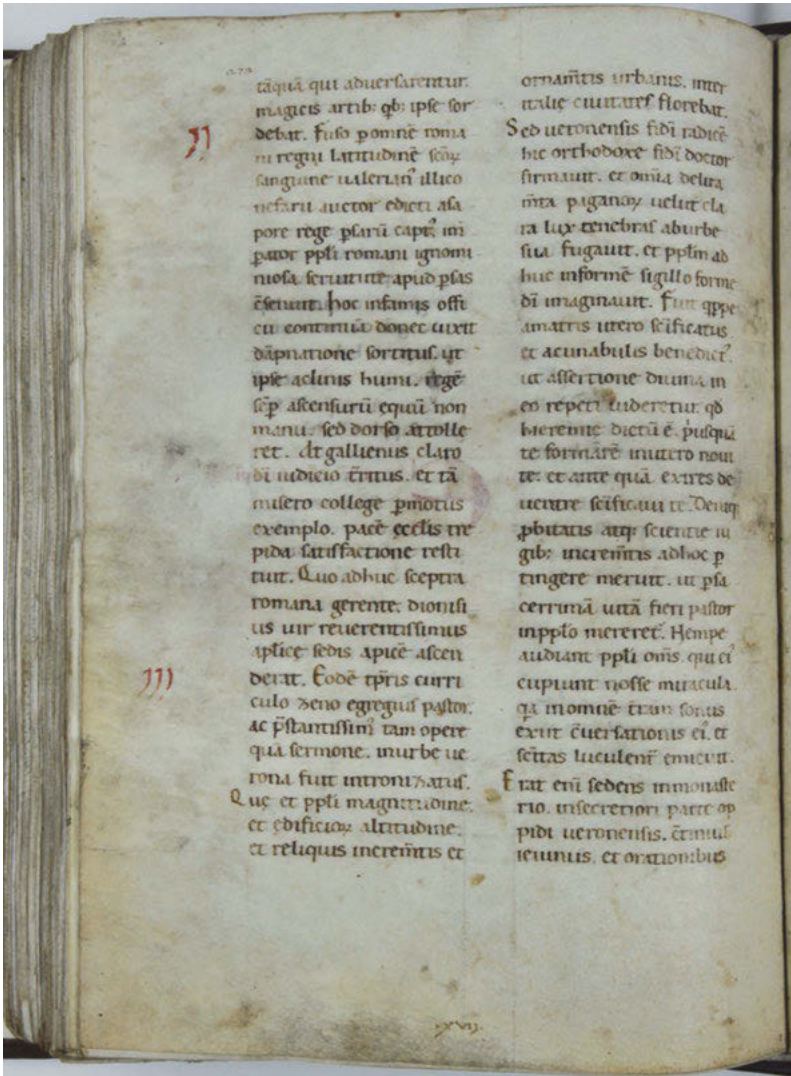


Fig. 4: Lectionary, Verona, late twelfth century. Verona Biblioteca Capitolare, XCVI(90*), p. 272.

Now that it has been established that both manuscripts are liturgical in nature, they can be compared with regard to the topic of this paper, namely the question of how the breviary is different from all the types of liturgical books that preceded it. This difference becomes evident not only with regard to the structure and layout, but also with regard to the fact that the treatment of the transmitted textual material differs greatly in the different types of liturgical manuscript. This especially concerns the material for the readings. While the lessons from the hagiographical lectionary Verona, Biblioteca Capitolare, XCVI(90*) contain an average of *c.* seventy words, the lessons in the breviary are much shorter and contain an average of only thirty words, less than half. In Table 1, the first lesson in the lectionary is presented next to the first lesson of the breviary, exemplifying the difference in length:

Table 1: The first lesson in XCVI(90*) and CC60.

	Verona, Biblioteca Capitolare, XCVI(90*)	Kremsmünster, Stiftsbibliothek, CC60
Lectio prima	<p>Eo tempore quo Valerianus cum filio Galieno fasces Romani imperii suscepit, prima fronte regiminis humanus et benignus existitit erga famulos dei quia mitissima sors regnorum solet esse sub novo rege.</p> <p>Sed postquam vetustari cepit in regno depravatus est et a veritate deiectus per quendam doctorem pessimum magistrum et principem Egyptiorum magorum, ut iustos et sanctos viros interemi iuberet. Tamquam qui adversarentur magicis artibus quibus ipse sordebat.</p>	<p>Eo tempore quo Valerianus cum filio suo Galieno fasces Romani imperii suscepit. Prima fronte regiminis humanus et benignus existitit erga famulos Dei quia mitissima sors regnorum solet esse sub novo rege. Tu au[tem ...]</p>

This means that the user of the breviary would have read much shorter readings and would have, in the end, known a much shorter portion of the saint's biography than somebody reading, or more precisely *hearing*, the lessons taken from the legendary.

4 The portable breviary Kremsmünster, Stiftsbibliothek, CC60, and its owner

All the information gained through an analysis of the format, layout and content of the breviary as well as its comparison with other liturgical codices is fundamental to reach a deeper understanding of this particular type of liturgical book. In the case of the late medieval breviary from the abbey of San Zeno Maggiore, the analysis revealed that the manuscript can be categorized as a portable breviary and it contains all liturgical material for the celebration of the Divine Office. Additionally, it is evident that this material had not only been fitted into the smallest space possible, but was also transmitted without musical notation, and its contents had been, in some cases, heavily abbreviated. Still, the two following important questions remain unanswered: ‘Who used this artefact?’ and: ‘How did he or she use it?’

Luckily, a number of liturgical materials recorded in the book can deliver an answer to at least the first of these questions. Firstly, on fols 14–19, a series of so-called *ordines* can be found. An *ordo* describes and regulates how special rituals should be performed. The breviary from San Zeno Maggiore contains *ordines* for monastic rites usually performed by the abbot, for instance one for the ordaining of a monk (‘*ordo ad faciendum monachum*’) and one describing how to welcome guests or pilgrims (‘*ordo ad suscipiendum hospites seu peregrinos in porta monasterii*’). Also, an *ordo* containing instructions on how to bless the monks’ refectory is transmitted in the codex and corresponds with a text used particularly in the southern German abbey of Tegernsee in Bavaria. It will be necessary to come back to this point further on in the article. Secondly, on fol. 90^r, the manuscript records a series of so-called *absolutions*, blessings. The abbot pronounced a blessing at the end of every hour during his office.²⁰ In this manuscript, the blessings are ordered following the hour of prayer during which they were delivered. Thus, they are introduced by rubrics like: ‘*In primo nocturno absolutio*’, ‘*In secundo nocturno absolutio*’, etc. The fact that the breviary transmits texts decidedly pertinent to the abbot reveals quite clearly that the book was intended for no less than the abbot of San Zeno Maggiore. The small codex supplied him with everything he needed to perform not only the daily office (e.g. the blessings for all hours of prayer), but also for a series of special rituals that were not performed daily (e.g. ordaining a brother-monk or the blessing of the monastery’s living spaces).

²⁰ See Harper 1991, 85.

Furthermore, the owner of the breviary can be identified even more precisely. Since the beginning of the fifteenth century, around 1427, new monks had been called from Germany, and probably Tegernsee, to populate the abbey of San Zeno Maggiore.²¹ However, a series of external abbots, not chosen among the monks of the abbey, were also put in charge of the institution.²² These German monks were installed to restore the Benedictine way of life into the monastery. They did this and other things by acquiring new manuscripts for the monastery library and substituting the obsolete liturgical books with new ones. Some of these books were also aesthetically more to their taste, since they had hired German illuminators to decorate them.²³ The arrival of these German monks in San Zeno could also explain why some of the *ordines* in our breviary record southern German customs.

Furthermore, in the year 1464, the abbot Gregorio Correr, who had contributed to the renewal of the monastery by renovating the choir and commissioning famous artists like Andrea Mantegna, died.²⁴ The new abbot, who was nominated around 1465–1467, and therefore precisely at the time when CC60 was produced, may have needed a new personal breviary to become familiar with the liturgy of the abbey. Our breviary could not only give him an overview of the liturgical customs of the monastery he was to lead, but also, due to its small size, enable him to celebrate the Divine Office anywhere he wanted. To fulfil his administrative duties, the abbot was often unable to celebrate with his brothers in the choir. Not only did he often have to travel, he also even lived separated from the brothers in his private habitation when he was in the abbey. With this portable breviary, he could celebrate the office privately and also when travelling. Thus, this breviary was with regards to its format, layout, contents and function both a liturgical and a devotional book: it was, for its owner and carrier, a private book that contained the rituals that only he, the abbot, would need. But since it reflected the liturgical customs of the monastic community that the abbot directed, it also was a liturgical book. Thus, this breviary is a devotional book in the sense that it could be used for the private recitation of the office. However, it was also a liturgical book because, since its owner and user was an abbot, it contained the liturgical materials of his monastic community.

Furthermore, as mentioned above, precisely the layout of the scripts through which the read texts are graphically distinct from the chants indicate its

21 See Biancolini 1761, 66; Babcock and Cahn 1992, 109–110.

22 See Parolotto 2002, 14.

23 See Castiglioni 1985b; Castiglioni 1985a, 66–71.

24 See Parolotto 2002, 14.

double nature. One has to bear in mind that, even when performing the office privately, the abbot, or for that matter any other monk or cleric, would still have perceivably *vocalized* the texts. Many primary sources concerning the late medieval practice of private recitation of office,²⁵ and, interestingly, also sources concerning the use of books of hours, show that the private performance of Divine Office was never a silent mind-reading of texts. Instead, the words had to be pronounced loudly and possibly *tractim*, which means with the right pauses, neither too slow nor too fast, so that they were easily comprehensible:

Private recitation in a low voice was known as reading done *privatim*, *secreto*, *tacite* or *in silentio*. Yet, since it was vocal, these terms occur with *legere* as well as *cantare*. Private diction of the Office, of psalms, prayers, and the private celebration of Mass still could not be compared with the reading of, say, a theological treatise or a poem. The reverence for such acts required that they should be performed *tractim*.²⁶

This reverence for the liturgical acts not only determined the way they were performed privately, but also had an influence on the layout of breviaries, which, as in the case at hand, were often used by a single monk or cleric. The performative distinction between chants and readings typical of the earlier *Rollenbücher* is maintained graphically in these later books for private use, and with it the liturgical-communal performance of the Divine Office is emulated.

5 Conclusion

To conclude, in this article I illustrated the process in which the liturgy of the hours went from being codified in multiple liturgical books for multiple users to being condensed in one book used by a single, yet prominent, liturgical actor. I focused on the example on the late medieval manuscript Kremsmünster, Stiftsbibliothek, CC60, a portable breviary from the north Italian abbey San Zeno Maggiore. Furthermore, thanks to the indications of this manuscript, it was possible to reconstruct the particular historical scenario in which such a book was needed and to reflect on its possible uses and actual performance. This leads to the conclusion that due to its contents and use, this portable breviary, like many others of its genre, can be characterized both as a liturgical and as a devotional book.

²⁵ See the sources listed in van Dijk 1952.

²⁶ Van Dijk 1952, 10. See also Flanigan 2014, 64–65.

Manuscripts

Kremsmünster,
Stiftsbibliothek,
CC60

Verona,
Biblioteca Capitolare,
XCVI(90*)
XCVIII(92)
Biblioteca Civica,
739 I

References

- Babcock, Robert G. and Walter Cahn (1992), 'A New Manuscript from the Abbey of San Zeno at Verona', *The Yale University Library Gazette*, 66: 105–116.
- Biancolini, Giovanni B. G. (1761), *Notizie storiche delle chiese di Verona*, vol. 5, Verona: Scolari.
- Castiglioni, Gino (1985a), 'Ancora sui codici quattrocenteschi di San Zeno con ipotesi sul miniatore Stefano Marino', *Annuario storico zenoniano*, 3: 59–72.
- Castiglioni, Gino (1985b), 'Note sui codici quattrocenteschi del Monastero di San Zenone Maggiore nella Biblioteca Civica di Verona', in Emanuela Sesti (ed.), *La miniatura italiana tra Gotico e Rinascimento: Atti del II Congresso di Storia della Miniatura Italiana*, 2 vols. (Storia della miniatura, 6), Florence: Olschki, 389–413.
- Dalmais, Irénée H., Pierre Jounel and Aimé G. Martimort (eds) (1985), *The Church at Prayer: An Introduction to the Liturgy*, vol. 4: *The Liturgy and Time*, ed. Aimé Georges Martimort, tr. Matthew J. O'Connell, Collegeville, MN: Liturgical Press.
- van Dijk, Stephen Joseph Peter (1952), 'Medieval Terminology and Methods of Psalm Singing', *Musica disciplina*, 6: 7–26.
- Ferro, Eva (2022), *Ein Fest für den Heiligen: Die früh- und hochmittelalterliche Verehrung des heiligen Zeno und ihre liturgischen Quellen aus Verona* (Helden – Heroisierungen – Heroismen, 17), Baden-Baden: Ergon.
- Fill, Hauke (2000), *Katalog der Handschriften des Benediktinerstiftes Kremsmünster*, vol. 2: *Zwischenliencodices und spätmittelalterliche Handschriften nach 1325 bis einschließlich CC100* (Denkschriften / Österreichische Akademie der Wissenschaften, Philosophisch-Historische Klasse, 270), Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Flanigan, Clifford C. (2014), 'Books of Hours and the Construction of Reality in the Fifteenth Century', *Research on Medieval and Renaissance Drama*, 52–53: 61–76.
- Gy, Pierre-Marie (1963), 'Les premiers bréviaires de Saint-Gall (deuxième quart du XI^e s.)', in Walter Dürig (ed.), *Liturgie: Gestalt und Vollzug. Festschrift für Joseph Pascher zur Vollendung seines 70. Geburtsjahres*, Munich: Hueber, 104–113.
- Gy, Pierre-Marie (1990), 'La mise en page du bréviaire', in Henri-Jean Martin (ed.), *Mise en page et mise en texte du livre manuscrit*, Paris: Cercle de la Librairie-Promodis, 117–120.

- Harper, John (1991), *The Forms and Orders of Western Liturgy from the Tenth to the Eighteenth Century: A Historical Introduction and Guide for Students and Musicians*, Oxford: Clarendon.
- Heinzer, Felix (1995), 'Art: Liturgische Bücher', in Severin Corsten, Günther Pflug and Friedrich Adolf Schmidt-Künsemüller (eds), *Lexikon des gesamten Buchwesens*, vol. 4: *Institut für Buch- und Handschriftenrestaurierung–Lyser*, 2nd edn, Stuttgart: Hiersemann, 580.
- Heinzer, Felix (2008), *Klosterreform und mittelalterliche Buchkultur im deutschen Südwesten* (Mittellateinische Studien und Texte, 39), Leiden: Brill.
- Heinzer, Felix (2011), 'Der besungene Heilige: Aspekte des liturgisch propagierten Franziskus-Bildes', *Wissenschaft und Weisheit*, 74: 234–251.
- Hiley, David (1993), *Western Plainchant: A Handbook*, Oxford: Clarendon.
- Johnson, Timothy J. (2011), 'Choir Prayer as the Place of Formation and Identity Definition: The Example of the Minorite Order', *Miscellanea francescana*, 111: 123–135.
- Lehmann, Paul (1949), *Mittelalterliche Büchertitel*, pt. 1 = *Sitzungsberichte der Bayerischen Akademie der Wissenschaften, Philosophisch-historische Klasse*, 1948/4.
- Palazzo, Éric (1998), *A History of Liturgical Books from the Beginning to the Thirteenth Century*, tr. Madeleine Beaumont, Collegeville, MN: Liturgical Press / Pueblo Books.
- Parolotto, Alessia (2002), *La biblioteca del monastero di San Zeno in Verona, 1318–1770* (Libreria & bibliographica, 3), Verona: Della Scala.
- Thiel, Erich Joseph (1967), 'Die liturgischen Bücher des Mittelalters: Ein kleines Lexikon zur Handschriftenkunde', *Börsenblatt für den Deutschen Buchhandel*, 23/4: 2379–2418.

Agathe Keller

Performing Multiplications Beyond the Text of Some Sanskrit Mathematical Commentaries

Abstract: Sanskrit mathematical commentaries contain many different kinds of performance, some of which are embedded in the lists of the solved examples they almost always contain. The resolutions of problems contained in these lists of solved examples include representations of a working surface on which computations would have been carried out or diagrams drawn. This chapter discusses how the execution of multiplications can be reconstructed with the help of these representations. I examine how these representations appear in manuscripts and editions of these texts. I also reflect on the material objects on which and with which these multiplications may have been performed. The discussion is based on Pṛthūdaka's (fl. 850) commentary on the *Theoretical Treatise of the Corrected Brāhma School* (*Brāhmasphuṭasiddhānta* 628), the anonymous undated commentary on Śrīdhara's (c. 800) *Board Mathematics* (*Pāṭīgaṇita*)¹ and *An Introductory Commentary on Arithmetics to Awaken the Young* (*Bālabodhāṅkavṛtti*), Śambhūdāsa's (1428/1429) Old-Gujarātī commentary on the anonymous and undated Sanskrit *Twenty-five Rules* (*Pañcaviṃśatikā*).

1 Introduction: texts that stage performances

This chapter explores the ways in which, as historians, we use Sanskrit mathematical treatises and their commentaries to reproduce and reconstruct the execution of certain algorithms. To do so requires reflection on what the aims of Sanskrit mathematical texts were, with regard to the execution of algorithms. Was their purpose to teach how to carry out an execution and, if so, how did texts go about doing so? Furthermore, what do we know of the tools used to execute an arithmetical algorithm?

Answering these questions directly may not be possible. We can however start by noting that Sanskrit mathematical treatises and commentaries did indeed stage performances, some of which related to the execution of algorithms.

¹ This is a contested translation of the title of this text, discussed in Section 3 below.

1.1 An orally chanted text for teaching?

The first and most famous of the staged performances of treatises and commentaries was indeed the vocalisation of versified texts.² These days, a good Sanskritist, an authentic one, seems to be one who, in international conferences, can chant the Sanskrit verses of a treatise (*śāstra*). Such a Sanskritist not only displays a knowledge of versification, but also demonstrates that the study of ancient South Asian texts is more than an academic discipline: it is also a live practice.

The earliest medieval theoretical astronomical treatise handed down to us, the *Āryabhaṭīya* (499), was authored by Āryabhaṭa (b. 476), who spoke of himself in the third person as ‘proclaiming’ (*nigad-*) the topics of the treatise.³ His famous (because it is one of the earliest) ‘sine table’ is a verse which lists numerical values, using a special way of naming and noting them:⁴

Ābh.1.12.

makhi bhakhi phakhi dhakhi ṅakhi ṅakhi ṅinakhi hasjha skaki kiṣga śghaki kighva| ghlaki, kigra, hakyā, ghaki, kica, sga, śbha, ṅva, kla, ghta, cha kalār dhajyāḥ||

makhi (225), *bhakhi* (224), *phakhi* (222), *dhaki* (219), *ṅakhi* (215), *ṅakhi* (210), *ṅinakhi* (205), *hasjha* (199), *skaki* (191), *kiṣga* (183), *śghaki* (174), *kighva* (154), | *ghlaki* (143), *kigra* (131), *hakyā* (119), *ghaki* (106), *kica* (93), *sga* (79), *śbha* (65), *ṅva* (51), *kla* (37), *ghta* (22), *cha* (7) are the half-chords in minutes||.

Here Āryabhaṭa seems to display both a text and musical onomatopoeia. Perhaps this verse was composed to be performed orally, or perhaps for the reader to imagine that it was so performed. How purely oral ancient Sanskrit texts were is a question that has generated much debate.⁵ Historians, and in particular historians of Indian mathematics, often consider that treatises were first stored in a person’s memory rather than in a manuscript, and then made to be per-

² Often studies of orality focus on the sacred texts of the Vedas, which Frits Staal argues were made to be performed, chanted and recited, without concentrating on their contents (Staal et al. 1983, 256, for instance).

³ Ābh.1.cd. *āryabhaṭas trīṇi gadati gaṇitaṃ kālakriyāṃ golam*, ‘Āryabhaṭa proclaims three: Mathematics, Time-reckoning, the Sphere’. Shukla and Sarma 1976, 1.

⁴ Concerning the ‘sine table’ and its importance, see Van Brummelen 2009, 99–100. Concerning Āryabhaṭa’s notation of numerical values with syllables, see Shukla and Sarma 1976, 3–5. This notation was an extensively debated topic in the nineteenth and early twentieth century, as discussed notably in Keller 2011.

⁵ Most famously and consistently, Jack Goody believed in the Vedas’s pure orality, notably in Goody 2010, 166–169, a position he maintained despite much criticism, as found for instance in Falk 1990.

formed orally.⁶ Nonetheless, such texts describe a world where things are written and traced: noted numbers and drawings of diagrams are part of the prescriptions they contain. Furthermore, the commentaries on these oral treatises are often explicitly written (*likh-*) texts. They too can contain quoted verses and staged dialogs. Finally, whether we are looking at South Asian language manuscripts in general or manuscripts dealing with mathematical and astral texts in these languages, quite famously, we are overwhelmed by the sheer number of documents.⁷ These manuscripts are quite recent and made of fragile bark, palm leaf and paper – an abundance which suggests, in part, that transmission also involved hand copying texts. The oral performance of an astronomical or mathematical treatise thus seems to have been a standard rhetoric for the presentation of scholarly knowledge; a *mise-en-scène* of how ideally scholarly knowledge should be performed and transmitted without necessarily being the reality of how the text was actually passed down (in writing rather than through oral transmission?) or stored (in writing rather than in a person’s mind?).⁸

This paradox of our sources and our historiographic difficulties in treating them also indicates how little we know of the contexts in which astronomical and mathematical texts in Sanskrit were composed, studied, learned, performed and copied. In the case of Sanskrit mathematical texts, the context is often thought to be that of a school, or at least of a teacher and student relationship.⁹ Another possible imagined setting, from what we know of early modern literature and miniatures, is a royal court with its courtly performances and rivalries, which might echo into more rural settings in temples or on village stages.¹⁰ Finally, the vigorous debate forums of what would have been a South Asian public sphere from the eighteenth century onwards, probably also fuelled imagination on the public performance of Sanskrit mathematical texts and procedures.¹¹

6 From Filliozat 2004 to Kusuba 2018, for instance.

7 Srinivas 2019.

8 Keller 2016, 577. Of course, we can imagine that transmission involved all these acts simultaneously.

9 This historiography applied to the *Āryabhaṭīya* has been studied in Keller 2016. In Kusuba 2018, this is an underlying thread of the article, clear already from its abstract which states: ‘When students read the rules, they learned the procedure of calculation. When they read examples, they learned how to set down given numbers’. In other words, Takanori Kusuba assumes that the texts were read by students wanting to learn how to execute elementary operations.

10 For a summary of social and political issues of text, manuscript and performance in early modern India, see O’Hanlon 2013, 89–93. Concerning representations of courtly astrologers, see Sarma 2000.

11 On these forums, see Bayly 1996, Chap. 5, 181–211.

These pre-colonial and colonial debates did include questions of astronomy.¹² Mathematics were also at the time an arena of more or less public discourses, notably concerning the writing of local mathematical textbooks in regional languages.¹³ We might therefore wonder if these public performances can be projected back much further into the past.

For most texts before the second millennium, it is however often hard to know precisely in which families, places, and institutions (temples, royal courts, village schools or city forums) the texts were composed, copied, learned, commented, and studied. More often than not, if we want to know what audience the text was aimed at, and who must have performed the text, executed its algorithms and used the commentaries, we have no choice but to use the clues we get from the both texts and the manuscripts through which they have been handed down to us.

We will set aside this question of context in what follows. Instead, the performance of an algorithm, essentially the execution of elementary operations, will be our focus here. These executions are evoked in treatises and are part of the performances staged in commentaries.

1.2 Staging the resolution of problems

I have suggested elsewhere that Sanskrit mathematical commentaries might be characterised by the lists of solved problems they contain.¹⁴ There seems to be a fixed structure for how the resolution of problems are to be staged in commentaries, something that goes beyond time and regional variations, for each solved problem has a standard organization, as represented in Fig. 1:

1. The performative announcement of an example/problem (*uddeśaka*, *udāharaṇa*).
2. The statement of the problem, somewhat in the form of a riddle, often versified.
3. A setting (*nyāsa*, *sthāpana*) of the givens of the problem. This involves a performative declaration ‘setting’ (*nyāsaḥ*), which opens into the text of the commentary a representation of the surface on which mathematical non discursive actions are going to be carried out to solve the problem: diagrams can be drawn, numbers can be displayed in tabular formats, and so

¹² Minkowski 2001; Dodson 2007, 162–167.

¹³ Raina and Habib 1990.

¹⁴ Keller 2022, 100.

- on. These settings and the objects they contain translate the discursive givens of the problem into a configuration which enables the execution of actions and operations involved in the resolution.
4. The resolution (*karāṇa*) of the problem follows, in which sometimes several states of the working surface might be displayed.
 5. Sometimes a part is devoted to the explanation/proof (*vāsanā, upapatti*) of the general rule related to the problem.¹⁵
 6. The statement of the solution.

Such a structure is often made visible in modern editions, but might not be typographically set out when dealing with manuscripts. This textual organisation may vary in its subparts from text to text and manuscript to manuscript.

<p>विन्यस्याधो गुण्यं कवाटसन्धिक्रमेण गुणराशोः । गुणधेद्विलोमगत्याऽनुलोमगणैर्वा क्रमशः ॥ १८ ॥ उत्सार्योत्सार्यं ततः कवाटसन्धिर्भवेद्विदं करणम् । तस्मिंस्तत्त्वति यस्मात्प्रत्युत्पन्नस्ततस्तत्त्वः ॥ १९ ॥ रूपस्थानविभागाद् द्विधा भवेत्खण्डसंज्ञकं करणम् । प्रत्युत्पन्न विधाने करणान्येतानि चत्वारि ॥ २० ॥</p> <p>*(उदाहरणम्—</p> <p>षण्णवतिद्विकमेकं चैकद्विगुणानि षण्णवाष्टौ च । सप्तत्रिगुणान् पंचकषट्खाष्टौ च कुरु षष्टिगुणान् ॥ ३ ॥)</p> <p>प्रतिरूपगुणधो राधिरहितरूपगुणधो क्वाटसन्धि- षण्णवत्यधिकवाटद्वादशकयोः कवाटसन्धिक्रमेण न्यासः— १ २ ३ ४ ५ ६ । एकस्थानस्य षट्कं रूपेण गुणितं षट् इति एकाधःस्थाने षट्, ततः द्विकेन गुणितं षट्कं द्वादश इति द्विकाधःस्थाने द्वौ रूपमपि नवादासधः जातम् । न्यासः १ २ ३ ४ ५ ६ । ततो दशास्थानस्य नवकं गुणयितुं संपति गुणराशिः । न्यासः १ २ ३ ४ ५ ६ । इदानीं नवानामेकविंशतेषु गुण्यगुणकभावो जातः, रूपेण गुणितं नवकं नव, स्वाधःस्थितद्विकयोगात् तत्स्थाने रूपं जायते, रूपमपि द्विकाधःस्थितरूपेण युज्यते द्वे भवतः ; द्वाभ्यां गुणितं नवके षष्टादश) 'पूर्वदेव तदधो न्यासः, षष्ट्यु च स्वाधःस्थितद्विकयोरे तत्स्थानं शून्यं, रूपमपि द्विकाधःस्थितं रूपेण युज्यते द्वे भवतः । ततश्च दशस्थाने' द्विकं गुणयितुं संपति गुणराशिः । स्वाधनम् १ २ ३ ४ ५ ६ । इदानीं द्वयोरेकविंशतेषु गुण्यगुणकभावो जातः, एकगुणितौ द्वौ द्वाविंश, एकाधःस्थे (शून्ये) द्विकं लिप्या जालौ द्वौ, द्वाभ्यां च द्वौ गुणितौ चत्वारः, स्वाधःस्थितद्विकयोगात् षट् (१ २ ३ ४ ५ ६) । ततः सहस्रस्थानस्य रूपं गुणयितुं संपति गुणराशिः । न्यासः (१ २ ३ ४ ५ ६) इदानीमेकस्यैकविंशतेषु गुण्यगुणकभावो जातः, तदा रूपेण गुणितं रूपं रूपमेव, प्रत्यु क्षिप्तं सप्त, द्वाभ्यामेकं गुणितं द्वाविंशति । निःसोपिते गुण्यराशौ, गुणके निवृत्ते फलं तदेव २७२१६ । एवं रूपविभागे यत्त्रिंशत्विभागस्थानानि^१ तानि पृथक् पृथक् गुणकेन</p>	<p>Verses of the Treatise</p> <p>Announcement of an example</p> <p>Versified example</p> <p>Announcement of setting and setting</p> <p>Resolution</p> <p>Stating the solution</p>
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Fig. 1: The different parts of a solved problem. Execution of a multiplication in the commentary on Śrīdhara's *Board Mathematics* as set up in Kripa Shankar Shukla's 1959 edition.¹⁶

15 Keller 2022, 118 gives examples of proofs in commentaries made with specific givens and carried out within the resolution of examples. This is most common but often erased from the standard historiography of proofs in Sanskrit mathematical sources, as discussed in Keller 2022, 110–111.

Within this structure, therefore, different performances are staged inside the text: the performative declarations of problems and settings, the statement of the problem, the translation of the problem's givens on a working surface, the resolution of a problem, and the explanations related to the resolution. They can each be treated in a separate rubric, suggesting that the resolution of a problem involves all these sub-actions, which together form one great performance: the execution of the algorithm which solves a given problem.

The text of commentaries sometimes alludes to what is being done, orally, off-stage so to say, with what is placed on the working surface. Typically, in Bhāskara's commentary on the *Āryabhaṭīya*, oral explanations are given on diagrams. These explanations are evoked in the texts but not explicated.¹⁷

Therefore, the different actions involved in the resolution of a problem are sometimes staged partly in the text, but other actions might simply be alluded to, and others yet remain tacit.

We may wonder how these performances were to be staged. Were they to be performed theatrically with an oral vocalisation, or silently for one's self? Even as we leave orality aside, we might ask whether we can speak of the execution of an algorithm as a performance. Was it thought of in this way by the authors of Sanskrit mathematical commentaries?

1.3 Texts, algorithms, and performances

The execution of an algorithm involves much of what defines a performance:¹⁸ it is a skill that can be repeated and rehearsed to be carried out well. It can be different every time it is acted out, and it may or may not have publics, but since we learn of them through texts that evoke them, we may imagine at least two concerned with the performance: the author of the text and his or her reader. An algorithm's steps need not all be fixed precisely or in the same order, as we will see. The space in which a procedure is to be performed, and the material objects which it involves are open questions to us as historians.

Would the authors, performers, and readers of Sanskrit mathematical texts in the past endorse such points of view?

¹⁶ The publication is free of copyright, and available here <<https://archive.org/details/Patiganita>>.

¹⁷ Keller 2005, 298–299.

¹⁸ As considered in Schechner 2017, 26, 35, 49, and 52, and Fischer-Lichte 2014, 18.

The vocabulary associated with the execution of procedures in Sanskrit etymologically conveys the idea of making and of action, which is the same word (*karāṇa*). The same term can be used to evoke both the procedure itself and the resolution of a problem. Consequently, operations appear as the elementary building blocks from which algorithms are made. They are very literally perifabrications (*parikarman*). Other words can be used of course, some evoking methods which lead (*nyāya*) to a fruit/result (*phala*). Therefore, the execution of the algorithm and the algorithm are one and a same thing in the vocabulary. In theatre and dance, according to Sanskrit texts, if a performance is related to action (*kṛ-*) the performance itself has a separate name and verb (*naṭ-*). We do not find such distinctions in the resolution of problems or the execution of algorithms. However, texts that were not theatre plays but had a scholarly dimension could be associated with some kind of performance, chanting intertwined with near theatrical staging, or recitation with improvisation, possibly in Sanskrit and vernacular. This is notably the case of the historical law texts called ‘the ancient’ (*purāṇa*), which were performed by specialists, *pauraṇikas*.¹⁹ We can thus imagine that similarly astral texts or mathematical texts could be performed by the specialists of these texts. Astrologers in South Asia today are known to intertwine computations in what is sometimes a ritual performance. Such ritual performances might include the recitation of texts.²⁰ To evaluate whether they existed in the past, and in what form, we would need to document such stagings in non-mathematical and non-astral literature as well.

Historians of mathematics have taken the resolution of problems as described in mathematical commentaries as a stage, set in the text, on which the resolution is performed to teach and explain how an algorithm should be executed. In other words, more often than not, historians of mathematics have approached mathematical texts as very literally describing the execution of operations and algorithms. As such then, the *sūtras* of mathematical treatises have appeared as faulty: aphoristic and failing to describe the intricate details necessary to reproduce an execution, while commentaries would seem to rely on much tacit knowledge.

Let us first set aside, though, the idea that transmitted texts are always about enabling such performances. We have noted that some of the actions entailed by an execution might not be staged directly in the text. Some might be

¹⁹ Some of such performances are described in O’Hanlon 2013, 117–118.

²⁰ Tarabout 2006; Tarabout 2007; and Tarabout 2015 are analytical variations on an astrological ritual carried out in Kerala temples. See also Guenzi 2013, for example 116–118 translated into English in Guenzi 2021, 90–91.

tacit, and others simply alluded to. Perhaps some of what is staged in the text – including the display of working surfaces – aims at inviting the reader (directly or indirectly) to try to enact a set of actions. Text by text we should try to assess which elements may invite us to think that this is the case. In all instances, choices are made in the treatises as in the commentaries on which part of the performance is shown. Each mathematical commentary has its own way of relating to the different performances that the resolution of a problem entails. A text can never faithfully describe and/or represent the whole set of performances attached to the resolution of a problem, since these include non-discursive acts. They however necessarily give a point of view on it. More precisely, a treatise’s rules give a point of view on the steps of the procedure, while the commentary expounds on what is deemed necessary about it.²¹

In what follows, the intention of the texts in relation to the performance of the algorithm by a reader or hearer will not be discussed directly. However, we will have to touch on such an intention as we try to reconstruct the performance of a multiplication. We will see how discussing the performance in relation to the text helps us perceive what could have been some aspect of the author’s aim. We will consider the texts as more or less willing testimonies to how a given algorithm or operation was carried out, and we will use texts as the tools we have as historians to reconstruct these executions. But we will not assume that all the texts we deal with are, as Matthieu Husson and Samuel Gessner in this volume put it, ‘toolbox’ manuscripts.

This chapter tackles some of the difficult components of the reconstruction of executions, those which may specifically be concerned with performance: the material objects used, the surface on which the execution took place, and the different orders and details of those little steps in the execution of an algorithm that exhibit a know-how open to improvisation. What clues do we have about them?

In what follows, this chapter looks at the dialectics of what the text states about the resolution of a problem, the representations of different stages of the working surface within the text, and how they are articulated to one another. We will do so in the case of the execution of a multiplication. It will be a way of asking on what surface, with what tools, multiplications could have been carried out. The discussion will use Pṛthūdaka’s (fl. 850) commentary (abbrev. PBSS) on the *Theoretical Treatise of the Corrected Brāhma School* (*Brāhmasphuṭasiddhānta* 628 – abbrev. BSS), the anonymous undated commentary on Śrīdhara’s (c. 800) *Board Mathematics* (*Pāṭīgaṇita* – abbrev. PG) and the *An Introductory Commentary on*

²¹ Keller 2015a, 189–190, 210–211.

Arithmetics to Awaken the Young (*Bālabodhāṅkavṛtti* – abbrev. BBA), Śambhūdāsa’s (1428/1429) Old-Gujarātī commentary on the anonymous Sanskrit *Twenty-five Rules* (*Pañcaviṁśatikā* – abbrev. PV).²²

We first look at what the text and manuscript stage of the working surface in relation to the text and the execution, and we then raise questions about the material objects that were used to perform these executions.

2 Texts displaying the execution of multiplications

Many different techniques for multiplications are evoked in Sanskrit mathematical texts. Those pertaining to the decimal place value notation have attracted more attention in the historiography than others. Of course, this is in part due to the historiographical trope of an interest in ‘our’ method of noting numbers. However, operations using place-value resources are also those that involve representation of tabular dispositions on a working surface.²³ In what spaces were multiplications carried out? Were such spaces the same as those on which texts were written? How did multiplication executions deal with place-value and its tabular resources? Notably, how were carry-overs and intermediate steps noted, or dealt with? With these questions in mind, we will look at two different kinds of multiplication executions.

The first example comes from Pṛthūdaka’s commentary on the mathematical chapter of the *Theoretical Treatise of the Corrected Brāhma School* (*Brāhmasphuṭasiddhānta*). We will look at a multiplication whose multiplicand is made into a ‘cow’s string’ (*go-sūtrikā*). The following examples concern a well-known multiplication method called ‘door-hinges’ (*kavāṭa-sandhi*). We will look at how different texts represent different moments of multiplication execution on a working surface, focusing first on how they display the working surface and the intermediary steps.²⁴

²² All primary sources, their editions and associated abbreviations are summed up in Appendix A.

²³ Discussed in Keller and Morice-Singh 2022.

²⁴ Some elements of this and the following subsection have already been discussed in Keller and Morice-Singh 2022.

2.1 Manuscripts displaying different spaces?

Brahmagupta, the seventh-century astronomer and mathematician, defined a mathematician as someone who knew twenty different types of operation (*pari-karman*). His ninth-century commentator Pṛthūdaka noted that multiplication (*pratyutpanna*) counted among them. At the end of the mathematical chapter, multiplications with integers are evoked. One of the verses runs as follows:²⁵

BSS.12.55.

The product (*pratyutpanna*) is the multiplicand (*guṇya*), made into ‘a cow’s string’ (*go-sūtrikā*)²⁶, equal in portions (*khaṇḍa*) to the multiplier (*guṇakāra*), multiplied <and the partial products> added, or, <the multiplicand> is equal in parts (*bheda*) to the multiplier ||55||

This rule provides the gist of what we can read as two different kinds of execution of a multiplication organised around two subdivisions of the multiplier (*guṇakāra*): in portions (*khaṇḍa*) or in parts (*bheda*). The rule then relies on two specified operands: a multiplicand (*guṇya*) and a multiplier (*guṇakāra*) which are not treated as interchangeable. They do not enter the same steps in the execution procedure. It is understood that the multiplicand (*guṇya*) is repeated as many times as there are parts or portions in the multiplier.

²⁵ BSS.12-55 *guṇakāra-khaṇḍa-tulyo guṇyo gosūtrikā-kṛto guṇitaḥ| sahitaḥ pratyutpanno guṇakāraka-bheda-tulyo vā||*. Translations of this verse can also be found in Colebrooke 1817, 319; Datta and Singh 1935, 135; and Keller and Morice-Singh 2022.

²⁶ There is a certain amount of discussion on the reading and understanding of this name. Colebrooke 1817, 319, reads ‘cow’s string’ (*go-sūtrikā*) and Hayashi 2017 has recently agreed to follow him on this as this reading corresponds to what is noted in available manuscripts of the treatise and commentary. Sudhākara Dvivedin’s text, as well as Bibhutibhusan Datta and Narayan Avadesh Singh’s interpretation, suggest a different reading, *go-mūtrikā*. Datta and Singh 1935, 147, n. 4, evoke live oral traditions through ‘paṇḍits’, to justify their reading. The transition from the *devanagari* म (*ma*) to स (*sa*) is indeed very slight and could explain the corruption of the text here. The expression *go-mūtrikā* means lit. ‘cow’s urine’ and is a common word used to signify ‘zig-zag’. Takao Hayashi argues that there is another kind of multiplication that is standardly called *go-mūtrikā* and which indeed corresponds to a zig-zag; while the ‘cow’s string’, which could attach several cows in a row together, may correspond better to what is described of the display. This argument however is also debatable. First, because a same name could be used to denote different multiplication executions as shown in Hayashi 2017, 58–59 and in Keller and Morice-Singh 2022. Second, although attested in dictionary entries such as the one authored by Monier Monier-Williams, the existence and use of such strings (or of such an expression) needs to be documented. Nevertheless, since the image of three cows in a diagonal row is a plausible one for this multiplication method, and since it further retains the manuscript readings, we will adopt this name for the time being.

Pr̥thūdaka’s interpretation of Brahmagupta’s rule details in part how these multiplications should be executed. Here we concentrate on a multiplier subdivided into ‘portions’ (*khaṇḍa*), with a multiplicand shaped into a ‘cow’s string’. Multiplying with a multiplier subdivided into ‘portions’ (*khaṇḍa*) means, according to Pr̥thūdaka, splitting the multiplier according to its different powers of ten. This method then depends on the fact that counting uses base ten and that multiplication is distributive over addition. Pr̥thūdaka considers the example 235×288 . In the commentary, 288 is the multiplier and 235 the multiplicand. He will compute $235 \times 288 = 235 (2.10^2 + 8.10^1 + 8.10^0) = 470.10^2 + 1880.10^1 + 1880.10^0 = 67680$. A reconstruction of the process is provided in Appendix B.

Three manuscripts record Pr̥thūdaka’s commentary on the mathematical chapter of the *Theoretical Treatise of the Corrected Br̥hma School*: Henry Thomas Colebrooke’s manuscript (I_1) which served as a basis for his 1817 translation, Dvivedi’s manuscript (V_1), which served for his 1902 edition of it, and a copy of Colebrooke’s manuscript (I_2).²⁷

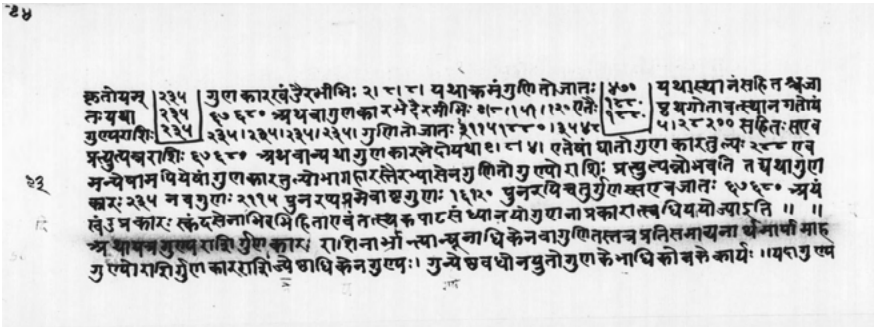


Fig. 2: I_1 , Colebrooke’s manuscript; London, British Library, IOSAN2769 = IOSAN1304, upper hand of fol. 178’. © British Library.

27 Setsuro Ikeyama very generously provided the copies of V_1 used here, while copies of I_1 and I_2 were made available by the funds of the Algo ANR.

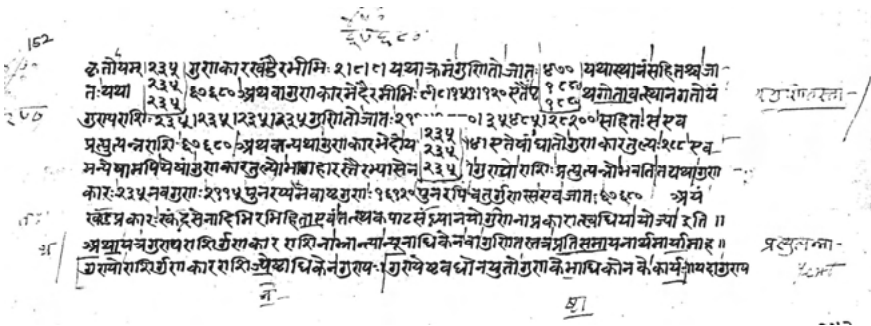


Fig. 3: V₁, Dvivedi's manuscript; Varansi, Sanskrit University Library (Sarasvatī Bhavana), 98256, upper part of fol. 52'.

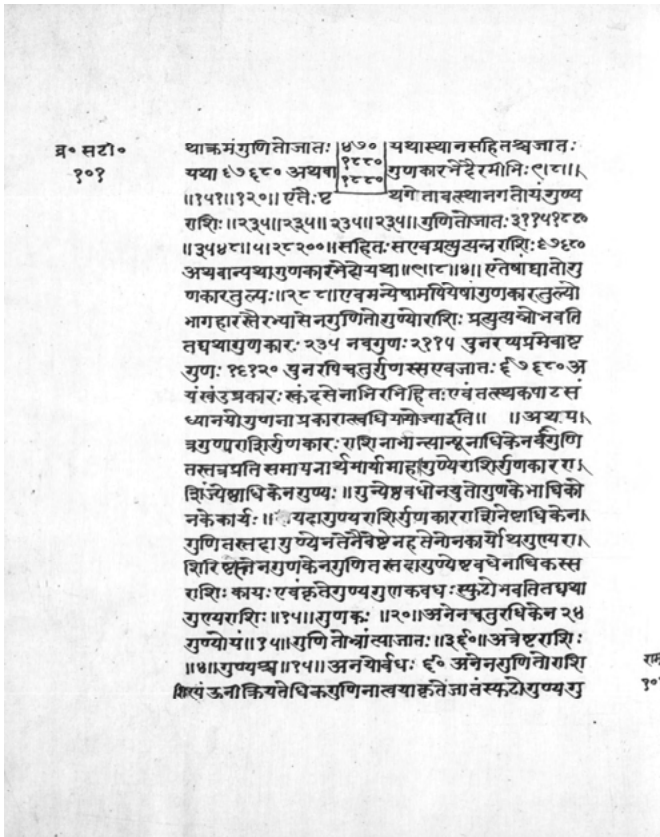


Fig. 4: 1/2 a copy of 1; London, British Library, IOSAN2770 = IOSAN2266. © British Library.

Such manuscripts are quite recent: they date from the end of the eighteenth century (I_1) and possibly the nineteenth century (I_2 , V_1), while Pṛthūdaka's commentary is probably from the ninth century. They are separated by roughly a thousand years.

Manuscripts display the multiplicand and the multiplier in separate places. The three manuscripts display the multiplicand of the example in a column, repeating it identically several times (as many times as there are digits in the multiplier), as shown in Fig. 5a–b:

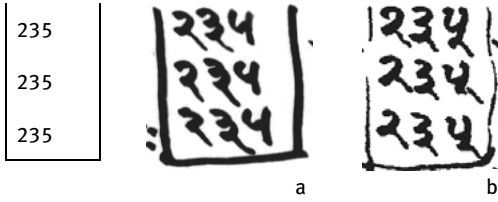


Fig. 5a–b: Multiplicand in a cow-string in I_1 when multiplying 235 by 288; London, British Library, IOSAN2769 = IOSAN1304, upper hand of fol. 178^r. © British Library (a); multiplicand in a cow-string in V_1 when multiplying 235 by 288; Varansi, Sanskrit University Library (Sarasvatī Bhavana), 98256, upper part of fol. 52^r (b).

A capsule is used to separate this display from discursive text. The verticality of the layout suggests that the working surface could be in a different space from the one in which the text itself was inscribed. However, it is also possible to imagine that the working surface was simply separated from the rest of the text because it was not meant to be read in the same order as the rest of the linear textual discourse. In such a case, the mathematical work to be carried out would have been made on the same medium of inscription as the text.

On the other hand, there is no ambiguity that the multiplier seems to be noted within the text. Like the multiplicand, the multiplier is noted using decimal place-value notation. 288 is noted as:

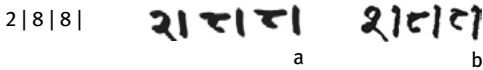


Fig. 6a–b: Multiplier into portions in I_1 when multiplying 235 by 288; London, British Library, IOSAN2769 = IOSAN1304, upper hand of fol. 178^r. © British Library (a); multiplier into portions in V_1 when multiplying 235 by 288; Varansi, Sanskrit University Library (Sarasvatī Bhavana), 98256, upper part of fol. 52^r (b).

Each digit is separated by a *daṇḍa* (the Sanskrit punctuation mark: |), in the order in which it would be noted without this separation (2 | 8 | 8 | is what is noted and not 200 | 80 | 8 |). The different powers of ten of the multiplier are laid out in a horizontal row, the same on which sentences of discursive language are made. The inscription appears as integrated in the sentences, not separated from them.

Therefore, the multiplicand seems either to be shaped on a working surface separate from the text – or at least distinguished from usual text – while the multiplier seems to be integrated within discursive text. The space and medium of the working surface in relation to the text that refers to it remains uncertain, paradoxical. There are reasons to believe that in the original text by Pṛthūdaka, representations of the working surface concerned a medium different from the one on which permanent text was written. Pṛthūdaka and the author he comments upon, Brahmagupta, both refer to ‘dust computations’ (*dhūli-karman*), suggesting that computations were performed either on a dust board, or simply on the bare ground; not on a palm leaf or bark on which manuscripts would have been inscribed in his lifetime.²⁸ But why then would the multiplier, on the other hand, be included in the text? Could this indicate that for those who copied the manuscripts in the late eighteenth century and onwards, the idea of a separate working surface represented an antiquated form and that in more modern times computations were usually integrated within the text itself? This is a hypothetical historical interpretation, but we might also be misled by thinking about material tools of computation. Perhaps that which is in a capsule represents computations to be committed to memory? We cannot answer these questions, of course, but they do show however that what is represented by encapsulated numerical tables remains undetermined, open to interpretation. Possibly, over time, for different authors and scribes it represented different things.

We might then want to retrieve what Pṛthūdaka tells us in the text about the space in which executions are carried out. But here the space of execution and place-value have the same name: *sthāna* (place/position). This indeterminacy of what place/position refers to, raises questions on the display of intermediary products during the execution of the multiplication.

Pṛthūdaka quite clearly states that places/positions (*sthāna*) are central to some steps of the execution:

²⁸ Wujastyk 2014, 166.

The product is [the multiplicand] multiplied respectively and separately by precisely those portions of the multiplier <and> added according to place (*yathā sthānam*).²⁹

Ambiguously, ‘places’ could designate the different rows of the column where the multiplicand is repeated or the positions in which the digits are written when noting down a number in decimal place-value notation. In the first case, Pṛthūdaka’s remarks concern the order in which the partial products are added; in the second, he refers to their relative values. In the reconstruction of the execution we have not been able to decide how, according to Pṛthūdaka, the multiplicand and then the partial products are laid out and then summed in the computation. If we consider that ‘place’ refers to place-value notation, it is possible to tentatively adopt an interpretation of the columnar display which is not found in the manuscripts. Each row could have been written one place to the right with respect to the previous one (as cows tied on a same string), placing the multipliers according to the value of the respective digit of the multiplier that it will be multiplied with:

2	3	5	
	2	3	5
		2	3 5

However, in all manuscripts, the digits in the last line do not seem to be properly placed to carry out a column-by-column sum as we are used to.³⁰

²⁹ *tair eva gunakāra-khaṇḍaiḥ pṛthak pṛthag gunito yathā sthānām sahitaḥ pratyutpanno bhavaty.* The expression ‘according to place’ can be understood as referring to ‘multiplied’, ‘added’ or to both.

³⁰ The interpretation of the layouts in the manuscript is actually a bit tricky here. Although the numbers are not strictly aligned digit by digit, one can maybe read a diagonal of ‘zeros’ followed less clearly by a diagonal of ‘seven, eight, eight’. Such diagonals seem to appear in *I*₁. Strikingly enough, paleographically, the zero is usually a drawn circle as in the first row with 470 is followed for 1880 by what appears as not ‘zeros’ but simple points, which can be used in manuscripts to represent an empty space in tabular layouts. Here however it would be difficult to understand why empty spaces would be drawn for one space and not for the following ones, or not for the 470 above. They make sense if this is a way of anticipating the lack of space to draw them out in a proper diagonal, as in the other manuscripts. In the copy of *I*₁, *I*₂, such diagonals are less obvious and could have been ignored by the person who copied it. The problem might also be, as in *V*₁, a lack of space.

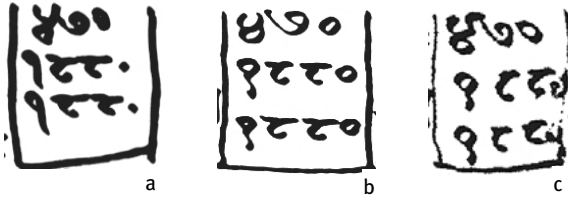


Fig. 7a–c: Partial products in I_1 when multiplying 235 by 288; London, British Library, IO-SAN2769 = IOSAN1304, upper hand of fol. 178^r. © British Library (a); partial products in I_2 when multiplying 235 by 288; London, British Library, IOSAN2770 = IOSAN2266. © British Library (b); partial Products in V_1 when multiplying 235 by 288; Varansi, Sanskrit University Library (Sarasvatī Bhavana), 98256, upper part of fol. 52^r (c).

On the other hand, if Pṛthudaka is not referring to place-value with the term ‘place’, then he is just noting that the different partial products of the multiplications are given in different rows which are ‘places’ from which a sum is then executed. Imagining that this encapsulated text refers to a gridded surface outside of the text might be a way of explaining the ambiguity: the ‘place’ would be both exterior to the text, but gridded according to place-value. Our uncertainty over the place and materiality of the working surface as represented by a capsule is linked to our uncertainty concerning whether resources of place-value notations are used in the sums of the partial products when considering this execution of a multiplication.³¹

We also note that, at the time of the execution, the order in which the partial products are computed and then summed is open to variation. This part of the execution is not exactly detailed in the commentary; the partial products are displayed altogether, and then their sum which gives the final product. Whether the partial products were made from top to bottom, bottom to top, or starting in the middle is not specified.

We also note that the execution as described by Pṛthūdaka is carried out in four distinct steps: (a) the shaping and/or displaying of the multiplicand, (b) the identification of the digits forming the multiplier, (c) the computation of the partial products, and then (d) their sum. This is not the order of execution. To properly set up the multiplicand (a) we need to already know in how many digits the multiplier is subdivided (b). In Pṛthūdaka’s commentary, (b) then appears as a justification of (a), and is not a step concerned with the execution of

³¹ All of these hesitations have been discussed in more detail in Keller and Morice-Singh 2022, 510–520, and also Chemla 2022, 107–109.

the multiplication. In other words, his description of the execution is intended not at having us reproduce it, but at explaining some of its elements.

Although many questions are raised by this analysis, let us retain two main ideas: first, that we need to better understand what encapsulated configurations of numbers represent for our authors and manuscript copiers; and second, in this case, that the order of the steps is not an issue for the commentator who describes the execution, for a degree of latitude is left to the executioner. The intention of the commentator, it seems, might be to explain to the reader some of the steps, not to guide the reader step-by-step in the execution.

In what follows, I would like to emphasise how commentaries can display different stages of the working surface while illustrating a same procedure: they may be illustrating possible differences of steps in the execution, but may also testify to different modes of execution. To do so, we will look at two different texts describing the same method of multiplication: precisely the ‘door-hinge’ method (*kavāṭa-* or *kapāṭa-sandhi*).³² Such a multiplication technique, known also to Pṛthūdaka, uses place-value and is described in numerous Sanskrit mathematical texts.

2.2 One procedure, two texts and many possible executions

The ‘door-hinge’ procedure for a multiplication relies on the decimal place-value notation and uses a dynamic layout. In such an algorithm, the multiplier is set above the multiplicand and made to move either from left to right, or from right to left, as the multiplicand’s digits disappear to be replaced by intermediate products until the initial multiplicand has vanished, yielding in its place the result. The process is quite consistently evoked in Sanskrit treatises devoted to mathematics.³³

We will look here at two different commentaries which detail the execution of a ‘door-hinge’ multiplication: the anonymous and undated commentary to Śrīdhara’s *Board Mathematics* (*Pāṭīgaṇita* – abbrev. PG) (c. 800), and an Old Gujarati commentary on an anonymous Sanskrit treatise, Śambhudāsa’s

³² We will see both names used in the different texts examined below.

³³ A reconstruction of two multiplications using this method is provided in Appendix C and Appendix D. Hayashi 2017, 58–59, notes the references of nine texts ranging from the ninth to the sixteenth century giving rules for such a procedure, under different names. He also notes that the name itself, ‘door-hinge’, becomes progressively attributed rather to the ‘lattice’ (also known as *gelosia*) method.

(1428/1429) *An Introductory Commentary on Arithmetics to Awaken the Young* (*Bālabodhāṅkavṛtti* – abbrev. BBA), on the *Twenty-five Rules* (*Pañcaviṁśatikā*).

2.2.1 A ‘door-hinge’ multiplication in a commentary on *Board Mathematics*

Śrīdhara, probably a near contemporary of Pṛthūdaka, details in *Board Mathematics* (*Pāṭiḡaṇita*) some of the ways to execute a multiplication. The text is known in a single incomplete manuscript, with an anonymous undated commentary. It was discovered by Avadhesh Narayan Singh (1901–1954) in the Raghunātha Temple Library in Jammu.³⁴ He obtained a copy of it from which an edition was prepared in 1959 by Kripa Shankar Shukla (1918–2007).³⁵

The rule which considers a ‘door-hinge method’ (*kavāṭa-sandhi-krama*), runs as follows:³⁶

PG.18

Having placed the multiplicand (*guṇya*) below the multiplier quantity (*guṇarāśi*), according to the ‘door-hinge’ method (*kavāṭa-sandhi-krama*), one should multiply by going indirectly (*viloma-gati*) or in a direct (*anuloma-mārga*) way, step by step.

PG.19

Having shifted again and again thus should be the door-hinge. This procedure (*karaṇa*) when it (the multiplier) is stationary is therefore a multiplication ‘as it stands’ (*tat-stha*).

Śrīdhara provides under the same name what appears during execution as two different multiplication procedures. With the multiplier above the multiplicand, the ‘direct way’ (*anuloma-mārga*) involves a multiplier moving from right to left, from the multiplicand’s digit for the smallest power of ten to the multiplicand’s digit for the highest power of ten. A reconstitution of this procedure for the computation of 1296×21 is provided in Appendix C. ‘Going indirectly’ (*viloma-gati*) involves a multiplier moving from left to right, from the multiplicand’s digit for the highest power of ten to the multiplicand’s digit for the lowest power

³⁴ Specifically Raghunātha Temple Library, Manuscript 3074 (Gha Alm 14 Shlf 1). At the time of writing (April 2023), a digital copy can be found at [archive.org: <https://archive.org/details/PatiiGanitaWithTikaSridharacharya3074GhaAlm14Shlf1DevanagariJyotish>](https://archive.org/details/PatiiGanitaWithTikaSridharacharya3074GhaAlm14Shlf1DevanagariJyotish).

³⁵ Shukla 1959, i–ii.

³⁶ ‘PG.18 *vinyasyādho guṇyaṃ kavāṭa-sandhi-krameṇa guṇa-rāśeḥ| guṇayed viloma-gatyā ’nuloma-mārgeṇa vā kramaśaḥ ||18||* PG.19. *utsāryotsārya tataḥ kavāṭa-sandhir bhaved idaṃ karaṇam| tasmimś tiṣṭhati yasmāt pratyutpannas tatas tatsthaḥ ||19||*’. For the Sanskrit edition, see Shukla 1959, 12–13; for the English translation, see Shukla 1959, 9.

of ten. However, the multiplier need not be moved; when it is motionless, the name of the execution changes to ‘as it stands’ (*tat-stha*).

The position and regular shifting of the multiplier obviously have an important role in these methods of execution. When the multiplier moves, the position of the highest digit of the multiplier indicates the digit of the multiplicand below it on which an intermediary multiplication has to be performed.

The procedure to multiply 1296×21 in the ‘direct way’ is precisely the one whose execution is detailed in the edited commentary exhibited in Fig. 1. As edited, the displays represent different steps of the execution of the multiplication up to the numerical result. They all seem to belong to the same space as the written text of the commentary. Furthermore, the commentary seems to guide us through the different intermediary steps of the process, as if to help the reader – and anyone trying to reproduce the process. It provides little images of what the working surface should look like each time the multiplicand slides one step to the right. It sometimes even provides positions just before the sliding. But a close look at the edition and at its conventions can help us to see that this is actually an illusion. As shown in Fig. 9, even if you do not read Sanskrit, you can see that all the text between parentheses and highlighted in grey represents the editor’s additions to the commentary.³⁷

Representations of the working surface for this example in the actual manuscript of the commentary are reduced to two encapsulated dispositions, which gives an idea of the process in its middle, as seen in Fig. 10 (and explained in Appendix C).³⁸

³⁷ The editor presents the last display as a reconstruction in between parenthesis but the last display is found in the manuscript as shown below.

³⁸ The publication is free of copyright, and available here <<https://archive.org/details/PatiiGanitaWithTikaSridharacharya3074GhaAlm14Shlf1DevanagariJyotish>>.

विन्यस्याधो गुण्यं कवाटसन्धिक्रमेण गुणराशेः ।
 गुण्येद्विलोमगत्याऽनुलोममार्गेण वा क्रमशः ॥ १८ ॥
 उत्साय्योत्सार्य्य ततः कवाटसन्धिर्भवेदिवं करणम् ।
 तस्मिंस्तिष्ठति यस्मात्प्रत्युत्पन्नस्ततस्तत्स्थः ॥ १९ ॥
 रूपस्थानविभागाद् द्विधा भवेत्खण्डसंज्ञकं करणम् ।
 प्रत्युत्पन्नविधाने करणान्येतानि चत्वारि ॥ २० ॥

(उदाहरणानि—
 पण्यवतिद्विक्रमेकं चैकद्विगुणानि पण्यवाष्टौ च ।
 सप्तत्रिगुणान् पंचकषट्खाष्टौ च कुरु षष्टिगुणान् ॥ ३ ॥)

प्रतिरूपमुत्पन्नो राशिरुद्धिरूपवृन्दस्य कियान् स्यादिति गुरगुण्य (योरेकविंशति-
 पण्यवत्यधिकशतद्वादशकयोः कवाटसन्धिक्रमेण न्यासः— १२९३१ । एकस्थानस्य षट्कं रूपेण
 गुणितं षट् इति एकाधःस्थाने षट्, ततः द्विकेन गुणिते षट्के द्वादश इति द्विकाधःस्थाने द्वौ
 रूपमपि नवानामघः जातम् । न्यासः १२९३१ । ततो दशस्थानस्य नवकं गुणयितुं सर्पति
 गुणराशिः । न्यासः १२९३१ । इदानीं नवानामेकविंशतेदच गुण्यगुणकभावो जातः, रूपेण
 गुणितं नवकं नव, स्वाधःस्थितद्विकयोगात् तत्स्थाने रूपं जायते, रूपमपि द्विकाधःस्थितरूपेण
 युज्यते द्वे भवतः ; द्वाभ्यां गुणिते नवके अष्टादश) पूर्ववदेव तदधो न्यासः, अष्टमु च
 स्वाधःस्थितद्विकयोगे तत्स्थानं शून्यं, रूपमपि द्विकाधःस्थितं रूपेण युज्यते द्वे भवतः ।
 ततश्च शतस्थानं द्विकं गुणयितुं सर्पति गुणराशिः । स्थापनम् १३०१६ । इदानीं
 द्वयोरेकविंशतेदच गुण्यगुणकभावो जातः, एकगुणितौ द्वौ द्वावेव, एकाधःस्ये (शून्ये)
 द्विकं क्षिप्त्वा जातौ द्वौ, द्वाभ्यां च द्वौ गुणितौ चत्वारः, स्वाधःस्थितद्विकयोगात् षट्
 (१३३१६) । ततः सहस्रस्थानस्य रूपं गुणयितुं सर्पति गुणराशिः । न्यासः (१३३१६)
 इदानीमेकस्यैकविंशतेदच गुण्यगुणकभावो जातः, तदा रूपेण गुणितं रूपं रूपमेव, षट्मु
 क्षिप्तं सप्त, द्वाभ्यामेकं गुणितं द्वाविति । निःशेषिते गुण्यराशौ, गुणके निवृत्ते, फलं
 तदेव २७२१६ । एवं रूपविभागे यत्परिमाणविभागस्थानानि^१ तानि पृथक् पृथक् गुणकेन

Fig. 8: The editor Shukla’s additions to complete the commentary on *Board Mathematics*: example of the multiplication of 1296 × 21 with a ‘door-hinge’ process in the direct way.

प्राग्ने पूर्ववदेव तदधो न्यासः अष्टस्रवत्त्वाधःस्थितद्विकयोगे तत्स्थानं शून्यं रूपमपि द्विकाधःस्थितं रूपेण युज्यते द्वे भव
 तः ततश्च नवस्थानस्य द्विकं गुणयितुं सर्पति गुणराशिः स्थापनम् १३०१६ इदानीं द्वादशस्थानमेकविंशतेदच गुण्यगु
 णकभावो जातः एकगुणितौ द्वौ द्वावेव एकाधःस्य द्विकं क्षिप्त्वा जातौ द्वौ, द्वाभ्यां च द्वौ गुणितौ चत्वारः स्वा
 धःस्थितद्विकयोगात् षट् ततः सहस्रस्थानस्य रूपं गुणयितुं सर्पति गुणराशिः न्यासः १३३१६ इदानीमेकस्य
 एकविंशतेदच गुण्यगुणकभावो जातः तदा रूपेण गुणितं रूपं रूपमेव षट्स्त्रिंशत्संज्ञकं
 तद्विवितानिः शेषिते गुण्यराशौ गुणके निवृत्ते तदेव २७२१६ एवं रूपविभागे यत्परिमाणविभागस्थानानि

Fig. 9: The two intermediary configurations in the ‘door-hinge’ process when computing 1296 × 21 in the direct way in the commentary on *Board Mathematics*; Raghunātha Temple Library, Manuscript 3074 (Gha Alm 14 Shlf 1), fol. 12^v.

This representation displays how the shifting of the multiplier as well as partial sums and partial products can be dealt with. Here, the first representation is enough to tell us that the digits of the multiplicand are progressively replaced by those of the result during the multiplication. It shows us that carry-overs are placed below the multiplicand, next to the position they will be added to.³⁹ Carry-overs are stored on the working surface temporarily; before the multiplier moves from one position to another, previous carry-overs are integrated into the partial result. No previous carry-overs are left visible on the working surface. The second representation shows how the multiplier moves from right to left over the modified multiplicand displaying a partial result. The result itself is finally given within the text: it is not encapsulated and we do not know if in the end the multiplier is erased. These two only preserved windows onto the working surface are enough to tell us that the aim of the commentator is not to provide a step-by-step reconstruction of the performance, but just to indicate how carry-overs and intermediate products could be treated. Such displays suppose in a way that one has already tried to carry-out the execution and has some questions about the performance. Other executions of the same procedure are possible, as we will now see.

2.2.2 A ‘door-hinge’ multiplication detailed by Śambhudāsa

Śambhudāsa’s (1428/1429) Old Gujarati commentary *An Introductory Commentary on Arithmetics to Awaken the Young (Bālabodhāñkavṛtti* – abbrev. BBA) on an anonymous Sanskrit treatise, the *Twenty-five Rules (Pañcaviṃśatikā)*, has been edited, translated, and commented upon by Hayashi.⁴⁰ The edition has used three manuscripts, one of which (manuscript B) is dated to 1428/1429.⁴¹ Verses 4 and 5 of the treatise that it comments on evokes the ‘door-hinge’ multiplication.⁴² The method itself is specified in verse 5. The commentary on the process uses as an

³⁹ The editor Shukla places the carry-overs immediately below this position. The configuration presented in the manuscript might be approximative, but the carry-over seems to be below and slightly to the right of this position. This point is also discussed in Appendix C.

⁴⁰ Hayashi 2017.

⁴¹ Hayashi 2017, 5–6.

⁴² PV.4. *dvidhā kapāṭasaṃdhiś ca tathā gomūtrikā dvidhā| tatstho dvidhā punaḥ proktas tathā ṣaḍstridhā smṛtaḥ||*. For the English translation, see Hayashi 2017, 57: ‘There are two kinds of “door-hinges” (*kapāṭasandhi*). Likewise, there are two kinds of “zig-zags” (*gomūtrikā*). “As it stands” (*tat-stha*) has also been declared to be of two kinds, and “portions” (*khaṇḍa*) has been laid down as being of three kinds’.

example related to verse 4, the product 18×1196 . This example is detailed in Appendix D. The Sanskrit edition of the text is presented in Fig. 10.

There are several small differences with the method as we know it through Śrīdhāra's text. The inverse order here corresponds to Śrīdhāra's direct order, and what stands as a 'multiplier' (*guṇakāra*) in *Board Mathematics* is called here a 'price' (*mūlya*), while the 'multiplicand' (*guṇya*) is called 'the question' (*praśna*), which Hayashi translates as '<term in> question'. The multiplication is thus thought of here as the operation of that which determines the price of things.

प्रथमोदा उदाहरणं ।¹ रूपा गदीयाणा एक सहस्र एक सु छन्नु । प्रति द्रम्मा १८
अदार । किं फलं भवति । न्यासः । कपाटसंधि अनुलोमगति

१	८
१	१
९	६

²

गुणने रूपं

१	८	८	२	८
	१	९	६	
		७	४	

³ लब्धं द्रम्माः

२१५२८

 तथा कपाटसंधि विलोमगतिः

१	१	९	६
१	१	९	६

⁴ गुणने रूपं

१	१	९	६	८
		८	७	४
			८	२

⁵ लब्धं द्रम्माः

२१५२८

⁶ ॥

¹उदाहरणं] उदारणं B(with *ha* in margin).

²

१	१	८	
१	१	९	६

 B.

³

१	८	८	२	८
१	९	६		
७	४			

 B.

⁴

१	८		
१	१	९	६

 B.

⁵

१	१	९	६	८
		८	७	४

 B, which places this box between *tathā gomūtri* and *kā* two lines below.

८	२
---	---

⁶B places this box between *gomūtrikā* and *anulomagati* in the next sentence.

Fig. 10: Multiplication of 18×1196 with a 'door-hinge' in 'inverse order' and in 'direct order' in Śāmbudhāsa's commentary; Hayashi 2017, 16.

As seen in Fig. 10, both the initial disposition and the penultimate steps are presented in the manuscript for the multiplication of 18×1196 , for both the direct (line 4) and indirect way (lines 2–3). They both lead to the result, 21528. In Hayashi's edition, the two tabular displays of the multiplication's first and penultimate steps, *and the result*, are given in a capsule. In contrast with what we have seen with the manuscripts of Pṛthūdaka's commentary dealing with a multiplicand shaped as a 'cow's string', here the capsule seems to separate the numbers from the text, showing that they are in different separate spaces. This suggests that for the scribe at least numbers were made to be inscribed in a space different to that of the running text.

The procedure also presents some difference compared to the one in the anonymous commentary on *Board Mathematics*. As we are given to see the configuration when the multiplier is in its penultimate place, all the intermediary products are preserved diagonally over three lines. In the anonymous commentary on *Board Mathematics*, intermediate products are summed into the partial result at each step, and the result appears progressively. It is on the working surface when the last partial product is incorporated into it. In the display given in Śambhudāsa's commentary, the partial products are each set down, and the last step involves their summing which will yield the result, the product.⁴³

We see that while documenting what the working surface might look like, commentators can choose the moment of the execution they want to display. In all cases, however – and contrary to the assumption for instance of Shukla in his edition of *Board Mathematics* – commentators do not aim to take us through each modification of the working surface, step by step. Furthermore, we have seen that to perform a 'door-hinge' multiplication, there was some possible latitude in intermediary steps.⁴⁴ This shows once again the treatise's choice of spelled out steps. Thus, in an execution there seems to be at least two kinds of steps: the structurally important ones, which are spelled out, and those which are less important for the authors, which are not made explicit, although they might be crucial to perform the algorithm. Authors and their commentators *both* operate choices. The choices they make highlight the fact that they aim at mak-

⁴³ We can see that manuscript B, carefully reproduced by Hayashi, somewhat like the manuscripts of Pṛthūdaka's commentary, does not seem to follow the spacing carefully. For this manuscript the emphasis might be on the intermediate products and sums rather than on their dispositions.

⁴⁴ Such latitude is well known and was discussed in detail with some references to specific manuscripts by Datta and Singh 1935, 135–143.

ing general statements. They spell out steps that are to be executed in all cases, rather than considering specific ones, necessary for a particular resolution.

But one may wonder whether between the anonymous commentator of *Board Mathematics* and Śambhudāsa's commentary there is not also a difference in the material used to carry out the process. *Board Mathematics* documents a process in which intermediary steps are progressively erased, as on a 'dust board'. This is not the case of Śambhudāsa's process, which is hybrid. Whereas the digits of the multiplicand are progressively erased, as when we use a dust board, the intermediary steps are preserved, just like when we write on paper.

Moreover, for whoever has tried to reproduce a 'door-hinge' multiplication, the constant movement of the multiplier over the multiplicand raises the question of the material with which the execution is to be carried out. Whether on paper or on a dust-board, the constant re-writing (and erasing) of the multiplier is indeed tedious. It would be much easier to either leave the multiplier alone (but then we are not technically in a 'door-hinge' multiplication anymore) or to execute the multiplication on a gridded space using valued tokens that could be moved around, rather than dust or chalk on a board, or pencil and ink on paper.

What then are the clues we have on the kind of material with which computations could have been performed? This is what we now explore.

3 Performing with what?

Most historians of Indian mathematics today consider that computations were carried out in arithmetics on a medium on which the intermediary steps of a procedure or a computation can be erased. This would either be the bare ground or a board using either dust or anything that might provide colour on the board and be easily erased: soapstone, coloured powder and, in more recent instances, chalk.

3.1 Historiography of the computational board

Most probably this consensus comes from the seminal study by Datta in 1928, synthesised in the reference manual he published jointly with Singh in 1935.⁴⁵ The term *pāṭiganīta*, translated by him as 'science of the calculation with a board', designates a sub-discipline of mathematics dealing with arithmetics but

⁴⁵ Datta 1928 and Datta and Singh 1935, vol. 1, Chap. II, 123–127. Datta 1928, 521, evokes notably yellow or white sandstone, ink and chalk.

also including elements of plane geometry and other specific topics. The board in question would be the one on which computations were carried out. Datta's text is partly a discussion of the philology and possible etymology of the *pāṭi*, translated with some difficulty as 'board'. Datta admits that the term is quite late, mentions that it is used for board in vernacular languages of India, and therefore thinks that it is a degraded form of the usual word for 'plank' or 'board' (*paṭṭa* and *phalaka*). He also shows that by the sixteenth century the word was taken to mean rather 'in succession'. In that case it refers to positional computations rather than to the media on which computations using positional notations could be performed.⁴⁶ It remains uncertain whether the term itself refers to a kind of (positional?) computation or the media on which computations were carried out. Most probably, the meaning of the term changed over time. Nonetheless, textual evidence of writing boards from the early centuries before the common era, as well as the use of a board by Bengali astrologers in his own day, convinced Datta and many of his readers that it was a very ancient practice that was continuous throughout the subcontinent. Datta noted (followed in this respect by the testimonies gathered by Sreeramula Rajeswara Sarma) that the board was used either with dust and a style, or with a kind of tool which could impart colour to what was often a blackened surface, be it a tablet or even in later times a sheet of paper. This would have been the medium on which 'dust work' (*dhūlikarma*) was carried out. As we have seen above, Brahmagupta in the seventh century and his commentator Pṛthūdhaka in the ninth or tenth century used these expressions in their writings about computations.⁴⁷ More extensive and historical research on the evocation of dust work in computations is no doubt needed; for now, this is the only early testimony of such explicit dust computations I know of.⁴⁸ Datta explicitly stated that the medium for writing ephemera and the medium for setting down complicated computations had to be the same.

Such a point of view involved setting aside other, early testimonies that were more fragmentary and difficult to interpret, suggesting that other objects could have been used for computing. The classic of Buddhist philosophy, Vasubandhu's *Treasury of Buddhist Philosophy (Abhidharmakośabhāṣya c. fourth or fifth century)*,

⁴⁶ Datta 1928, 521–524, 526. For information on writing material, and the use of a board or a plank for ephemeral writing, see also Sarma 1985. Hayashi 2014 chose to translate the term *pāṭi* as 'algorithm'.

⁴⁷ See notably, as suggested by Datta 1928, 522, n. 1, BSS.10.62, 66, 67, Dvivedin 1902, 143–145.

⁴⁸ Datta also mentions *Siddhāntaśiromāṇi, yantrādhyāya* 24, but in the absence of a critical edition, reference seems to be to a *paṭṭikā*, i.e. a board, rather than to dust work (Śāstri and Wilkinson 1861, 215).

refers to coloured counters (*vartikā*), whose value change according to place. Other philosophical Buddhist compendiums, which might have been composed earlier than this text, refer to the same argument attributed to Vasumitra.⁴⁹ In mathematics, Āryabhaṭa (b. 476) calls an algebraic unknown a ‘bead’ (*gulikā*), while in the twelfth century, in Bhāskara II’s *Algebra (Bijagaṇita)*, when several unknowns are to be considered, they are named after different colours, bringing to mind the dual possibility of drawing/painting colours on a working surface or using coloured beads, seeds or shells to make computations. All of these are but vague allusions. We note however that certain objects were likely candidates to be used as common computational tools. We might imagine for instance that seeds and grains – which were sometimes also used as beads – could have such a function, since grains as units of capacity and weight are evoked throughout Sanskrit mathematical texts. Another candidate, referred to in mathematical texts although here again not as a tool for computation but as the coin, is the *cauri* (or *cowrie*) shell.⁵⁰ The use of *cauri* shells has been attested from some of the earliest archaeological excavations in South Asia. Imported mostly from the Maldives islands, they are known to have been used over a very long period of time as a multifarious object: game token, dice, money, symbol of fertility, or expensive decorative jewel, all together.⁵¹ It is noteworthy that *cauris* are currently found across all the sea routes of Asia, the Middle-East and even Europe, in areas in which we know that place value computations also travelled.⁵² Testimonies going back to the eighteenth century attest to the use of *cauris* by as-

49 Ruegg 1978, 172–175; Bronkhorst 1994, 1041; Hayashi 2001. The same image is drawn up in the seventh century, in Bhāskara I’s commentary on Āryabhaṭa’s definition of the decimal place value notation. The commentator argues in favour of the notation, evoking the fact that, where many units/shapes (*rūpa*) might be used to state a quantity, the decimal place-value notation enables such quantities to be stated with less unit/shapes. The term *rūpa* however is ambiguous, and could refer equally to ‘shapes’ as to ‘units’ noted with symbols. Shukla 1976, 46, discussed and translated in Keller 2006, vol. 1, 11–12.

50 In South Asia, *cauris* have been documented as a kind of money – small change really in contrast with metallic money which had more value – essentially in eastern India specifically in the Bay of Bengal. In eighth- to twelfth-century Bengal, metallic money seems to have been a kind of account money with which computations were made while payments were made in cowrie shells. In this context, cowries were sometimes considered as ‘broken’ money (*cūṃṃi*), together with other ‘dust money’, e.g. dusts or small amounts of gold and silver used as lesser change than metallic coins. Majumdar and Chatterjee 2014, 49, quoting Mukherjee 1993, 5, 9, 14, and 54; Yang 2018, 46–47, further develops the argument.

51 Majumdar and Chatterjee 2014, 39; Yang 2018, 41–42.

52 Heimann 1980, quoted by Majumdar and Chatterjee 2014, 47; Yang 2018, 1–2.

trologers as tools for computations.⁵³ Even today, ‘traditional’ astrologers are known to compute with cauris. There is a growing ethnography of these practices, particularly in the form of filmed documents of astrologers performing divination and computations. To my knowledge, none of these have been published yet.⁵⁴

It is thus possible to imagine the use of valued tokens of sorts for computing, and notably for executing multiplications, although the texts do not detail such media. Note that computing with such tokens might not require a board.

3.2 Grids and cloths

Computations with place value notations require a grid, some kind of ephemeral table, whether it is explicitly drawn or not.⁵⁵ Sanskrit mathematical commentaries are sometimes intent on spelling out the importance of such grids, especially when they help explain the rationale of an operation. Ephemeral tables for many other types of procedures are known to have been used in arithmetical computations.⁵⁶ The material culture of archaeology shows that grids could be found in multiple spaces and on multiple materials. Many traditional Indian cloths are known to contain grids.⁵⁷ We might immediately think of the grids of the cotton plaids known as *madrās* derived from south Indian *lungis* and *dhotis*⁵⁸. But, more broadly, weaving – which considers the making of cloth as a grid – is attested in South Asia since prehistoric times.⁵⁹ Another pervasive grid of the

⁵³ See for instance Playfair 1790, 139.

⁵⁴ Thanks to T. P. Radhakrishnan, Professor of Sanskrit at Pondicherry University and practising astrologer, Sho Hirose (Tokyo), who filmed him, and Senthil Babu (Institut français de Pondichéry, Puducherry), who was the intermediary between them, I have had access to a film made in 2019 in Puducherry in which Radhakrishnan demonstrates to Hirose how he computes with cauri shells. He notably demonstrates a ‘door-hinge’ computation for a sexagesimal computation using cauri shells: as many cauri shells as units. We can see him using the grids used to represent the different cells of a horoscope as a grid for computation. He also uses a big grey shell to represent the number 5 and sometimes 0. Radhakrishnan’s practices gives us an example of how a ‘door-hinge’ multiplication is applied today by somebody familiar with and from within the live culture of Sanskrit mathematical and astral scholarly lore.

⁵⁵ Keller, Montelle and Koolakudlu forthcoming; Keller 2015b.

⁵⁶ Keller 2015b.

⁵⁷ The terms *pāṭikā* and *pāṭalikā* are attested to mean ‘cloth’ in Pali, according to Davids and Stede 1921–1925, https://dsal.uchicago.edu/cgi-bin/app/pali_query.py?qs=pa%E1%B9%A0Dalika&searchhws=yes&matchtype=exact (accessed in July 2023).

⁵⁸ Muthian Vasantha 2016, 336–338.

⁵⁹ Fuller 2008.

material culture of South Asia are the board games that can be found through South Asian archaeological sites, from Kashmir to South India, engraved in stone.⁶⁰ Such board games contain grids that could be used with valued tokens such as seeds, stones or cauris.⁶¹ Furthermore, the boards on which games were played were known to have rarely been made of solid material; cloth, leather and other material easy to transport were known to have been used as well.⁶²

The objective of this digression is not to decide, author by author, commentator by commentator, what media would or could have been used, when and how. The aim is simply to point out that we need not assume that over time and in all of South Asia a same tool – a board also used for ephemeral writing – was used to carry out computations. We certainly need to investigate local material cultures both synchronically and diachronically, to identify objects that might testify differently, from south to west, east to north, to different mediums for writing, computing, and playing.⁶³ The same material might have been used at times to carry out these three activities, and at others not. Even though the possible and attested material objects that could have been used for computation have to be investigated more thoroughly, let us nevertheless come back to the performance of multiplication to see how imagining other media helps us look with new eyes at the performances staged in texts in manuscripts.

3.3 Historicising working surfaces represented in manuscripts

Observation of contemporary astrologers, live experiments with children, and so on are no substitutes for documents of the past. We cannot reconstruct the past from the present, nor can we do so by putting side by side reconstructed computations and fragmentary elements of past material artefacts. These experiments can nevertheless serve as a backdrop to widen our perspectives. It is thus striking that the multiplication procedures discussed in this paper can also be carried out, quite easily, with some kind of valued tokens, which could slide on

⁶⁰ Bhatta 1995; Topsfield 2006, 19, Fig 8; Fritz and Gibson 2007; Soar 2007 (notable Figs 22.2 and 22.3).

⁶¹ Topsfield 2006, 18; Fritz and Gibson 2007, 112; Jaffer 2006, 129, evokes Satyajit Ray's *Chess Players* when Mirza, after his wife had hidden his chessmen, replaced them by different vegetables – illustrating the versatility of the kinds of objects that could be used as tokens.

⁶² Topsfield 2006, 19, 22, Fig. 12; Jaffer 2006, 129, 141.

⁶³ For an example of (a nineteenth-century) board game inscribed with magic squares, see Rangachar Vasantha 2006, 149–151, Fig. 9.

a gridded surface and be replaced by others.⁶⁴ The possibilities just tell us that we need not always be attached specifically to the board, nor to the dust.

There is however something more. We may be struck by a feature of the displays of working surfaces in manuscripts. I have suggested above that Sanskrit and even Old Gujarati commentaries of Sanskrit mathematical texts make general statements about the execution of the multiplications they evoke. The representations of working surfaces found in manuscripts seem, in the same way, to depict some or all the possible media used. Capsules might be a generic way of displaying many possible working surfaces and the different kinds of numerical inscriptions they could involve. As we rethink the execution of multiplications seen above – whether we imagine the execution on paper, on a cloth or a board, with dust, coloured brushes or cauris – the representation of the working surface found in manuscripts represents each one equally and adequately. The multiplicand in a ‘cow’s string’ in Pṛthūdaka’s commentary could be either on a dust-board or on a gridded game-board using seeds. The seemingly hybrid medium of the displayed steps of the ‘door-hinge’ multiplication, as found in the manuscripts of Śambhudāsa’s commentary, might be an intentional inclusive mode of representation of different media, different possible ways of executing the multiplication.

It is striking that capsules are found in the earliest mathematical manuscripts that have come down to us and are still in use in the most recent Sanskrit mathematical manuscripts we have studied – some of which were probably written in the first half of the twentieth century. That capsules may be a generic way of representing all working surfaces is but a first approximative hypothesis. Looking back at manuscripts, and at how and whether they really encapsulate ephemeral data such as numerical tables and diagrams, reveals a more complex set of inscriptions. Thus, for instance, we have seen that the manuscript of Pṛthūdaka’s commentary contains encapsulated and unencapsulated numerical configurations. This is the case of manuscripts we have looked at, which contain a truly wide diversity of ways of displaying configurations of numbers

⁶⁴ Experimenting with French high-school children has shown that using tokens like cauris seems easier and appears more ‘natural’ in practice than paper or a kind of erasable slate. Between 2016 and 2019, in a team with Charlotte de Varent, Matthieu Husson and Barbara Jamin, we had high-school students learn different techniques to execute multiplications as found in Sanskrit texts. Among the questions debated with them, was that of the materials with which the multiplications could have been carried out: paper, dust, mentally, with tokens? The ‘door-hinge’ execution was taught directly with tokens, but no one suggested that it could have been used on paper or dust. On the other hand, several students did suggest that other techniques could be used with tokens too, notably the multiplicand in a ‘cow’s string’.

in or out of capsules, in gridded tables or as part of discursive texts. In other words, we need to go back more carefully to our manuscripts to look at the different ways in which they represent what would have been a working surface. How generic are these representations? How do they relate to discursive text? What do these diverse ways of representing configurations testify to? More largely, do manuscripts aim at staging many different types of execution?

4 Conclusion: back to ideas of performance in relation to the reconstruction of algorithms

Trying to perform multiplications as closely as possible to those described in manuscripts thus raises questions concerning the media through which operations were carried out. It also underlines how the texts and the manuscripts speak differently about performance, each choosing the image of the continuous performance they display and comment on. As we wonder what the aim of Sanskrit mathematical texts was regarding the execution of algorithms, we note that texts seem to point to an idea about the process, its correctness, and its most salient steps, rather than being a normative statement on each of its steps. Moreover, by not focusing on the executions, authors might have been intent on making statements that apply to different cases: different ways of noting numbers at times, and possibly different material tools to execute a multiplication.

Perhaps there is a voluntary silence about the tools. Using material culture to imagine them makes us realise that this material culture could have changed but the algorithms still make sense. The notation used to represent the working surface can therefore be thought of as being general and generic – in the same way that Sanskrit mathematical *sūtras* sought to make general procedures that could apply to many different cases, and have many different interpretations.

One might argue then that only general or generic elements of the executions are highlighted in treatises and their commentaries, and that the rest may have been left to everything that makes up a performance.

At the end of the verse commentary in which Pṛthūdaka comments on the multiplication shaped as a ‘cow-string’, he notes:⁶⁵ ‘In the same way, methods of multiplication such as “as it stands” (*tat-stha*) and “door-hinges” (*kapāṭa-sandhi*), should be used ingeniously’.⁶⁶

⁶⁵ *evaṃ tatstha-kapāṭasandhy-ādayo guṇaṇā-prakārās svādhiyā yojya iti*].

⁶⁶ Keller and Morice-Singh 2022, 542–544, with emendations suggested by Hayashi.

Ingenuity (here *svādhi*, lit. ‘well thought’) was indeed probably the most widespread quality that mathematical authors of Sanskrit commentaries associated with the practice of mathematics and the execution of algorithms. Executions could thus be spelled out to explain something about them, but not necessarily to provide the ingenious know-how which might also be required to perform the execution.

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References

- Bayly, Christopher Alan (1996), *Empire and Information: Intelligence Gathering and Social Communication in India, 1780–1870*, Cambridge: Cambridge University Press.
- Bhatta, C. Panduranga (1995), 'Antiquity of Indian Board Games – A New Approach', in Alexander J. De Voogt (ed.), *New Approaches to Board Games Research: Asian Origins and Future Perspectives* (Working Papers, 3), Leiden: International Institute for Asian Studies, 125–133.
- Bronkhorst, Johannes (1994), 'A note on Zero and the Numerical Place-Value System in Ancient India', *Asiatische Studien / Études Asiatiques*, 48/4: 1039–1042.
- Chemla, Karine (2022), 'Cultures of Computation and Quantification in the Ancient World: An Introduction', in Karine Chemla, Agathe Keller and Christine Proust (eds), *Cultures of Computation and Quantification in the Ancient World: Numbers, Measurements, and Operations in Documents from Mesopotamia, China and South Asia*, Cham: Springer, 1–140.
- Colebrooke, Henry Thomas (1817), *Algebra, with Arithmetic and Mensuration, from the Sanscrit of Brahme Gupta and Bhāscara*, London: J. Murray.
- Datta, Bibhutibhusan (1928), 'The Science of Calculation by the Board', *The American Mathematical Monthly*, 35/10: 520–529.
- Datta, Bibhutibhusan and Narayan Avadesh Singh (1935), *History of Hindu Mathematics*, 2 vols, Lahore: Motilal Banarsidass.
- Davids, Rhys Thomas William and William Stede (1921–1925), *Pāli–English Dictionary*, 8 vols, Chipstead: Pali Text Society <<https://dsal.uchicago.edu/dictionaries/pali/>>.
- Dodson, Michael S. (2007), *Orientalism, Empire, and National Culture: India, 1770–1880* (Cambridge Imperial and Post-colonial Studies), Basingstoke: Palgrave Macmillan.
- Dvivedin, Sudhākara (ed.) (1902), *Brahmasphuṭasiddhānta and Dhyānagrahopadeśādhyāya by Brahmagupta Edited with His Own Commentary*, Benares: Medical Hall Press [repr. from *Pandit*, 24/12].
- Falk, Harry (1990), 'Goodies for India Literacy, Orality, and Vedic Culture', in Wolfgang Raible (ed.), *Erscheinungsformen kultureller Prozesse, Jahrbuch des Sonderforschungsbereichs 'Übergänge und Spannungsfelder zwischen Mündlichkeit und Schriftlichkeit'*, Tübingen: Gunter Narr, 103–120.
- Filliozat, Pierre-Sylvain (2004), 'Ancient Sanskrit Mathematics: An Oral Tradition and a Written Literature', in Karine Chemla (ed.), *History of Science, History of Text*, Dordrecht: Springer, 137–157.
- Fischer-Lichte, Erika (2014), *The Routledge Introduction to Theatre and Performance Studies*, London: Routledge.
- Fritz, John M. and David Gibson (2007), 'Game Boards at Vijayanagara: A Preliminary Report', in Irving L. Finkel (ed.), *Ancient Board Games in Perspective*, London: British Museum Publications, 110–115.
- Fuller, Dorian Q. (2008), 'The Spread of Textile Production and Textile Crops in India beyond the Harappan Zone: An Aspect of the Emergence of Craft Specialization and Systematic Trade', in Toshiki Osada and Akinori Uesugi (eds), *Linguistics, Archaeology and the Human Past* (Indus Project, Occasional Paper, 3), Kyoto: Research Institute for Humanity and Nature, 1–26.
- Goody, Jack (with Fennell, Stephen) (2010), *Renaissances*, Cambridge: Cambridge University Press.

- Guenzi, Caterina (2013), *Le discours du destin, la pratique de l'astrologie à Benares*, Paris: CNRS éditions.
- Guenzi, Caterina (2021), *Words of Destiny: Practicing Astrology in North India*, tr. Remuka George and Caterina Guenzi, Albany: State University of New York Press.
- Hayashi, Takao (1991), 'The Pañcaviṃśatikā in its Two Recensions: A Study in the Reformation of a Medieval Sanskrit Mathematical Textbook', *Indian Journal of History of Science*, 26/4: 396–448.
- Hayashi, Takao (2001), 'Mathematics (Gaṇita)', in *Storia Della Scienza*, vol. II.II.X.1–7, Rome: Istituto della Enciclopedia Italiana, 772–790.
- Hayashi, Takao (2014), 'Arithmetic in India: Pāṭīgaṇita', in Helaine Selain (ed.), *Encyclopædia of the History of Science, Technology and Medicine in Non-Western Cultures*, Dordrecht: Springer, 1–4.
- Hayashi, Takao (2017), 'The Bālabodhāṅkavṛtti: Sambhudāsa's Old-Gujarātī Commentary on the Anonymous Sanskrit Arithmetical Work Pancaviṃśatikā', *SIAMVS*, 18: 1–132.
- Heimann, James (1980), 'Small Change and Ballast: Cowry Trade and Usage as an Example of Indian Ocean Economic History', *South Asia: Journal of South Asian Studies*, 3/1: 48–69.
- Ikeyama, Setsuro (2003), *Brāhmasphuṭasiddhānta (Ch. 21) of Brahmagupta with Commentary of Pṛthūdaka*, New Delhi: Indian National Commission for the History of Science, Indian National Science Academy.
- Jaffer, Amin (2006), 'The Furniture of Play: Games Boards and Boxes in India', in Andrew Topsfield (ed.), *The Art of Play: Board and Card Games of India*, Mumbai: Marg Publication, 128–141.
- Keller, Agathe (2005), 'Making Diagrams Speak, in Bhāskara I's Commentary on the Āryabhaṭīya', *Historia Mathematica*, 32/3: 275–302.
- Keller, Agathe (2006), *Expounding the Mathematical Seed, Bhāskara and the Mathematical Chapter of the Āryabhaṭīya*, 2 vols, Basel: Birkhäuser.
- Keller, Agathe (2011), 'George Peacock's Arithmetic in the Changing Landscape of the History of Mathematics in India', *Indian Journal of History of Science*, 46/2: 205–234.
- Keller, Agathe (2015a), 'Ordering Operations in Square Root Extractions, Analyzing Some Early Medieval Sanskrit Mathematical Texts with the Help of Speech Act Theory', in Karine Chemla and Jacques Virbel (eds), *Texts, Textual Acts and the History of Science* (Archimedes, 42), Cham: Springer, 183–218.
- Keller, Agathe (2015b), 'Reconstruire l'exécution des opérations élémentaires dans les sources sanskrites médiévales: Des tableaux numériques éphémères?', in Matthieu Husson and Michèle Artigue (eds), *Actes de la 13ème journée d'étude: Tables, tableaux, graphiques*, Paris: IREM-Université Denis Diderot-Paris 7, 33–46.
- Keller, Agathe (2016), 'The Mathematical Chapter of the Āryabhaṭīya: A Compilation of Mnemonic Rules?', in Maria Cecilia Bustamante (ed.), *Writings and Orality = Archives Internationales d'Histoire des Sciences*, 75: 573–598 <<https://shs.hal.science/halshs-01404712/>> (accessed on 15 January 2023).
- Keller, Agathe (2022), 'Characterizing a Sanskrit Mathematical Commentary: An Exploration of Pṛthūdaka's Vāsanābhāṣya on Progressions', in Karine Chemla and Glenn Most (eds), *Mathematical Commentaries in the Ancient World*, Cambridge: Cambridge University Press, 96–140.
- Keller, Agathe, Clemency Montelle and Mahesh Koolakudlu (forthcoming), 'Numerical Tables in Sanskrit Sources', in Dominique Tournes (ed.), *History of Numerical Tables*, Cham: Springer, <<http://halshs.archives-ouvertes.fr/halshs-01006137>>.

- Keller, Agathe and Catherine Morice-Singh (2022), 'Multiplying Integers: On the Diverse Practices of Medieval Sanskrit Authors', in Karine Chemla, Agathe Keller and Christine Proust (eds), *Cultures of Computation and Quantification in the Ancient World: Numbers, Measurements, and Operations in Documents from Mesopotamia, China and South Asia*, Cham: Springer, 495–552.
- Kusuba, Takanori (2018), 'The So-Called "Dust Computations" in the *Līlāvati*', Alexei Volkov and Viktor Freiman (eds), *Computations and Computing Devices in Mathematics Education Before the Advent of Electronic Calculators* (Mathematics Education in the Digital Era, 11), Cham: Springer, 95–113 <https://doi.org/10.1007/978-3-319-73396-8_5>.
- Majumdar, Susmita Basu and Sharmishtha Chatterjee (2014), 'Cowries in Eastern India: Understanding Their Role as Ritual Objects and Money', *Journal of Bengal Art*, 19: 39–56.
- Minkowski, Christopher Z. (2001), 'The Pandit as Public Intellectual: The Controversy over Virodha or Inconsistency in the Astronomical Sciences', in Axel Michaels (ed.), *The Pandit: Traditional Scholarship in India*, Delhi: Manohar, 79–97.
- Mukherjee, Bratindra Nath (1993), *Coins and Currency Systems of Post-Gupta Bengal, c. AD 550–700*, Delhi: Munshiram Manoharlal Publishers.
- O'Hanlon, Rosalind (2013), 'Performance in a World of Paper: Puranic Histories and Social Communication in Early Modern India', *Past & Present*, 219/1: 87–126 <<https://doi.org/10.1093/pastj/gtt004>>.
- Playfair, John (1790), 'Remarks on the Astronomy of the Brahmins', *Transactions of the Royal Society of Edinburgh*, 2/2: 135–192.
- Raina, Dhruv and S. Irfan Habib (1990), 'Ramchandra's Treatise Through "The Haze of the Golden Sunset": An Aborted Pedagogy', *Social Studies of Science*, 20/3: 455–472 <<https://doi.org/10.1177/030631290020003003>>.
- Ruegg, David Seyfort (1978), 'Mathematical and Linguistic Models in Indian Thought: The Case of Zero and Śūnyatā', *Wiener Zeitschrift für die Kunde Südasiens*, 22: 171–181.
- Sarma, Sreeramula Rajeswara (1985), 'Writing Material in Ancient India', *Aligarh Journal of Oriental Studies*, 2: 175–196.
- Sarma, Rajeswara Sreeramula (2000), 'Jyotiṣarāja at the Mughal Court', in N. Gangadharan, S. A. S. Sarma and S. S. R. Sarma (eds), *Prof. K. V. Sarma Felicitation Volume, Being Studies on Indian Culture, Science and Literature*, Chennai: Sree Sarada Education Society Research Centre, 363–371.
- Śāstrī, Bāpu Deva and Lancelot Wilkinson (1861), *The Śūrya Siddhānta or, An Ancient System of Hindu Astronomy, Followed by the Siddhānta Siromani* (Bibliotheca Indica, 32), tr. Pundit Bāpu Deva Śāstrī and Lancelot Wilkinson, Calcutta: C. B. Lewis, at the Baptist Mission Press.
- Schechner, Richard (2017), *Performance Studies: An Introduction*, London: Routledge.
- Shukla, Kripa Shankar (1959), *Pāṭigaṇita of Śrīdharaçarya*, Lucknow: Lucknow University.
- Shukla, Kripa Shankar (1976), *Āryabhaṭīya of Āryabhaṭa, with the Commentary of Bhāskara I and Someśvara*, New Delhi: Indian National Science Academy.
- Shukla, Kripa Shankar and Krishna Venkateswara Sarma (1976), *Āryabhaṭīya of Āryabhaṭa, Critically Edited with Translation*, New Delhi: Indian National Science Academy.
- Soar, Micaela (2007), 'Board Games and Backgammon in Ancient Indian Sculpture', in Irving L. Finkel (ed.), *Ancient Board Games in Perspective*, London: British Museum Publications, 177–231.
- Srinivas, Mandyam D. (2019), 'The Untapped Wealth of Manuscripts on Indian Astronomy and Mathematics', *Indian Journal of History of Science*, 54/3: 243–268.

- Staal, Frits, C. V. Somayajipad and Nambudiri Itti Ravi (1983), *Agni, the Vedic Ritual of the Fire Altar*, Delhi: Asian Humanities Press.
- Tarabout, Gilles (2006), 'La réparation des fautes: Le contrôle astrologique de la transformation des rites et des temples au Kérala', in Gérard Colas and Gilles Tarabout (eds), *Rites hindous: Transferts et transformations* (Purusārtha, 25), Paris: Éditions de l'École des Hautes Études en Sciences Sociales, 463–493.
- Tarabout, Gilles (2007), 'Authoritative Statements in Kerala Temple Astrology', *Rivista di Studi Sudasiatici*, 2/1: 85–120.
- Tarabout, Gilles (2015), 'Religious Uncertainty, Astrology and the Courts in South India', in Daniela Berti, Anthony Good and Gilles Tarabout (eds), *Of Doubt and Proof: Legal and Ritual Practices of Judgment*, Farnham: Ashgate Publishing, 59–75.
- Topsfield, Andrew (2006), 'Dice, Chaupar, Chess: Indian Games in History, Myth, Poetry, and Art', in Andrew Topsfield (ed.), *The Art of Play: Board and Card Games of India*, Mumbai: Marg Publication, 11–31.
- Van Brummelen, Glenn (2009), *The Mathematics of the Heavens and the Earth*, Princeton University Press.
- Vasantha, Muthian (2016), 'The Legacy of Yarn Dyed Cotton Lungis of Cuddalore, Tamil Nadu: A Case Study', in *Crosscurrents: Land, Labor, and the Port*, Savannah: Textile Society of America, 335–344 <<https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1991&context=tsaconf>>.
- Vasantha, Rangachar (2006), 'Games and Puzzles of Maharaja Krishnaraja Wodeyar of Mysore: "Broadcast Them to the World"', in Andrew Topsfield (ed.), *The Art of Play: Board and Card Games of India*, Mumbai: Marg Publications, 142–151.
- Wujastyk, Dominik (2014), 'Indian Manuscripts', in Jörg B. Quenzer, Dmitry Bondarev and Jan-Ulrich Sobisch (eds), *Manuscript Cultures: Mapping the Field* (Studies in Manuscript Cultures, 1), Berlin: De Gruyter, 159–182.
- Yang, Bin (2018), *Cowrie Shells and Cowrie Money: A Global History*, London: Routledge.

Appendix A: Texts, editions and abbreviations

Table 1: Texts, editions and abbreviations.

Author	Date	Title	Genre	Abbrevs	Edition
Āryabhaṭa	b. 476	<i>Āryabhaṭīya</i>	Treatise	Ābh	Shukla and Sarma 1976
Brahmagupta	b. 598	<i>Brāhmasphuṭasiddhānta</i> (<i>Theoretical Treatise of the Corrected Brāhma School</i>)	Treatise	BSS	Dvivedin 1902
Bhāskara	written 629	<i>Āryabhaṭīyabhāṣya</i> (<i>Commentary on the Āryabhaṭīya</i>)	Commentary	BAB	Shukla 1976
Śrīdhara	c. 800	<i>Pāṭīgaṇita</i> (<i>Board Mathematics</i>)	Treatise	PG	Shukla 1959
Pṛthūdaka	fl. c. 850	<i>Vāsanābhāṣya</i> (<i>Commentary with Explanations</i>)	Commentary	PBSS	Ikeyama 2003
Unknown	written before 1429	<i>Pañcaviṃśatikā</i> (<i>Twenty-five Rules</i>)	Treatise	PV	Hayashi 1991
Śambhudāsa	written 1428/1429	<i>Bālabodhāṅkavṛtti</i> (<i>An Introductory Commentary on Arithmetics to Awaken the Young</i>)	Commentary	BBA	Hayashi 2017
Unknown			Commentary	APG	Shukla 1959

Appendix B: Reconstructing a multiplication with a multiplicand shaped in a ‘cow’s string’

The different steps of the execution as understood by Pṛthūdaka⁶⁷ can be reconstructed as follows:

Step 1: The multiplicand, made into a ‘cow’s string’, is equal in portions to the multiplier. The number of digits forming the multiplier determines the number of

⁶⁷ Justified in Keller and Morice-Singh 2022.

times the multiplicand is noted in a column. In the case where 235 is multiplied by 288, since 288 is made of three digits, 235 is noted three times in a tabular format. The three manuscripts concur that this refers to a display in a column:

235
235
235

Another possible interpretation could be to understand the layout with each row written one place to the right with respect to the previous one, placing the multipliers according to the value of the respective digit of the multiplier that it will be multiplied with:

2	3	5		
	2	3	5	
		2	3	5

Step 2: It is multiplied in due order by the portions of the multiplier one after the other. One by one, each digit of the multiplier multiplies one of the noted multiplicands in the column. Thus, with Pṛthūdaka's example, $2 \times 235 = 470$ and $8 \times 235 = 1880$. In manuscripts it is difficult to discern whether this layout appears as:

470
1880
1880

Or as:

4	7	0		
1	8	8	0	
	1	8	8	0

Step 3: They are ‘summed according to place’. The partial products are summed according to their relative places or values, thus providing the result of the multiplication 67680.

Appendix C: Reconstructing the ‘door-hinge’ procedure in *Board Mathematics*

This is a reconstruction of the steps of 21×1296 executed with a ‘door-hinge’ (*kāvaṭa-sandhi*) procedure in the ‘direct way’ (*anuloma-mārga*) in Śrīdhara’s *Board Mathematics* (*Pāṭiḡaṇita*).

This reconstruction uses Shukla’s edition of *Board Mathematics*.⁶⁸ The process is studied by Datta and Singh in 1935 and by myself and Catherine Morice-Singh in 2022.⁶⁹ For each step we adduce the representations of the working surface that have been printed in the edition, as well as what is found in the manuscript.

Step 1: The multiplicand is set below the multiplier. Here the multiplier is 21 and the multiplicand 1296. Since the procedure is in the ‘direct way’, the multiplier is set at the top right side of 1296, with 2 above 6. This is a step that is displayed and reconstructed by Shukla in his edition but that is not found in the manuscript.



Fig. 11: ‘Door-hinge’ multiplication in the ‘direct way’ in *Board Mathematics*: initial position and 6×21 .

6 is multiplied by 21: the first product, 6, is written below the 1, the second product, 12, below the 2, after erasing the multiplicand’s 6. The carry-over 1 is placed below the next digit of the multiplicand, 9. Shukla has supplied the last configuration of this step, which is not found in the manuscript.

⁶⁸ Shukla 1959, 13–14 for the Sanskrit edition, 7 for the English translation.

⁶⁹ Datta and Singh 1935, 137–143; Keller and Morice-Singh 2022, 526–533, 548–551.

Step 2: 21 slides one step to the left and 2 is placed above 9. This new position of 21 is reconstructed in Shukla's edition and is not in the manuscript. The second digit of the multiplicand, 9, is multiplied by 21. The first product, 9, is added to the 2 which is already there, lower down. 11 is obtained, but as there is already the carried-over 1, it is replaced by 2, below 9. The same kind of process is performed for the second product, 18, 2×9 . When placing 8 it has to be added to 2, which gives a two-digit result $18 + 2 = 20$. Zero is thus noted in place of the previous 9, and a carry-over of 2 is placed to the left and on a line below the zero, under the multiplicand's 2.

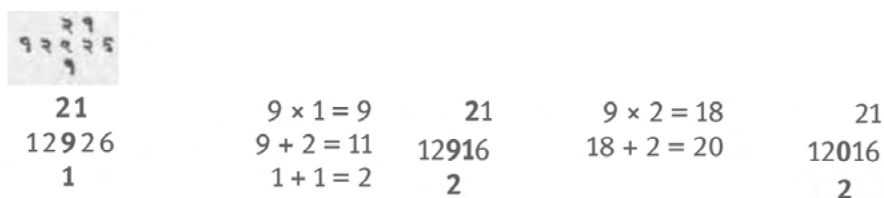


Fig. 12: 'Door-hinge' multiplication in the 'direct way' in *Board Mathematics*: 9×21 .

Step 3: 21 slides one step to the left, and 2 is placed above the third digit of the multiplicand 2. This configuration is found in the manuscript.⁷⁰



Fig. 13: 'Door-hinge' multiplication in the 'direct way' in *Board Mathematics*: 2×21 .

⁷⁰ Notice that the carry-over 2, and the digit 2 of the multiplier, are aligned in a same column a bit to the right of the multiplicand's 2. Similarly, the digit 1 of the multiplier is above but in between the 0 and the 1 of the multiplicand. It is as if the multiplier was represented while in the process of sliding from right to left. The carry-over 2 is however placed rather in a space between the multiplicand's 2 and 0. In the manuscript then, the carry-over would not be placed immediately below the position of the multiplicand it should be added to, but a bit to the right of it. I have not included this slight difference to my reconstruction, which is largely faithful to the interpretation of the display by the editor, Shukla.

This configuration is also reproduced in Shukla’s edition.⁷¹ This configuration indicates that the next step is to execute the multiplication of 2 (the third digit of the multiplicand) with 21. The multiplicand’s 2 is multiplied by 1, the resulting 2 is noted in place of the zero, on the multiplicand’s line. The multiplicand’s 2 is multiplied by the multiplier’s 2, the resulting 4 is added to the carry-over 2 below, and 6 is placed instead of the 2 in the multiplicand’s line. The resulting configuration has been reconstructed by the editor Shukla. It is not found in the manuscript.

Step 4: 21 slides one step to the left and the multiplier’s 2 is above the multiplicand’s 1. This configuration is the second found in the manuscript.



Fig. 14: ‘Door-hinge’ multiplication in the ‘direct way’ in *Board Mathematics*: 1×21 .

This means that the fourth digit of the multiplicand, 1, is multiplied by 21: the process continues as before. The multiplier’s 1 is added to the multiplicand’s 6 which is then replaced by 7. The multiplier’s 2 replaces the last digit on the multiplicand’s line. The result is obtained.

Appendix D: Reconstructing the ‘door-hinge’ multiplication as detailed by Śambhudāsa

This reconstruction of the ‘door-hinge’ in ‘inverse order’ for the multiplication of 18×1196 follows Hayashi’s edition, translation and interpretation.⁷² The digits in bold are those that are being worked upon at each step.

⁷¹ In contrast to the manuscript, Shukla’s edition shows us a multiplier aligned with the multiplicand and the carry-over.

⁷² As found in Hayashi 2017, 16 Sanskrit, 63 English, 64–66 reconstruction.

1	8				
	1	1	9	6	

$1 \times 1 = 1$:

1	8				
1	1	1	9	6	

$8 \times 1 = 8$, the initial digit 1 is replaced by 8:

1	8				
1	8	1	9	6	

18 is moved to the right:

	1	8			
1	8	1	9	6	

$1 \times 1 = 1$. This time 1 is placed below the new digit 8:

	1	8			
1	8	1	9	6	
	1				

$8 \times 1 = 8$. As before, the initial digit 1 is replaced by 8:

	1	8			
1	8	8	9	6	
	1				

18 is moved to the right:

	1	8			
1	8	8	9	6	
	1				

$1 \times 9 = 9$ placed on a line below the multiplicand:

		1	8		
1	8	8	9	6	
	1	9			

$8 \times 9 = 72$. Since there is already a carry-over where the 7 should be placed, it is placed on a line below. 2 replaces the initial digit of the multiplicand:

		1	8		
1	8	8	2	6	
	1	9			
		7			

18 is moved to the right:

			1	8	
1	8	8	2	6	
	1	9			
		7			

$1 \times 6 = 6$ is placed on the first line under the multiplicand:

			1	8	
1	8	8	2	6	
	1	9	6		
		7			

$8 \times 6 = 48$. 4 is placed on the second line under the multiplicand and 8 in place of the initial digit:

				1	8
1	8	8	2	8	
	1	9	6		
		7	4		

Note that in the manuscript, the penultimate position given is without the multiplier:

1	8	8	2	8
	1	9	6	
		7	4	

When summing, the result is obtained:

1	8	8	2	8
	1	9	6	
		7	4	
2	1	5	2	8

Laure Miolo

A Bibliophile Performing Eclipse Computations: Lewis Caerleon and His Notebook

Abstract: This article examines Lewis Caerleon’s notebook, Cambridge, University Library, MS Ee.3.61, composed between 1481 and 1484 and mainly copied by him. This volume of 192 folios contains mathematical, astronomical and astrological works. Amongst them are the drafts and notes of the physician-astronomer himself. This material includes computations, tables and treatises revealing an astronomical programme in which eclipses played a central role. This article attempts to provide a detailed account of the production and purpose of the notebook, and endeavours to situate this volume within Lewis Caerleon’s scientific production and extant manuscripts. New evidence about the life of Lewis Caerleon and his manuscripts are also provided. An analysis of newly discovered evidence retained in the notebook suggests that Lewis Caerleon’s eclipse writings are mainly based on the works of two little-known fifteenth-century astronomers from Merton College, Oxford.

1 Introduction

Performance or the act of performing is commonly perceived more as a witnessed action, either commissioned or spontaneous, than an introspective operation. Reception by an audience thus seems a key aspect of the performance. For that reason, theatre, music or liturgy are particularly well studied under that lens. However, the ‘textualisation’ or *mise à l’écrit* of the performance or performative ritual is essential to explore, whether as a medium of the performance or as part of it. This is particularly true of medieval liturgy, medical and magical charms which need to be sang or pronounced to reveal their force or power. In the case of thaumaturgical or magical charms, the performance needs to be included in a broader set of written instructions preceding the oral ritual.¹ Those narratives are short enough to be performed and adapted, and may be either written in a more informal way, in the margins or blank spaces of books, or

¹ See Laura Albiero and Karen Desmond’s contributions in this volume and Jones and Olsan 2015.

included in florilegia, compendia or collections. Once written those narratives become part of a textual tradition, losing somewhat their performative value, but they may be used again by other practitioners. As suggested by Peter Jones and Lea Olsan, performance ‘moved back and forth from oral-aural culture to manuscript, and from manuscript to manuscript or new performance’.² Recently, some studies have broadened the link between performance and manuscripts or documents, making scribes, authors or readers ‘performers’ of a book, a page or a margin.³ This broad conception leads to scrutinise again the relationship between performance and manuscript, or rather the intrinsic link between the performance of writing and the codex.

Indeed, another aspect implied by the ‘textualisation of the performance’ deserves to be considered here. If one takes performance in its broad meaning of execution, completion or achievement, this certainly encompasses more implications, beyond the strong oral aspect given to the notion. In that case, it is rather the performance of writing which should be considered. Different writings may therefore be lined up on a large spectrum from first notes to finished treatise. This also raises the question of whether an autograph manuscript or a notebook constitutes a performance. *Memoranda* or other notes written in a volume are rarely intended to be read by someone else than the author. However, they reveal a wealth of information regarding reading and writing practices. Manuscripts containing informal notes and writings may present different degrees of achievements. They may include informal notes, preparatory works, drafts or authorial copies.⁴ Drafts or *memoranda* were often not intended to survive, their survival is thus haphazard resulting from the fact that they were written on a perennial support. If we consider preparatory works and drafts of a treatise, leaving aside informal notes such as pen-trials, they all represent a certain degree of achievement aiming to the completion of a treatise or another work.

Those early steps thus constitute invaluable testimonies of medieval scholars at work, but they also are very rare. This is particularly true of medieval astronomers’ autograph manuscripts. Observation and computations records were a necessary preparatory work to be displayed in a treatise or used to compute an astronomical table. Quite often, only part of a computation or an observation was to be included in the final text. For instance, Jean des Murs (fl. 1319–1347) refers in his *Expositio intentionis regis Alfonsii* (1321) to his observation of

2 Jones and Olsan 2015, 431.

3 Maxwell, Simpson and Davis 2013.

4 Hamesse 1994; Bourgain 2013.

the meridian altitude of the Sun made on 13 March 1319 to demonstrate the validity of the Alfonsine tables.⁵ The same scholar used a late thirteenth-century manuscript (O.II.10) to write different notes, *memoranda*, computations, observations and prepare treatises and tables. This is a unique witness allowing us to retrace a part of Jean des Murs's biography, his connections to other scholars, but also his astronomical practices and his preparatory work.⁶ Computations and observations were means by which the practitioner could predict and analyse an astronomical phenomenon, but they were also made to validate some theories and postulates. Similarly, astronomical canons may also be understood as sets of instructions written to be memorised and to perform a computation.

MS Ee.3.61 is one of those rare witnesses revealing the tireless preparatory work of an astronomer.⁷ This manuscript was assembled by the physician Lewis Caerleon (d. c. 1495) and partly copied by him. This volume of 192 folios of paper and parchment contains mathematical, astronomical and astrological works. Amongst them are the work of the physician himself, mainly devoted to eclipses. This material includes computations, tables and treatises and, compared with other extant manuscripts of his, we may clearly detect an astronomical agenda in which eclipses played a central role. MS Ee.3.61 seems to display his preliminary work on eclipses. Considering these different aspects, one may carefully differentiate various pathways of performance: the production per se of the manuscript (by copying or commissioning); eclipse computations and the elaboration of texts and tables. This article attempts to provide a detailed account of the production and purpose of MS Ee.3.61, and endeavours to situate this volume within Lewis Caerleon's scientific production and extant manuscripts.⁸ The first two sections provide a brief historiographical and biographical survey on Lewis Caerleon, including a list of his manuscripts to which must be added a newly found volume. Autography and the production of the manuscript is explored in a third section, where the authorship of some works ascribed to Lewis Caerleon are revised. Finally, the last section considers Caerleon's work on eclipses and his astronomical agenda.

⁵ Cf. Poulle 1980, 265–266; Nothaft 2015, 87; more generally on the text see also Husson 2011.

⁶ See Beaujouan 1964; Beaujouan 1975; Gushee 1969; Gushee 1998; Husson 2016; Nothaft 2019; Miolo 2019; Miolo 2021.

⁷ A description of the manuscript is provided in Appendix 1. See also Juste 2023a; Miolo 2022, 371–374.

⁸ A later article will provide a complete analysis of Caerleon's manuscripts and will include a list of his works.

2 From Cambridge to the court

Some decades after his death, Lewis Caerleon is depicted by the historian Polydore Vergil as the Welsh personal physician and counsellor of Margaret Beaufort, and *medicus* ('physician') of the queen, Elizabeth Woodville. In this capacity, the 'man of substance' acted as a 'go-between and member of that new conspiracy against Richard III' playing a central role in the marriage between Elizabeth of York and the future king, Henry VII.⁹ One also learns from the Tudor historian that he recommended Christopher Urswick, Margaret Beaufort's chaplain and confessor.¹⁰ Caerleon and Urswick were educated at the University of Cambridge and both were probably present in Cambridge in the first years of the 1480s.¹¹

The picture of Lewis Caerleon in Polydore's narrative certainly covers some important aspects of his biography regarding his career of physician and courtier, going back and forth between the university and the court. Even in his scientific writing, his involvement in royal politics was never far away. His impris-

9 'Margareta invaletudinis causa utebatur medico nomine Ludovico natione Wallo, et quia vir gravis erat ac non minimi usus, saepe cum eo solebat libere loqui et familiariter suspirare. [...] Nam regina eius quoque opera utebatur, quod esset medicus artis peritissimus. [...] Ludovicus actutum officio functus inter mulieres facile negotium confecit, qui ex eo quod medicus erat sine suspitione aliqua internuntius ac socius est illis novae conspirationis in Ricardum adiunctus' ('Because of her ill health Margaret employed a Welsh physician named Lewis. Since he was a man of substance [and not the least], she was often accustomed to speak freely with him and sigh in his presence. [...] For the queen also employed him, because he was a physician most skilled at the art. [...] Lewis immediately performed this service and easily settled the business between these women, since, being a physician, he could act as a go-between and member of that new conspiracy against Richard without arousing any suspicion'). Vergil, *Anglica Historia*, ed. and tr. Sutton 2010, Book 25, 11.

10 'Margarita vero interim Christopherum Ursuichum sacerdotem probatum, spectatum, ac officii plenum in familiam recepit, datoque ab eo iureiurando, consilia omnia illi aperit, idque tuto se facere confidit quod Christopherus Henrici Sexti regis semper studiosus a Ludovico medico apud ipsam in gratia positus esset' ('And meanwhile Margaret took into her household Christopher Urswick, a well-trying, upright, and most dutiful priest, and, having obtained his oath, she revealed all her counsels to him. She was sure she could do so safely because Christopher had always been a follower of Henry VI, and had come to her recommended by Lewis the physician'). Vergil, *Anglica Historia*, ed. and tr. Sutton 2010, Book 25, 11.

11 On Lewis Caerleon in Cambridge see *infra*. He was studying there in 1465–1466. The astronomical tables he elaborated in 1482 and 1483 being based on the Cambridge latitude, there is some chance that he was there at some point in the early 1480s, before his imprisonment in the Tower of London. Christopher Urswick, fellow of King's Hall, was in Cambridge between 1470 and 1488, cf. Trapp 2010.

onment in the Tower of London in 1484 and his despoliation by Richard III are both used as a *topos* in Lewis Caerleon's writings. At the end of the first table of his set of lunar eclipse tables dated to 1482, he wrote:

Note that after the composition of these tables that I lost through the despoliation of King Richard I, being incarcerated in the Tower of London, composed other eclipse tables that differed from these to a few seconds. The cause of this discrepancy is that the true and apparent lunar latitude differ from sometimes one second and sometimes as much as thirty thirds.¹²

Similarly, at the end of his eclipse canons composed in 1482–1483, he refers to his incarceration decided by Richard III: 'Seek at the end of the next quire the other canons that I composed before being incarcerated by King Richard'.¹³

Although Polydore's account focuses on Lewis's life as a courtier and his involvement in the Lancastrian cause, his scientific output was recorded by antiquarians, such as John Leland (d. 1552) who devoted to him an entry in his *Commentarii de scriptoribus Britannicis*.¹⁴ In this description, though mentioning him as 'Joannes Cairleon', Leland lauds Lewis Caerleon's talent as physician and his keen interest in medicine, philosophy and the *mathesis*, which should be understood, in the light of Lewis's writings, as the science of the stars (astronomy and astrology). The only work of his mentioned by Leland are some

12 MS B. 19, fol. 1^r; Royal MS 12 G I, fol 1^r; Add MS 89442, p. 69: 'Nota quod post compositionem istarum tabularum quas amiseram per exspoliationem Regis Ricardi, ego existens incarceratus in turre Londonarum, composui alias tabulas eclipsium que discordant ab istis in paucis secundis, cuius causa est quia latitudo lune vera et visa differt ab ista aliquando per unum secundum et aliquando per 30 tertia tantum'. Unless otherwise indicated all translations are mine.

13 MS B. 19, fol. 6^r; Royal MS 12 G I, fol. 6^r: 'Require alios canones in fine proximi quaterni quos primo composui priusquam fueram incarceratus per Regem Ricardum'.

14 'Joannes, cui ab urbe Legionum, in ripis Iscae fluminis condita, nomen Cairleon vulgo inditum, Grantae Girviorum academiae celeberrimae, ut ego colligo, operam impense magnam studiis politioribus dedit, at philosophia, medicina et mathesis primas tenebant partes. Tandem ab excellentia, qua in re praenituit herbaria, archiatri titulo, publicis suffragiis donatus est. Extant Grantae in Clarana biblioteca *Tabulae de rebus astronomicis*, ab eo scriptae quidem Londini, et editae anno Christo nato 1482' ('John, from the city of the Legions, founded on the banks of the river Isca, commonly named Cairleon, of the very famous academy Granta Girviorum [Cambridge], from what I gather, he paid great attention to the most refined studies, but philosophy, medicine and astrology held the upper hand. Finally, with the excellence with which he excelled in herbal medicine, he was awarded the title of chief physician by public favour. The *Tabulae de rebus astronomicis* [Astronomical tables] copied by him in London and edited in the year of the birth of Christ 1482 are extant in Cambridge in the library of Clare College'). Leland, *Commentarii*, ed. Goodlad and Hall 1709, 471.

astronomical tables based on the London meridian and dated to 1482, preserved in Clare College at that time. These tables were indeed witnessed by Leland himself during his visitation of 1535.¹⁵ A more important list of Lewis's work was offered by John Bale in his *Index Britanniae* (1548–1552), for whom Lewis Caerleon and Lewis Charlton were one and the same person. Despite the confusion with Lewis Charlton, Bale describes a part of the contents of the manuscript seen by Leland in 1535 at Clare College, it contained the following items:¹⁶

1. 'De eclipsi solari ac lunari' ('On solar and lunar eclipse'); incipit: 'Modus operandi pro eclipsi lune'.
2. 'Tabulas eclipsium' ('Eclipse tables'); incipit: 'Altitudo lune in arcu longitudo'.
3. 'Canones eclipsium' ('Eclipse canons'); incipit: 'Eclipsim solis quantitatem et dur [sic] [durationem]'.
4. 'De tabulis umbrarum' ('Shadow tables'); incipit: 'Circa compositionem tabularum umbrarum'.
5. 'Atque alia plura composuit' ('and he composed many others').

The manuscript partially described by both scholars may indeed correspond to a volume that survives today, and which will be discussed below. In addition to the book once at Clare College, Bale describes an eclipse computation dated to the year 1480, held in the private collection of another Welsh mathematician, Robert Recorde (d. 1558).¹⁷ This computation was certainly in the form of a fragment: *quedam fragmenta astronomica*. Those different descriptions demonstrate that the name of Lewis Caerleon was not unknown in the sixteenth century, at least for historians and collectors, though Leland and Bale relied on the very slight evidence provided by Clare College and Robert Recorde's collection. Despite the little diffusion of Lewis's work, a sixteenth-century collector copied, around 1595, a part of the physician's scientific production. This late copy is

¹⁵ 'In biblioteca collegii de Clare: 6. Tabulae Ludovici de Cairlion doctoris medicinae de eisdem rebus Londini scriptae 1482' ('In the library of Clare College: 6. Tables of Lewis of Caerleon, doctor in medicine, on the same matters written in London in 1482'). Clarke 2002, 152.

¹⁶ The quotations in following list are taken from Bale, *Index Britanniae*, ed. Poole and Bateson 1902, 284.

¹⁷ 'Ludovicus Kaerlion, doctor in medicinis, reliquit quedam fragmenta astronomica, *De eclipsium calculatione*, claruit a. d. 1480. Ex museo magistri Recorde' ('Lewis Caerleon, doctor in medicine, left some astronomical fragments, *On eclipse computation*, released in the year 1480. From the collection of Master Recorde'). Bale, *Index Britanniae*, ed. Poole and Bateson 1902, 284. On Robert Recorde, see Roberts 2016.

now part of a manuscript belonging to an astrologer active in London between 1594 and 1608,¹⁸ Sloane MS 1697 (fols 25^r–32^r).¹⁹

Although these different accounts provide hints regarding Lewis's life, the most reliable piece of evidence about his career and scientific production remain the extant manuscripts he owned or commissioned. In 1952, Pearl Kibre was the first modern historian to produce a whole article devoted to the physician.²⁰ This seminal work differentiates once and for all the theologian, Lewis Charleton (d. 1369) from the physician and astronomer, Lewis Caerleon (d. after May 1495). In her article, Kibre carefully retraced Lewis's career, and provided an invaluable list of Lewis's manuscripts and works. Though this list may now be updated,²¹ Kibre's study remains a central work. The activity of Lewis as a commentator and a collector or 'antiquarian' was explored by John North and Hilary Carey.²² The keen interest of the physician in Richard of Wallingford's work was discussed by North in an appendix of his monumental edition of the abbot of St Albans's writings.²³ Similarly, North, and then Carey provided a lengthy analysis of the treatise related to the nativity of Henry VI, *Cum rerum motu*, a copy of which is preserved in Lewis's notebook, MS Ee.3.61.²⁴ Additionally, the activity of the physician as a courtier astrologer was recently investigated by Carey through a manuscript compiled for Henry VII, Arundel MS 66.²⁵

Much of the evidence related to Lewis's career is scattered, but his life may be traced back to his years at the University of Cambridge and at the court. The earliest testimony about Lewis is held in the Cambridge University Archives. He was admitted bachelor of medicine during the year 1465–1466 and received a

18 About the provenance: David Juste's private communication.

19 Sloane MS 1697, fols 25–32 is a copy of one of the two 'twin' manuscripts: MS B. 19 and Royal MS 12 G I. This late sixteenth-century copy was done by someone versed in astronomy, as it displays a solar eclipse computation on fol. 32^v: 'Exemplum/ Sit eclipsis solis cuius medium fuit 1595 [superscript] anno, septembris [superscript] mense, 23 [superscript] die, 1 signum, 13 [gradus], 30 minuta'.

20 Kibre 1952. The short entry dedicated to Lewis Caerleon in Emden 1963 is based on Kibre's article. A brief bio-bibliographical entry about Lewis may be found in Sharpe 1997. More recently Keith Snedegar provided an entire biographical account on the physician (Snedegar 2004).

21 I am preparing an updated list of his works and manuscripts which will be the focus of another article.

22 Carey is describing an 'antiquarian movement among physician-astrologers' when discussing the activities of John Argentine and Lewis Caerleon (Carey 1992, 23).

23 North 1976, vol. 3, 218–220.

24 North 1986, 142–149; Carey 1992, 138–153.

25 Carey 2012.

fine of 20 shillings in 1466 for he did not lecture in medicine.²⁶ These brief details are all we know of his student years in Cambridge, at a time when the Faculty of Medicine admitted few scholars.²⁷ Despite the lack of evidence concerning his early career, by 1481 he had become a doctor of medicine as he mentions it himself in some places in his notebook.²⁸ Similarly, extant sources do not help to identify the university where he obtained his doctorate in medicine.²⁹ It is highly probable that he moved to the University of Oxford as, before 1481,³⁰ he corrected some astronomical tables based on the Oxford meridian and donated tables to that university in parallel with a similar donation he made to the University of Cambridge.³¹ Whether they are the same or additional donations, two benefactions are also recorded at Cambridge and Oxford. One, as aforementioned, was made to Clare Hall (today Clare College), probably corresponding to Add MS 89442, and the other in 1490 to Merton College.³² A manuscript described by John Leland in Clare College exactly corresponds to MS. Digby 178, fols 15^r–87^v, which belonged to Lewis Caerleon and might also have been given by him to the College in addition to Add MS 89442.³³ Clare Hall may well have been Lewis's own college in Cambridge, since the statutes clearly mentions the

26 Reg. I.2.32: 'Item Lodowicus Carlyon quia non legit in medicinis xx [sol']' ('Also, Lewis Caerleon, because he did not lecture in medicine, 20 shillings').

27 On the situation of the Faculty of Medicine in Cambridge in the fifteenth century, see Leader 1988, 202–210. Lewis is also mentioned in Leader 1988, 153–154.

28 For example, MS Ee.3.61, fol. 14^v: 'Lewys Caerlyon in medicinis doctoris'; MS Ee.3.61, fol. 107^r: 'per calculationem Lodowyci Caerlyon in medicinis doctoris'.

29 Carey suggested Padua as was the case for John Argentine (d. 1507/1508), however there is no clear evidence pointing to this direction, except a late seventeenth-century statement published in *The Cambrian Register* of 1795 (Carey 2012, 695).

30 See Section 4 below.

31 MS Ee.3.61, fol. 147^r: 'quia non calculavi istas tabulas ita precise sicut tabulas eclipsium quas dedi universitatibus Cantebrigie et Oxonie'.

32 '26^o die mensis Octobris incathenatus erat liber in libraria continens tabulas astrologicas, secundo folio *vere puncta*, quem collegio donavit magister Lodowycus Caerlyon, doctor in medicinis et doctus astronomus, ad usum et profectum studentium in eadem. Habemus igitur magnas gracias sibi' ('On the 26 October, a book containing astronomical tables was chained in the library – first words of the second folio *vere puncta* – that Master Lewis Caerleon, doctor of medicine and learned astronomer, offered to the college, for the use and benefit of the students in the library. Therefore, we are really grateful to him'). Salter 1923, 139.

33 Clarke 2002, 153, items 14–15, which correspond to the contents of MS. Digby 178, fols 15^r–87^v, belonging to Lewis Caerleon. The items listed in the inventory describe Richard of Wallingford's *Quadripartitum* and Simon Bredon's commentary on the *Almagest* and quote verbatim the running title and incipit of the manuscript.

study of medicine.³⁴ Unlike some of his contemporaries who left Cambridge to pursue their medical education on the continent, as was the case of Thomas Denman (d. 1501), and of John Argentine (d. 1508) who went to Italy, everything suggests that Lewis Caerleon remained in England.³⁵ Interchange of students between Cambridge and Oxford was not rare, given that Oxford had a better endowed Faculty of Medicine at that time.³⁶ The donation to Merton College also reinforces this assumption.³⁷

At that time, a whole generation of physicians from Cambridge enjoyed royal patronage and served as royal doctors. For instance, Thomas Denman was protected by Margaret Beaufort and John Argentine served Richard III and then Henry VII until 1501.³⁸ Both physicians were probably not unknown to Lewis Caerleon who was part of the same university and court milieu. At an unknown date, Lewis began to serve as physician to Lady Margaret Beaufort and her entourage. In the troubled context of the end of the Wars of the Roses, the Welsh physician clearly supported the Lancastrian faction and in return received patronage from them. His role of personal adviser and secret intermediary between Margaret Beaufort and Elizabeth Woodville in the conspiracy against Richard III is likely to have led to his imprisonment in the Tower of London in 1484.³⁹ Interestingly, according to the various mentions found in his writings, Lewis's time in the Tower of London was quite a productive one for his astronomical career. While deprived of his astronomical tables and probably of all his books, he elaborated new astronomical tables, such as eclipse tables and also observed the famous total solar eclipse of 16 March 1485 that he had previously calculated.⁴⁰ Lewis was released the same year after Richard III's defeat and death. He

34 Leader 1988, 205. The founder of the College of Physicians in 1518, Robert Yaxley, was a fellow of Clare Hall between 1489 and 1498.

35 John Argentine went to Ferrara or Padua between 1473 and 1476 to be trained in medicine (Rhodes 1967; Jones 1994; Jones 2004). As mentioned by Peter Jones, patients and friars from Ferrara are listed in Argentine's commonplace book (MS. Ashmole 1437). Thomas Denman graduated in medicine before 1473 on the continent before returning to Cambridge and obtaining his doctorate in medicine in 1486, see Rawcliffe 2004. Both physicians had an interest in astronomy.

36 For example, John Somerset was closely connected to both universities (Rawcliffe 2004).

37 On many grounds, the association of Lewis with Merton College may indicate that he spent sometimes there after he may have left Cambridge in 1466. See below for other evidence of such association.

38 Leader 1988, 205–210; Jones and Underwood 1992, 168, 172.

39 Kibre 1952, 102–103.

40 His computation of the total solar eclipse of 16 March 1485 and the record of his observation may be found in MS B. 19, fol. 6^v; and Royal MS 12 G I, fol. 6^v; the computation only is also in

was rewarded by Henry VII with several grants.⁴¹ Finally, he continued to serve as royal physician to the queen, Elizabeth of York, likely until his death. The last piece of evidence about Lewis is an autograph note written to *Maister Stoks* on the 6 May 1495.⁴²

Master Stokes, I pray you my friend and attorney to receive from me the payment of the receipt, which is now after Easter, of 20 marks for a whole year, and I shall thank you for your work. Made on the 6th day of May, the tenth year of the reign of King Henry VII. / Lewys Caerlyon, one of the king's physicians.⁴³

3 Lewis Caerleon's manuscripts

3.1 Collecting and commissioning

Today, eight manuscripts can be associated with Lewis Caerleon. Three of them only contain his own writings. They were commissioned and supervised by him. They doubtless were presentation copies of his work to institutions or individuals.

1. *London, British Library, Add MS 89442*. A large volume of one hundred and twenty-eight pages including most of Lewis Caerleon's scientific production.
2. *London, British Library, Royal MS 12 G I*. A sixteen-folio manuscript devoted to eclipse-related material composed by Lewis.
3. *Cambridge, St John's College, MS B. 19*. A sixteen-folio volume similar to Royal MS 12 G I.

MS B. 19 and Royal MS 12 G I are 'twin manuscripts' displaying canons and tables related to eclipses including a detailed computation of the solar eclipse of

Add MS 89442, p. 71. A transcription and study of this eclipse computation with others he made will be included in a later paper.

⁴¹ On the different grants Lewis received from Henry VII between 1486 and 1494, see Kibre 1952, 102–103.

⁴² This short note written on a slip of paper is now held at the Sutro Library (M000054, no. 4). Alfred B. Emden mentioned the letter from an information provided by Neil Ker (Emden 1963, 117). Also mentioned in Snedegar 2004.

⁴³ M000054, no. 4, fol. 5^r: 'Maister Stoks [sic], I prey you to be my frende and attorney to receyve my fee of the receytte, the whiche is now behinde at Estir day.xx. marke for a hool yer and I shall plesse ~~your labor~~ [sic] yow for your labour. Written the VI^e day of May the yer of the reyne of kyng Henry the VII^e the Xth yer [10th year of Henry's reign]. Lewys Caerlyon one of the kyng ffisiciens'. I am grateful to Diana Kohnke, librarian at the Sutro Library, for her kind help with finding this note and for providing photographs of the manuscript.

16 March 1485.⁴⁴ The copying of Add MS 89442, Royal MS 12 G I and MS B. 19 manuscripts was likely finished after 1485, since they all contain material composed that same year.

Four other codices were part of his personal library and include passages from his main sources: Richard of Wallingford, Simon Bredon and John Killingworth. They are contemporary copies, certainly commissioned by the royal physician, who regularly commissioned work from these two scribes. All those volumes contain additions or comments written by Lewis Caerleon.⁴⁵

1. *Oxford, Bodleian Library, MS. Digby 178, fols 15^r–87^v*: includes Richard of Wallingford's *Quadripartitum* (fols 15^r–38^r), with *marginalia* throughout and a lengthy comment by Lewis (fol. 38^{r-v}); Simon Bredon, *Commentum super Almagesti*, fols 39^r–86^v. Lewis's note and diagram on the distance between the Earth and the Moon (fol. 87^{r-v}).⁴⁶ This manuscript was certainly donated by Lewis Caerleon to Clare College at some point.
2. *Oxford, Bodleian Library, MS. Savile 38*: contains astronomical tables and their canons by John Killingworth (d. 1445). Their main purpose was the production of ephemerides, largely used by astrologers and physicians. Lewis corrected the *radices* of Saturn and Jupiter and appended to the canons of John Killingworth a chapter to explain this correction.⁴⁷ This added section begins: 'For I, Lewis, found that the table of corrections of the *radices* made by John Kyllingworth was corrupted by the scribes. Therefore, I worked to find a correct value of these corrections and I composed a new table for my new *radices*'.⁴⁸
3. *Oxford, Corpus Christi College, MS 234*: a unique version of Euclid's *Elements* (fols 10–170) with the enunciations found in Campanus of Novara's version but with proofs originating from diverse translations and adaptations. It al-

⁴⁴ Sloane MS 1697 is a sixteenth-century copy of one of the twin manuscripts.

⁴⁵ A detailed palaeographic study and the analysis of the different manuscripts will be provided in a later article.

⁴⁶ Watson 1976; Juste 2022. This manuscript was owned by John Dee (d. 1609) and then Thomas Allen (d. 1632).

⁴⁷ MS. Savile 38, fol. 4^r: 'Explicunt canones tabularum J[ohannis] Kylyngworth ab ipsomet editi preter unum capitulum de correctione radicum Saturni et Jovis quod ego Lodowicus Caerlion superaddidi cum istis tribus tabulis de divisione motus augis' ('End of the canons on the tables of John Killingworth edited by himself, except one chapter on the correction of the radix of Saturn and Jupiter, that, I, Lewis Caerleon added with three tables on the division of the motion of the apogee'). The chapter added by Lewis may be found on fols 3^v–4^r.

⁴⁸ MS. Savile 38, fol. 3^v: 'Quia ego Lodowycus, inveni tabulam correctionis radicum positam a magistro Johanne Kylyngworth vicio scriptorum corruptam. Ideo laboravi ad inveniendum rationum compositionis eiusdem et tabulam novam composui pro radicibus meis novis'.

so contains Archimedes, *De quadratura circuli* (fols 170^r–172^v). The volume opens with a long commentary by Lewis (fols 1^r–9^v). Euclid and Archimedes' texts are also glossed by Lewis.⁴⁹

4. *London, British Library, Royal MS 12 G X*: must now be added to the list of Lewis Caerleon's manuscripts. This manuscript of thirty-two folios of parchment was produced by one of the scribes regularly employed by the royal physician. It contains the canons and tables of John Killingworth.⁵⁰ As in MS. Savile 38, there are canons beginning, 'Restat de compositione tabularum revolutionum planetarum', that are said to have been composed by John, and the canons beginning 'Multum conferre dinoscitur non solum astronomis', which are John's canons edited by Master Pray.⁵¹ In Royal MS 12 G X, this material is preceded by three short anonymous canons (fol. 1^r), beginning: 'Incipit tractatus docens continuare radices tabularum Kylyngworth tam in tempore quam in motu pro tempore quocumque preterito seu futuro'.⁵² Lewis Caerleon intervenes in the upper margin on fol. 1^r, where he wrote: 'Those canons are not sufficient, like those following in the other folio'.⁵³ He is also responsible for a short note written at the bottom of the table of correction of the planets in apogee, addressing the use of the table of correction for Jupiter and Saturn.⁵⁴ This note may be linked to his particular

49 This manuscript is described in Thomson 2011, 119. On the different versions of the proofs in this manuscript, see Folkerts 1989. This manuscript also belonged later to John Dee.

50 On John Killingworth's tables, see North 1977, 343–346.

51 MS. Savile 38 and Royal MS 12 G X are the only two witnesses containing the canons 'Restat de compositione tabularum'. The incipits of both manuscripts suggest that John Killingworth's original canons 'Restat de compositione tabularum' were edited by Pray whose canons are the most diffused: 'Multum conferre dinoscitur non solum astronomis'. For John Killingworth's canons 'Restat de compositione tabularum revolutionum planetarum', see MS. Savile 38, fols 2^v–3^v (they are directly followed by Lewis's addition 'Quia ego Lewis') and Royal MS 12 G X, fols 2^r–2^v. The canons revised by *Magister Pray*, 'Multum conferre dinoscitur non solum astronomis' may be found in MS. Savile 38, fols 4^v–5^v, and Royal MS 12 G X, fols 1^r–1^v. According to North, *Magister Pray* might have been Thomas Pray, fellow of University College, Oxford, who 'might have collaborated' with John Killingworth: North 2004.

52 This same canon entitled 'Incipit tractatus continuandi radices videlicet tam tempora vere radices omnium planetarum quam motus pro tempore vere radices ad proximam meridiem et tempus motus et argumenta lune divisus in certa capitula' is copied in a late fifteenth-century manuscript probably produced in Oxford (MS. Bodl. 432, fols 60^v–61^v).

53 Royal MS 12 G X, fol. 1^r: 'Isti canones non sunt sufficientes, etiam sed secuntur in alio folio'.

54 Royal MS 12 G X, fol. 3^r: 'Nota habemus opus hiis 2bus tabulis Saturni et Jovis pro reductione motuum ad meridiem'.

interest in those tables that he corrected.⁵⁵ That Lewis supervised the copy, particularly of the tables, is also legible in the autograph additions of ‘religiotur’ written in the margins of fols 5^v–32^r. The formats of Royal MS 12 G X and the ‘twin manuscripts’ are very similar and may suggest that they were produced contemporarily, so after 1485.⁵⁶ Furthermore, Royal MS 12 G X and Royal MS 12 G I, containing Lewis’s eclipse writings, have both a similar provenance: a certain Doctor Laidon or Laidun, priest of St Faith in the church of St Paul in London, who might be Richard Laiton or Layton (d. 1544), who had several benefices, including the rectorship of St Faith in London (from 1535), and who acted as a clerk of the Chancery and one of Henry VIII’s commissioners and visitors to the universities of Oxford and Cambridge. Both manuscripts were purchased from Laidon by Nicolas Frazer on the same day, 15 June 1535.⁵⁷ The sixteenth-century shelfmarks 44 and 45 are also visible in the two manuscripts.⁵⁸

3.2 The notebook’s history

MS Ee.3.61 is one of the earliest manuscripts owned by Lewis Caerleon. He was responsible for its assembly and copied a great part of the volume. The volume was certainly assembled between 1481 and 1484, before his incarceration in the

⁵⁵ Lewis’s tables ‘Hic incipiunt nove radices per me Lodowycum calculate’ (‘Here begin the new *radices* computed by me, Lewis’) provides the radices for the *anni communi* between 1501 and 1612, which is a continuation of John Killingworth’s work who gives the *anni communi* between 1442 and 1500, see respectively MS. Savile 38, fols 6^r and 8^r.

⁵⁶ It is noteworthy to note that Henry VII’s astronomical and astrological volume, Arundel MS 66 containing *inter alia* John Killingworth’s canons revised by Master Pray and his tables was copied in 1490. A part of the manuscript was composed by John Willis or Wellys, who may perhaps be identified with the doctor of medicine from Cambridge, mentioned in the Cambridge Grace Book between 1456 and 1480, and a contemporary of Lewis. On Arundel MS 66, see Carey 2012; Fronska 2014.

⁵⁷ Royal MS 12 G I, fol. 15^v: ‘Ego Nicolaus Frazerus emi hunc librum ab doctore Laidun pastori Sancte Fide in divino [sic] Pauli ecclesia Londinensis anno 1535 die 25 Iunii’; Royal MS 12 G X, fol. 32^v: ‘Ego Nicolaus Frazerus emi hunc librum a doctore Laidon pastori Sancte fide in divo [sic] Pauli ecclesia Londinensis anno 1535 die 25 Iunii’ (‘I, Nicholas Frazer, purchased this book from Doctor Laidon, priest of St Faith, in the vicinity of the church of St Paul of London, on 25 June 1535’). On Richard Layton, see Emden 1974, 346.

⁵⁸ Both are written by the same hand: no. 44 corresponds to Royal MS 12 G X, fol. 2^r, and no. 45 to Royal MS 12 G I, fol. 1^r. Note that a similar shelfmark in the same handwriting, numbered 147, may also be found in MS. Digby 178, fol. 15^r, who might have belonged to Layton or Frazer before John Dee acquired it in 1559.

Tower of London. It displays indeed several dated works which allow us to determine when the codex was assembled in its final form: Lewis's computation of the solar eclipse of 28 May 1481 (fols 12^v–15^r); the horoscope of the solar eclipse of 17 May 1482 (fol. 1^r), the calculations related to the solar motion and the tropical year for the year 1482 (fol. 189^v),⁵⁹ and a short note on the 1484 conjunction of Saturn and Jupiter (fol. 188^v).⁶⁰

Several additions demonstrate that the manuscript continued to be used by other practitioners. They are the work of later owners who were versed in the *scientia stellarum*. A slightly later scribe added a note on the *rectangulus*, *triangulus* and other astronomical instruments such as the gnomon and the quadrant (fols 45^v–46^r), while another sixteenth-century annotator also added sections excerpted from the *Almagesti minor* and the Menelaus Theorem.⁶¹ Most of those additions complement the contents of the manuscript. Therefore, slightly later, a different sixteenth-century annotator copied a solar equation table (fol. 70^{r-v}) within John Holbroke's tables on a ruled folio left blank and drew diagrams of the instrument called *navicula* (fols 191^v–192^r). A signature on the verso of the second flyleaf of the manuscript, reading 'William Carye his book', shows that the volume was acquired by this clothworker in St Mary Magdalen parish in London, who was also a collector of medieval manuscripts, especially monastic manuscripts, and died in 1578.⁶² Where or from whom William purchased Lewis Caerleon's notebook is unknown. That the manuscript was later used by a physician or a consultant astrologer is suggested by several mentions of 'Richard Jones' in the manuscript, including one inscription bearing the date 1659. Five horoscopes situated on blank leaves at the end of the volume, dated 1658–1659, demonstrate that Richard Jones was a physician practising astrological medicine.⁶³ Those horoscopes were designed for a certain 'Mrs Moores about her husband and his being'. It seems that those *figure celi* were drawn for interrogations, though the question is not explicitly formulated. The latitude of 52° for which the horoscopes were calculated may indicate that the astrological consul-

⁵⁹ Those calculations also mentioned the year 1377 in relation to the motion of the apogee: 'Nota quod cum fuerit aux Solis in primo minuto Cancri sicut fuit anno Chirsti 1377 imperfecto', fol. 189^v.

⁶⁰ MS Ee.3.61, fol. 188^v: 'Tempus vere coniunctionis ♄ [Saturn] and ♃ [Jupiter] quarto vicinius preter sciri per tabulas anno Domini currente 1484 post meridiem 25 diei novembri'. The different values were calculated by Lewis with the Alfonsine tables.

⁶¹ Zepeda 2018, 78–79.

⁶² Watson 1965. William Carye's mention is on fol. I^r.

⁶³ The horoscopes are situated on fols 183^r–184^r. Richard Jones's inscription are on fols 47^v, 140^r and 182^v.

tation took place in East Anglia, not far from Cambridge, perhaps at Ipswich.⁶⁴ The later provenance of the manuscript is easily traceable since it was acquired by John Moore (d. 1714), while bishop of Norwich, sometime between 1691 and 1707. His significant library then passed to George I, who offered it to the library of the University of Cambridge in 1715.⁶⁵

4 The notebook's composition

4.1 At the origin of the manuscript assembly

Although Lewis Caerleon is the scribe of most of the manuscript, he acquired or commissioned the quires containing the treatise beginning *Cum rerum motu*, devoted to the nativity of Henry VI and the different judgements made for the same king.⁶⁶ Some of his annotations may be read in the margins of this horoscopic tract, though there are not many and they are short.⁶⁷ *Cum rerum motu* was certainly provided with blank spaces or at least with unfilled horoscope charts, since Lewis completed the different values and titles of the four charts.⁶⁸ Interestingly, the chart on fol. 164^r, less regular than the three others, was probably quickly traced and filled by him. Facing this chart of profection (*ffigura profectionis 20^{ma}*) are different values written by Lewis for establishing the *directiones* of the different planets, including the Sun and the Moon. The *directio* consists in the projection in time of the location of the planets as they were in the sky at birthtime – here the birth of Henry VI.⁶⁹ This *figura celi* is one of the intermediary steps before establishing the final horoscope and the judgement.⁷⁰ Contrary to the others, this chart was traced and completed by Lewis Caerleon.

⁶⁴ According to John North, the astrologer used Regiomontanus's tables, cf. North 1986, 149.

⁶⁵ McKitterick 1986, 47–152; Ringrose 1998.

⁶⁶ MS Ee.3.61, fols 159^r–175^v. On *Cum rerum motu*, see North 1986, 142–149; Carey 1992, 138–153; and Juste 2021a, 574–575. According to Carey, this treatise might be attributed to the physician and Master of Peterhouse Roger Marchall (d. 1477). On Roger Marchall, see Voigts 1995.

⁶⁷ Contrary to what is asserted in North 1986, 147, Lewis is not responsible of the seven-line note in margin about the latitude of London and Windsor (fol. 160^r). It was written by a late sixteenth-century handwriting.

⁶⁸ MS Ee.3.61, fol. 164^r provides the *directiones* of the Sun, the Moon, the ascendant and the midheaven including their *partes*.

⁶⁹ Al-Qabiṣī, *Introduction to Astrology*, ed. Burnett and Yamamoto 2004, 319–338.

⁷⁰ Cf. North 1986, 148.

MS Ee.3.61 is one of the two witnesses containing this treatise,⁷¹ and it seems that the royal physician was particularly interested in this episode, involving at least two Cambridge masters, John Holbroke (d. 1437) and John Somerset (d. 1454). However, we may wonder if in the troubled context of the Wars of the Roses, Lewis was not more interested in this treatise for an interpretation *post eventum*.⁷²

Although Lewis probably did not himself copy all the astronomical tables displayed in MS Ee.3.61 he clearly supervised their copies. In the lower margin of the tables present in the volume one finds the inscriptions: *relegitur, corrigitur secundum copiam; correcta; relegitur totam*. On fol. 63^r, at the end of John Holbroke's *Opus primum*, Lewis wrote in the lower margin: 'totum opus predictus relegitur secundum copiam'. Like the *Opus primum*, the *Opus secundum* presents numerous *relegitur* or *corrigitur* mentions on each folio. Those notes clearly indicate that Lewis had the copies of the *Opus primum* and the *Opus secundum* in front of him to verify the tables and canons, the latter being copied by him along with the headings of the tables.⁷³ It is likely that he had access to John Holbroke's own copy, partly copied in his hand and presented to Peterhouse in 1426, which is now Egerton MS 889.⁷⁴ The manuscript remained in this college until the late sixteenth century, and we may thus assume that Lewis consulted it in Peterhouse. Another mention demonstrates that Lewis continued to adapt and edit some tables. In the lower margin of fol. 146^r displaying an example (*exemplum*) for the composition of eclipse tables applying the method described in the canons written on fol. 142^{r-v}, Lewis wrote: 'Istud exemplum corrumpitur per scriptores, ego multa correxi, sed tamen, cave bene'.⁷⁵ The tables indeed show a few numerical values written in the margin by Lewis. It is not explicitly stated here whether the tables on fol. 146^r were copied by Lewis's

71 The other witness is a mid-fifteenth-century manuscript who was probably produced in Oxford, now Garrett MS 95, it is incomplete, retaining the Preface and Chapter 1 only. The treatise is situated between fols 127^v and 130^v. On this manuscript see Skemer 2013, 203–211; Juste 2021b. Some text such as Simon Bredon's commentary on Boethius's *De arithmetica* are also contained in this manuscript which could have been known by Lewis Caerleon.

72 On English court astrology and the analysis *post eventum*, see Boudet 2008.

73 On the *Opus primum* and *Opus secundum* composed at two different times, respectively 1430 and 1433, see Nothaft 2018.

74 This manuscript displays a table of contents written by the physician Roger Marchall, who was also a fellow of Peterhouse under the mastership of John Holbroke. On Egerton MS 889, see Voigts 1995, 278–279; Clarke 2002, 499, 557–558; Thomson 2016, 201–202; Nothaft 2018; Juste 2023b.

75 MS Ee.3.61, fol. 146^r: 'Exemplum de compositione tabularum eclipsium secundum canones anteposites folio 4^o precedente istius quaterni'.

scribes or whether he was referring to the exemplar from which this *exemplum* was written. It would appear likely that those errors came indeed from the *exemplar* from which Lewis copied those tables. That is why he edited them.

Several physical aspects demonstrate the informal nature of this volume, which was, certainly, from the beginning, intended to be a notebook. The manuscript consists of fifty-one quires, alternating between parchment bifolia and paper binions, some parchment leaves are sometimes interleaved between a group of bifolia and binions. Parchment bifolia are of poor quality, some leaves contained holes due to the parchment preparation.⁷⁶ Paper leaves that included tables were ruled with a lead point in a small and regular grid pattern. Some quires or part of quires remained blanks or only displayed the grid pattern for the tables as if those spaces were intentionally left blanks to contain future notes, texts or tables.⁷⁷ Lewis used two types of script that are similar but with a different degree of formality. He employed either a typical English university cursive script characterised by round strokes but betraying a secretary influence, or a small and neat secretary script with some ‘bastard secretary’ features.⁷⁸ MS Ee.3.61 is mainly written with the first type of handwriting, a university cursive script, though Lewis tends to use a neater and more regular script for the treatises of which he is not the author (e.g. fols 8^r–12^r; 31^v–42). The roundness of the script is also more pronounced in parts composed with less care (e.g. fols 12^v–15^r). Throughout the manuscript, Lewis included a few decorative features, inserting red rubrics, initials highlighted in red, or paragraph signs. Tables are also composed in black and red. A few guide letters were also traced by him suggesting that he was perhaps planning to return to this part to apply the decoration or that the decoration was done by someone else (e.g. fols 48^r and 49^r). However, it is likely that Lewis was also in charge of this aspect, as it remains simple and sometimes quite rough.

⁷⁶ MS Ee.3.61, fols 164^{r-v} and 165^{r-v}.

⁷⁷ MS Ee.3.61, fols 18^r–26^r; 181^v–188^r are left blank, though fols 183^r–184^r retained the horoscope charts composed later by Richard Jones.

⁷⁸ Parkes 1969.

The table of contents (fol. 2^v) reveals interesting evidence about the history of the manuscript. Given the order of the works mentioned, the volume was bound as it is today. However, one learns from this table that one treatise is now missing. The entry reads:

Treatise of Master John Ashenden on the conjunction between Mars and Saturn in the sign of Cancer, and on the conjunction of Saturn and Jupiter in the sign of Scorpion, with a change of triplicity.⁷⁹

This item refers to the astrological judgement of John Ashenden (d. c. 1368) on the Saturn–Mars conjunction of 1357 and the Saturn–Jupiter conjunction of 1365. The change of triplicity – mentioned by Lewis – between the air and the water signs (Cancer, Pisces and Scorpio) is indeed discussed by John Ashenden in his judgement as a signifier of great religious and political events.⁸⁰ This judgement originally preceded the *Introductorius* of al-Qabīṣī (Alcabitius), which was described as incomplete: ‘Introductorium Alkabutii [sic], sed non completum’. However, the first part of the *Introductorius* was certainly copied on the same quire as John Ashenden’s predictions, seeing that the beginning of this tract is now missing too.⁸¹ At least one quire is now lacking.

The table of contents is also the place where Lewis Caerleon justified some of his choices in term of copy. The canons of John of Lignères are mentioned as complete but in a different order, first starting with his eclipse canons excerpted from his canons on planetary motions, *Priores astrologi*, followed by his canons on spherical astronomy, *Cuiuslibet arcus*.⁸² This order was certainly justified by the fact that John of Genoa’s computation of the solar eclipse of 3 March 1337 precedes the eclipse canons of John of Lignères, whose method partly inspired the former.⁸³

79 MS Ee.3.61, fol. 2^r: ‘Tractatus Magistri Johannis Asshynden de coniunctione ♂ [Mars] et ♄ [Saturn] in Cancro et de coniunctione ♄ in ♏ [Jupiter] in Scorpione, cum permutatione triplicitatis’.

80 Cf. MS. Digby 176, fols 42^r–49^v; MS. Ashmole 393, fols 81^v–86^r. See also Carey 1992, 74–77; Boudet and Miolo 2022.

81 Only the *Differentiae* I.12–II.40 are copied. Cf. Al-Qabīṣī, *Introduction to Astrology*, ed. Burnett and Yamamoto 2004.

82 MS Ee.3.61, fol. 2^r: ‘Item canones Mag[istri] Joh[ann]is de Lyneriis completi, sed non recto ordine, quia canones eclipsis ponuntur in principio veri deberent poni canones corde et arcus qui secuntur’.

83 On John of Genoa’s *Investigatio eclipsis solis anno Christi 1337*, whose edition is forthcoming in the ALFA collection, see Miolo 2022, 371–374.

4.2 A sourcebook

Lewis gathered a wide range of astronomical material which probably laid the foundations for his own works. However, his own views on some of the tables or canons are shared throughout the manuscript. This is the case with the anonymous canons on the composition of the *tabule angulorum* (i.e. parallax tables) for computing eclipses that, according to Lewis, were less precise than the canons on the same topic copied towards the end of the manuscript.⁸⁴ At the bottom of parallax tables that are said to be part of the more precise group of canons and tables, he commented again:

Although this prescribed work on the parallax is not precise and perfect due to the significant mistakes of the scribes, it nevertheless provides a good example and method of the table of parallax in longitude and latitude for someone with a good understanding [of the matter]. [About the eclipse tables on the next folio (fol. 146^v)] Note also that this subsequent example on the composition of eclipse tables is corrupted by scribes with no understanding of this. Therefore, judge the proof before this. Note yet that when he composed those tables, this master assumed the solar and lunar diameters as they are noted in the previous folio at the bottom of the table.⁸⁵

It is noteworthy that later, at some point, he crossed out all the parallax and eclipse tables, for they were deemed obsolete.

These notes also provide valuable evidence of his work as a collector and astronomer. Although this group of tables and canons was understandably assumed by Kibre to be part of the personal work of the physician, Lewis Caerleon clearly demonstrates in his annotations that he is not the author of this group of tables. Indeed, his own tables are only situated between fols 154^v and 156^f.

84 We can read this passage in the table of contents: MS Ee.3.61, fol. 2^r: 'Quidam canones componendi tabulas angulorum pro eclipsibus sed non precisi et meliores habentur in isto primo tractatu de compositione tabularum et operationi habentur versus finem huius libri ante tabulas eclipsis expansas'. Those anonymous canons may be found on fol. 106^{r-v}, and we may assume that the best canons according to Lewis are on fol. 143^{r-v}.

85 MS Ee.3.61, fol. 146^f: 'Quamvis hoc opus prescriptum de diversitate aspectus non sit precise verum et perfectum, propter vitium forte scriptores, tamen dat bonum exemplum et viam describendi tabulam diversitatis aspectus in longitudine et latitudine, bene intellegenti. Nota etiam quod istud exemplum sequens de compositione tabularum eclipsis est corruptus scriptoribus non intelligentibus. Ideo probationem antequam ei considas. Nota etiam quod iste magister, quantitatem dyametri Solis et une et umbre, ut notatur in proximo folio precedente sub tabulas suis de eclipsis solis, supposuerit in componendo istas tabulas etc.'

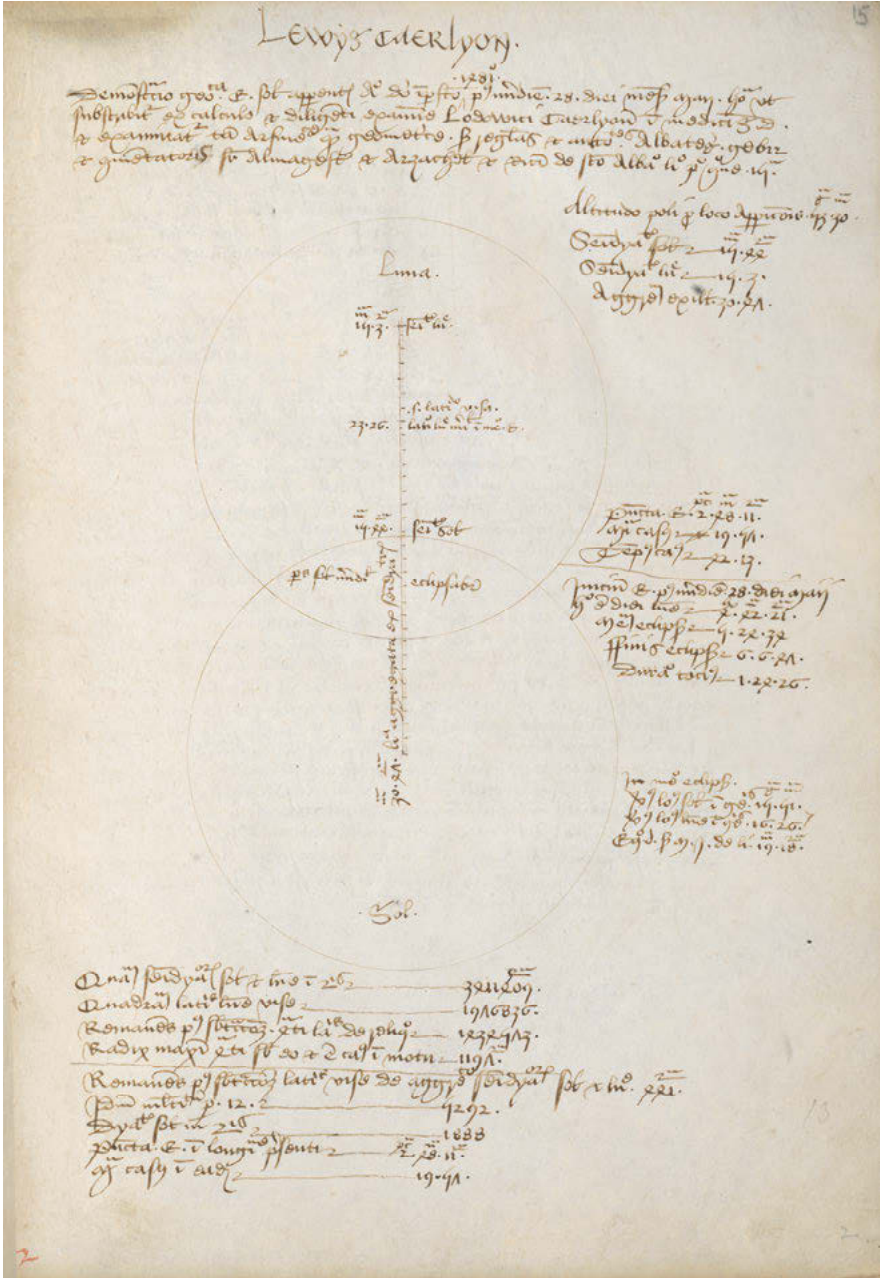


Fig. 2: 'Geometrical demonstration' of the solar eclipse of 28 May 1481 including Lewis Caerleon's signature; MS Ee.3.61, fol. 15'; courtesy of the Syndics of Cambridge University Library.

The signature ‘Lewys’ which is found in several places of the volume often indicates that Lewis Caerleon is the author of a work or a comment. For instance, at the end of his detailed eclipse computation of 28 May 1481, Lewis signs: ‘Lewys Caerlyon, in medicinis doctoris’ (fol. 14^v). Similarly at the top of his geometrical demonstration, ‘Demonstratio geometrica eclipsis solis’, his signature reads: ‘Lewys Caerlyon’.⁸⁶ However, his signature is not only authenticating his authorship, but also his corrections or commentary. It is particularly noticeable in his treatment of John of Genoa’s calculation of the solar eclipse of 3 March 1337. Lewis disagrees with his calculation of the parallax and thus corrects the computation all through the text. This is the subject of comment in a seven-line note at the end of the text, providing the reasons for those emendations. This short autograph note is authenticated on the first line by ‘ego Lodowycus Caerlyon in medicinis doctor’.⁸⁷ Similarly, at the top of the anonymous universal table of the ascension of the signs, here ascribed to John Walter, he expressed his skepticism towards this method though he found it laudable: *conceptio tamen est laudabilis*. This note is also signed ‘Lewys’.⁸⁸ It is also noteworthy that the English orthography ‘Lewys’ is used as a signature, though within a text, Lewis kept the Latin orthography of his first name ‘Lodowycus’.

Although Lewis is clearly not their author, the anonymous short canons for composing eclipse and parallax tables, including the tables themselves, all bear this same signature. It appears that this material was entirely scrutinised, verified and corrected by the physician, as is stated in his annotations. Any amendment to a text or a table, whether it is correction or simple changes, is therefore established by his signature.⁸⁹

86 Though one finds the spelling ‘Lewis of Caerleon’, in reference to his supposed native town, this signature shows that the preferred spelling of the physician himself was simply ‘Lewis Caerleon’.

87 MS Ee.3.61, fol. 81^r: ‘Nota et indubitanter scias quod ego Lodowycus Caerlyon in medicinis doctor, singula prescripta calculo proprio probavi, et hoc feci quia inveni errores in divisione sua quando divisit excessum 3e diversitatis aspectus lune in latitudine super 2am, quia credidi ex illo modico errore plures maiores errores secutoros’ (‘Take that into account and you would indubitably understand that, I, Lewis Caerleon, doctor of medicine, I proved by my own computation all the things written above, and I did that because I found errors in his [John of Genoa’s] division. When he divided the excess of the third lunar parallax in latitude to the second, because I believed that from this subtle mistake, many other and more important mistakes followed’).

88 On this table see North 1986, 126–128. The table is in MS Ee.3.61, fol. 47^r. Fol. 46^v displays a short canon in the form of a *memorandum*, perhaps due to Lewis, beginning: ‘Pro operatione subsequentum tabularum duo sunt consideranda’.

89 One finds ‘Lewys’ in several places facing the canons or the tables: MS Ee.3.61, fols 142^{r-v} and 143^{r-v} for the canons and fols 144^r–146^r for the tables.

The didactic nature of the eclipse material displayed on fols 142^r–146^r is demonstrated by the different *exempla* included. Lewis probably learned how to build tables from the different material he gathered as all canons or tables are followed by concrete application of the doctrine through examples.⁹⁰

That he used the canons devoted to the composition of parallax tables and eclipse tables as a starting point to build his own tables is evidenced by the long example on the construction of parallax tables, following the anonymous canons *Componendi tabulas angulorum*. The anonymous text proposed the method to compose parallax tables based on the Oxford latitude,⁹¹ and the steps described in those canons are followed by Lewis in his example, based on the Oxford latitude (51;50°). The *exemplum* is also said to be based on al-Battānī and Richard of Wallingford's writings. These two references correspond to al-Battānī's *De scientia astrorum* (translated from the Arabic by Plato of Tivoli between 1134 and 1138) and Richard of Wallingford's *Albion*.⁹² It is probable that the reference to the first astronomer was excerpted by Lewis from Richard of Wallingford's *Albion* since Chapter 30 of the *De scientia astrorum* was one of the latter's sources.⁹³

Lewis gathered in his notebook the required material to build what he calls his *opus eclipsium*. As a short introduction to the eclipse material included on fols 142^r–146^r, a brief note at the top of the folio states that to work on eclipses it is necessary to know the different radii and diameters expressed on the same page.⁹⁴

90 Those examples are clearly mentioned by Lewis, e.g. fol. 145^r: 'Hic consequenter ponatur exemplar faciendi tabulas diversitatis aspectus in longitudine et latitudine secundum canones prepositor in isto quaterno'; this is a *renvoi* to the canons on fol. 143^{r-v}; fol. 146^r: 'Exemplum de compositione tabularum eclipsium'. Lewis is not the author of the *exempla* of fols 145^r–146^r.

91 The anonymous canons are preceded by the heading 'Nota canones sequentes pro compositione tabularum angulorum pro eclipsibus', MS Ee.3.61, fol. 106^r.

92 MS Ee.3.61, fol. 107^r: 'Exemplum componendi tabula angulorum et diversitatis aspectus ad eclipses per calculationem Lodowyci Caerlyon in medicinis doctoris et calculatur ad latitudinem 51 gradus 50 minuta secundum doctrinam Albategni et Ricardi de Sancto Albano, libro primo, conclusione 12, 13, 14, 15 et 16' ('Example of the composition of a table of angles and parallax for eclipses computed by Lewis Caerleon, doctor of medicine, and which is calculated for a latitude of 51;50° according to the doctrine of al-Battānī and Richard of St Alban [Richard of Wallingford], in the first book, conclusions 12, 13, 14, 15 and 16'). Al-Battānī's *De scientia astrorum* was edited by Nallino 1899–1907.

93 Cf. North 1976, vol. 1, 285–289.

94 MS Ee.3.61, fol. 142^r: 'Ad opus eclipsium requiritur notitia quantitatum dyametri corporis solaris, corporis lunaris in aspectu et dyametri umbre terris in contactu spere lunaris et quantitas maxime diversitatis aspectus in circulo altitudinis luna exeunte apud orizontem' ('For the eclipse computation, knowledge is required on the quantity of the diameter of the solar body, the lunar body in parallax and the diameter of the shadow of the Earth in contact with the

It is especially true for eclipse tables displaying the digits of eclipse and the parallax in latitude. Preceding the short canon *De arte componendi tabulas eclipsium* (fol. 142^v) are values related to the radii of the Sun, the Moon and the shadow of the Earth excerpted from four authorities: Richard of Wallingford, al-Battānī, Jābir ibn Aflah (Gebir) and the anonymous author of the *Almagesti minor*. However, all those values are certainly taken from propositions 17–22 of the *Albion*. On the verso of the same folio Lewis supplemented those radii with radii and diameters found in the Toledan tables, which are displayed alongside those of al-Battānī and Jābir ibn Aflah (Gebir) whose values are repeated. It is noteworthy that the *Almagest* (Book 5, Chapter 14) and its abridged version by al-Farghani are mentioned regarding lunar parallax. The latter values have been also directly excerpted from the *Albion*, Book I, proposition 14, where Richard of Wallingford provides the ‘maxima diversitas aspectus in circulo altitudinis apud orizontem’ (the horizontal parallax in altitude).⁹⁵ It is nevertheless quite clear that he wrote down a large number of *auctoritates* to legitimate his tables and canons and perhaps to have an exhaustive overview of those different numerical values.

Lewis Caerleon’s commitment to recording the *auctoritates* on which he based his writings is particularly noticeable in the introduction to his own *Opus eclipsium*, dated to 1482, only preserved in Add MS 89442, and opening the section devoted to his eclipse tables and canons:

This being understood, I chose between all professors of astronomy, three authors between whom there are few differences in their respective works. I chose one from the ancients, Albategni [al-Battānī], who surpassed his predecessors by his fine observations and especially his work on eclipses, with whom agree Geber [Jabir ibn Aflah] and the commentator of the *Almagest* [i.e. the *Almagesti minor*]. I chose two [authors] amongst the moderns, Master Simon Bredon and Richard of Wallingford, abbot of St Albans, both English and former fellows of Merton College, who brilliantly surpassed all their contemporaries all around the world with their excellence and their fine demonstrations, as it is clear from their works. I am really delighted that these learned men in mathematics flourished in our nation.⁹⁶

lunar sphere and the greatest quantity of the lunar parallax in latitude moving towards the horizon’).

⁹⁵ Lewis uses exactly the same vocabulary and references as in the *Albion*. For *Albion*, I, proposition 14, see North 1976, vol. 1, 286–287.

⁹⁶ Add MS 89442, p. 39: ‘Hiis visis, inter omnes astronomie professores tres mihi autores elegi inter quorum sententias modica et quasi insensibilis restat dissonantia, quorum unum ex antiquis elegi Albategni qui in subtilitate observationis et precipue in opere eclipsium omnis suos antecessores excessit, cui etiam concordat Geber ac insuper commentator super *Almagesti*; duos etiam ex modernis elegi, qui in novissimis nostris diebus in excellentia et subtilitate

Al-Battānī is indeed repeatedly invoked by Lewis in his notebook in relation to eclipse computations.⁹⁷ Some of the numerical values provided by Lewis may have been directly excerpted from Richard of Wallingford's *Albion*, which displays, in the first book, several values taken from al-Battānī, Jābir ibn Aflah's *Liber super Almagesti*, and the anonymous Latin treatise *Almagesti minor*.⁹⁸ Although his main source remains the *Albion*, it appears that Lewis had only access to al-Battānī's canons through Richard of Wallingford's work but also through another writing (perhaps the *Almagesti minor*), since he gave several values related to the radii of the shadow of the Earth and the Moon taken from the *De scientia astrorum* that are not explicitly displayed in Richard's work.⁹⁹ It therefore appears in the concordance tables that he drew upon the values of al-Battānī and Richard of Wallingford which may be found in the 'twin manuscripts' and Add MS 89442.¹⁰⁰ Conversely, it is noteworthy that the same concordance table retained in the notebook (fol. 142^v) is entirely based on the *Albion*, mentioning the usual other *auctoritates* straight out of this very same treatise. This demonstrates that Lewis, at some point after the final assembly of his notebook, had been able to consult a source reporting more numerical values from al-Battānī than in the *Albion*, particularly those expressed in Chapters 43 and 44 of the *De scientia astrorum*. It was certainly done by around or slightly after 1482, since he asserted in the introduction of his *Opus eclipsium* that he finally adhered to the values of the *Albion* more than others. This last statement

demonstrationum omnes suos contemporaneos in toto orbe terraris sparsum florentes eximie superarunt, ut ex eorum operibus manifeste liquet Magistrum Symonem Bredon et Ricardum Wallyngforth abbatem Sancti Albani, utrumque anglicum atque quondam socios collegii de Merton Oxonie verum valde sum gavisus quod nostre nationis viri studiosi in mathematicis flouerint'.

97 See e.g. MS Ee.3.61, fols 107^r–170^v, 142^r, 143^v, 153^v, etc.

98 See North 1976, vol. 1, 228–401. On Jābir ibn Aflah, see Lorch 1975.

99 A note rubricated 'Sequitur calculatio tabularum eclipsium Solis et Lune secundum semidiametros Solis, Lune et Umbre a Ricardo Wallingforthe abbate de Sancto Albono positos' in Add MS 89442 shows that he mainly based his eclipse tables on the *Albion*. Add MS 89442, p. 42: 'Iste Ricardus allegat commentatorem Almagesti et capitulum 44 Albategni perfecti, quos non habemus, summam vero libri Albategni in libris quos vidi in precedente opere allegavi. Ista precedentis conclusiones Ricardi hic induxi quia suis sententiis magis considero et finaliter adherere propono' ('This Richard alleges the *Almagesti minor* and the Chapter 44 of the excellent al-Battānī which we do not have, but I saw a summary of al-Battānī's book in the books from the previous work I invoked. I have introduced these conclusions of Richard because I consider his opinions the more and finally I propose to adhere to them'). For al-Battānī's Chapters 43 and 44, see al-Battānī, *Scientia astrorum*, ed. Nallino 1899–1907, vol. 1, 96–113.

100 MS B. 19 and Royal MS 12 G I, fol. 7^r; and Add MS 89442, p. 40.

was certainly written after he elaborated a whole set of tables based on the radii values of al-Battānī dated to 1482. Those tables are only preserved in Add MS 89442.¹⁰¹

The two *moderni* praised by Lewis Caerleon are indeed the two main sources on which he directly relied: Simon Bredon and Richard of Wallingford. They are both stated as former fellows of Merton College, already the model in Lewis's days of an illustrious scientific centre. Although, Simon Bredon was certainly a fellow of this College, that is not the case for Richard of Wallingford.¹⁰² With the statements written in his notebook and in MS. Digby 178,¹⁰³ Lewis helped to spread this mistaken information. Richard of Wallingford's *Albion* is the direct source of Lewis's eclipse tables. He explicitly cited it in the headings of his tables based on the first book of the *Albion*, proposition 18, 19 and 21 and also in his computation of the solar eclipse of 1481 (fols 14^v–15^r).¹⁰⁴ The heading of the parallax table that he copied on fol. 151^v leave little doubt about the source that inspired his work: 'Tabula diversitatis aspectus Lune in latitudine, pro Oxonia grosse calculata per albionum' ('Table of lunar parallax in latitude, made for Oxford and roughly computed with the albion'). It is obviously not from the

101 Add MS 89442, pp. 65–70.

102 On Simon Bredon, see Talbot 1962; Snedegar 1999. On Richard of Wallingford and the construction of the false affiliation to Merton College see North 1976, vol. 3, 129–131.

103 MS Ee.3.61, fol. 142^r: 'Istud elicetur ex primo libro Ricardi de Sancto Albano Socii domus Scolarum de Merton'. At the end of Lewis's copy of the *Quadripartitum*, Richard is said to have been the first fellow of the college. MS. Digby 178, fol. 38^r: 'Explicit quartus tractatus de corda recta et versa quem composuit frater Ricardus Wallingforde quondam abbas Sancti Albani ac primus socius Collegiis Walteris de Merton Oxonie summus astronomus at geometer eximius, cuius anime deus propicietur excelsus' ('End of the fourth treatise on *corda recta* and *corda versa* that composed friar Richard Wallingford, former abbot of St Albans and first fellow of the College of Walter of Merton in Oxford, the greatest astronomer and an excellent geometer, whose soul may God favour').

104 The eclipse tables with the headings are found in Add MS 89442 (pp. 65–71); Royal MS 12 G I and MS B. 19, fols 1^r–3^v. See e.g. MS B. 19, fol. 1^r: 'Hic incipit tabula eclipsis Lunarum secundum dyametros Ricardi abbatis de Sancto Albano, libro suo primo de compositione Albionis conclusione 18, 19 et 21, ad longitudinem longiorem cum differentia punctorum et minorum casus et more, ad longitudinem propriam noviter facta et expansa ad singula minuta argumenti latitudinis Lune per me Lodowycum, anno Christi 1482 et huic tabule finaliter adhaereo ut in principio huius operis premisi' ('Here begins the table of lunar eclipse, based on the diameters of Richard, abbot of St Alban, in his book on the composition of the Albion, in the first book propositions 18, 19 and 21, at apogee with the difference of digits and the minutes of immersion and delay, and at perigee, newly made and expanded to a single minute of the argument of the lunar latitude, by me Lewis, in the year of the Christ 1482, and I finally adhere to this table, as I mentioned in the beginning of this work').

instrument but from the values found in the treatise that this table was composed. The *Albion* was not the only treatise by Richard of Wallingford that Lewis owned. Although, the royal physician's copy of the *Albion* does not seem to survive, the treatise on the instrument *Rectangulus*, composed contemporarily to the *Albion* (c. 1326) is copied in his notebook. The end of the copy contains a brief note by Lewis referring to Richard of Wallingford's *Quadripartitum* (composed before 1326), of which he had also a copy extensively annotated in MS. Digby 178.¹⁰⁵

Simon Bredon's writings were extensively used by Lewis of Caerleon for trigonometrical astronomy and equation of time.¹⁰⁶ A copy of Simon's *Arithmetica* (c. 1330) may be found in the notebook following John of Lignères's canons on spherical astronomy. This is the same text that Lewis referred to in a note at the end of the table of square and cubic roots: 'as it appears from Master Simon Bredon in his arithmetic towards the end of the chapter on geometrical proportions'.¹⁰⁷ That Lewis had a particular interest in Bredon's works appears from two copies that he owned of Simon's commentary on Ptolemy's *Almagest*. This commentary is preserved in three witnesses which are all incomplete. Although it is not sure that a full version of this text had ever existed, Lewis had two copies of Simon's work: one in his notebook containing the commentary on Book I, propositions 12–20, and another in MS. Digby 178 with a fuller version that includes the text on the *Almagest* Book I.9–11, 12–14, Book II and III.¹⁰⁸ It would appear that he used some of this content for his equation of time table copied in Add MS 89442.¹⁰⁹ In his *Exemplum componendi tabulam angulorum et diversitatis aspectus*, Lewis dedicates a line to the straight sine (*sinus rectus*) of the altitude of midheaven according to Simon Bredon. This was certainly based on the method found in Simon Bredon's commentary on the *Almagest*, Book II in MS. Digby 178.¹¹⁰ That Lewis used Bredon's commentary on the *Almagest* and Richard of Wallingford's *Quadripartitum* for spherical astronomy problems, and more specifically for computing the right and oblique ascensions and compos-

105 The note is facing the *Canon tabule corde verse* and reads, MS Ee.3.61, fol. 11^v: 'Conclusiones iste sunt prime partis Quadripartiti Abbatis'.

106 On the equation of time and the influence of Simon Bredon on Lewis Caerleon's tables, see Miolo and Zieme forthcoming.

107 MS Ee.3.61, fol. 125^r: 'ut patet per magistrum Symonem Bredon in arimestica sua versus finem capitulo de proportionalite geometrica'.

108 Zepeda 2013; Zepeda 2018.

109 Cf. Miolo and Zieme forthcoming.

110 MS Ee.3.61, fol. 107^r: 'Sinus rectus illius altitudinis secundum Magistrum Symonem Bredon, 31 gradus, 33 minuta, 5 secunda, 30 tertia, 4 quarta'.

ing ascension tables, is also evidenced by the numerous explicit references found in Add MS 89442, pp. 47–49, inserted in between the parallax-related material. It appears that Lewis Caerleon partly based the computation of angles for his own parallax table from both works, but he seems to have followed the procedure described in Ptolemy's *Almagest*, Book V and al-Battānī's Chapter 39, dedicated to the parallax.¹¹¹ A last piece of evidence of the use of Simon Bredon's work by Lewis Caerleon is preserved only at the beginning of Add MS 89442. It is a table of chords allegedly composed by Simon Bredon and revised by Lewis Caerleon. According to the latter, this table is more precise than al-Battānī's one.¹¹² This table was particularly used in the calculation of right and oblique ascensions preventing the astronomer from a cumbersome computation. Already in his notebook, Lewis copied a condensed version of the *Almagest* I, 11 containing the directions to build a table of chords.¹¹³ Simon Bredon's original table cannot be found today; however, it may well have been linked to his commentary on the *Almagest*. His treatment of the chords of different arcs may be found in a short text copied in the part belonging to Lewis in MS. Digby 178.¹¹⁴

The particular interest in Simon Bredon's works which were not well known, except for his commentary on Boethius's *De institutione arithmetica*, demonstrates that Lewis Caerleon had a direct access to little circulated texts or even to authorial manuscripts. There is indeed some possibility that he copied Simon Bredon's commentary on the *Almagest* from the autograph copy of the Oxonian master, now MS. Digby 168. Similarly, the notebook reveals several mentions showing that he saw a manuscript copied and owned by the Francis-

111 Although he relied on the *Quadripartitum* and Simon Bredon for the computation of angles, Lewis's canons on his parallax table claim to be based on the Book V of the *Almagest*, indeed providing parallax values, and al-Battānī's Chapter 39, Add MS 89442, p. 128: 'Invenies enim longitudinem lune a terra in omni distancia ab auge deferentis et epicycli secundum doctrinam Ptholomei libro 5^o capitulo 13 et secundum Albategni capitulo 39, ut productum est et hec ad presens sufficiant. Lewys' ('You will find indeed the lunar longitude to the Earth for every distance from the apogee of the deferent and epicycle according to the doctrine of Ptolemy, in Book 5, Chapter 13, and according to al-Battānī in Chapter 39, as it is produced and this suffices for now. Lewis'). For al-Battānī's Chapter 39, see al-Battānī, *Scientia astrorum*, ed. Nallino 1899–1907, vol. 1, 76–84.

112 Add MS 89442, p. 1: 'Tabula cordarum mediatarum Magistri Symonis Bredon expansa ad singula minuta per me Lodowycum, et est precipiosior quam tabula Albatgeni quia calculatur pro singulis 15 minutis usque ad 8a. Sed hic non posui nisi 4 verificata pro singulis 15 minutis'. The table is situated on pp. 1–30.

113 MS Ee.3.61, fol. 156^v.

114 On this text beginning *Arcus dicitur pars circumferencie circuli* (MS. Digby 178, fols 39^r–41^v) ascribed to Bredon by Henry Zepeda (Zepeda 2018, 96–97).

can John Somer (d. c. 1409). The previous ownership of the volume he consulted is asserted within the table of contents of the notebook. The entry described an anonymous ‘short note’ on the true length of the year excerpted from the copy of John Somer. This note beginning ‘De quantitate anni secundum computationem vulgarem’ consists in two folios referring to diverse authorities such as John of Lignères and the Latin Alfonsine tables extensively, but also to the Toledan tables, al-Battānī, Thābit ibn Qurra or even Abū Ma‘shar.¹¹⁵ Lewis is more precise in the headings and canons related to two tables excerpted from Somer’s volume. The autography is stated in the headings of both tables by the formula ‘de copia manus proprie Frater Somer’.¹¹⁶ A brief description of the volume is mentioned in the short canon facing the table of coefficients of interpolation (fol. 152^r): ‘I found those tables in a certain old book copied by Brother Somer. Then, I, Lewis, made these canons, and I found some mistakes in this table that I corrected’.¹¹⁷

Lewis carefully recorded his source, emphasizing the authority of the renowned owner of the volume, who is the author of the widespread *Kalendarium*, and the age of the manuscript, ‘an old book’.¹¹⁸ Interestingly, the fact that this volume was autograph also seems to add a legitimacy to this source and a claim to an intellectual lineage. However, Lewis also mentioned the mistakes found in one of the two tables, asserting at the same time his own authority.

The different sources gathered by Lewis Caerleon in his notebook demonstrate that he was the heir to an important astronomical tradition. The works retained in the manuscript are representative of the fourteenth- and fifteenth-century sources used by the physician in his own work. He was well aware of the English astronomical tradition. His leading figures are Richard of Wallingford, Simon Bredon, John Somer, John Killingworth and John Holbroke. One finds those authors explicitly mentioned in his own writings. However, texts composed by fourteenth-century Parisian astronomers are also well represented in his notebook with John of Lignères’s canons and his *Algorismus minutiarum*, along with John of Saxony’s commentary on the canons on spherical astronomy

115 MS Ee.3.61, fols 156^v–158^v.

116 MS Ee.3.61, fols 152^r and 154^r (see *infra*).

117 MS Ee.3.61, fol. 152^r: ‘Istas tabulas inveni scriptas in quodam veteri libro ex manu Frater Somer, istos tunc canones feci ego Lodowycus et in illa tabula quosdam errores inveni quos correxi’.

118 On the sense of the ‘age’ of manuscripts in late medieval descriptions of books, see Sawyer 2017, 114.

composed by the former.¹¹⁹ The corpus of sources assembled by Lewis was an invaluable source for his astronomical writings.

5 A work devoted to eclipses

5.1 A Merton precedent?

The works copied by Lewis in his notebook represent authorial attempts, drafts and early version of his writings. It is noteworthy that all the tables situated between fols 142^r–151^v and 154^r–155^v) are crossed out by Lewis. The eclipse tables and canons retained in the notebook and authored by Lewis represent a first stage of his work and may be compared with later compositions retained in Add MS 89442, Royal MS 12 G I and MS B. 19. However, it seems that before composing his own tables the physician tried his hand at computing by reading canons and correcting existing tables.

Indeed, the different eclipse and parallax canons and tables copied on fols 142^{r-v} and 146^r were not composed by Lewis himself as explicitly stated in some of his marginal notes. However, more information about where he found this material may be gleaned from partially erased citations. Those citations allow to establish another link between Lewis and the University of Oxford, and perhaps Merton College. The following notes may be read on the upper margin of fol. 142^r: ‘Excerpted from the book of Walter Hertt’,¹²⁰ and again on the heading of a lunar parallax table based on the Oxford latitude:

Table of lunar parallax for the Oxford latitude, that is 51 degrees and 5 minutes, but it is not precisely computed, ~~and it differs from Hertt which is adequately corrected. But I doubt~~ [sic] the precise truth of one [table] for one minute, and of the other for the difference.¹²¹

119 John of Lignères’s canons and John of Saxony’s commentary on his spherical astronomy canons are edited in Saby 1988, vol. 1, 67–277 (John of Lignères’s canons *Cuiuslibet arcus propositi sinum rectum invenire* and *Priores astrologi*) and vol. 2, 281–284 (John of Saxony’s commentary on *Cuiuslibet arcus*).

120 The whole inscription was intentionally crossed out. MS Ee.3.61, fol. 142^r: ‘Extracta de libro Magistri Walter Hertt’.

121 A part was voluntarily crossed out, MS Ee.3.61, fol. 144^r: ‘Tabula diversitatis aspectus Lune ad latitudinem Oxonie, scilicet, 51 graduum et 50 minutarum, sed non est precise calculata, ~~sed differt a Hertt sufficienter correcta. Sed dubito~~ [sic] precisa veritate alium per unum minutum et alium per differentiam’.

A third of the folio has been carefully cut out, though on the verso, remains a part of the original note on the duration of the totality of an eclipse copied by Lewis. The inscriptions mentioning Walter Hertt are all intentionally crossed out. Although it cannot be proved, the similarity of ink might indicate that Lewis is at the origin of these erasures. He probably came back to the manuscript afterwards and crossed out those passages. It is difficult to know the exact reason, though it seems that the authority of Hertt was intentionally deleted. Walter Hertt (also written Hert or Hart) was a fellow of Merton College between 1437/1438 and 1455, and a resident of Lincoln College between 1455 and 1456, he died in 1484. He is mentioned in the Merton Rolls (between 1450 and 1452) for two pledges he respectively deposited in a university chest and in the Winton chest in exchange of the borrowing of two other books.¹²² His brother, John Hertt (or Hart) is recorded in April 1490 giving to Merton College, a copy of Simon Bredon's medical tract, *Trifolium de re medica*, as mentioned in Walter's will dated to 1481.¹²³ The list of fellows of Merton College (*Catalogus vetus*, Merton College Records MS 4.16) first compiled in c. 1412 mentioned him as a *nobilis astronomus*.¹²⁴ However, he does not appear to have left manuscripts. Further in the notebook, another mention was entirely erased below a lunar parallax table based on the Oxford latitude. The heading written by Lewis specifies that this table of lunar parallax in longitude based on the Oxford latitude is not precise as it misses one minute in comparison with the other table.¹²⁵ It is doubtless one of the tables referred on the note found on fol. 144^r.

The next folio reveals the author of this set of parallax tables, and certainly of the entire set of tables retained between fols 147^v and 151^v whose explicit is written by Lewis Caerleon at the bottom of the table of lunar parallax in latitude 'roughly computed with the *Albion*' ('grosse calculata per Albionum') on fol.

122 See Tanner 1748, 382; Powicke 1931, 218; Emden 1957–1959, vol. 2, 881a–882a; Thomson 2009, 137, 277. Thomas Tanner seems to have read the inscription in MS Ee.3.61, fol. 142^r, as he states: 'in MS. Norwich More 820 sunt quaedam de eclipsibus extracta ex libro magistri Gualteri Hertt'. According to an inscription in MS 184 (lower pastedown), the pledge (*cautio*) deposited in the university chest in 1446 was renewed until November 1455. He pledged this volume six times.

123 Salter 1923, 47–48 and 131.

124 Merton College Records MS 4.16, p. 26. Walter Hertt is mentioned in the year 1437.

125 MS Ee.3.61, fol. 150^v: 'Tabula diversitatis aspectus lune in longitudine pro Oxonia, sed non est precisa, sed deficit alium per unum minutum vel circiter' ('Table of lunar parallax in longitude for Oxford, but it is not precise and it misses another by one minute or so'). The erased mention cannot be read entirely, it begins: 'Nota quod diversitates aspectus hic positi sunt' ('Note that here are put parallax tables').

151^v. The name of the author is entirely erased but still legible with an UV lamp. The explicit reads:

The new tables of eclipses composed by Master John Curteys fellow of Merton College in Oxford end. The quantities of the diameters of the Sun, the Moon and the shadow of the Earth appear to be those written before folios 4 and 7, where the art of composing eclipse and parallax tables is displayed.¹²⁶

John Curteys is therefore the author of the eclipse and parallax tables of fols 147^r–151^v. He doubtless corresponds to the fellow of Merton College elected in 1442 who died in 1448/1449, though only scarce evidence of his life remains.¹²⁷ However, it is noticeable that he and Walter Hertt were both contemporaries. John Curteys is also mentioned as a renowned astronomer in the *Catalogus vetus* of Merton.¹²⁸ The two fellows were also at Merton College in the same time as John Killingworth who was there between 1432 and 1445, the year of his death, occupying various college positions.¹²⁹ It is thus tempting to establish a link between those two scholars and the astronomical production of John Killingworth,¹³⁰ but no evidence proves a master–disciple relationship between the three men. However, the last part of the explicit indicates that John Curteys relied on the values displayed on what are now fols 142^r–144^r,¹³¹ corresponding to the part excerpted from Walter Hertt’s book. Those quantities were taken from Richard of Wallingford’s *Albion*, but they are also accompanied with short canons, probably due to Hertt. It is therefore possible that Curteys was Hertt’s student. No other writings from these two Merton fellows seem to have survived except in this notebook.

Those mentions clearly demonstrate that Lewis Caerleon had access to all this material and that he relied extensively on this for his work on eclipses. The fact that he kept correcting the different pieces before finally deleting them also

126 Italics show the erased portion. MS Ee.3.61, fol. 151^v: ‘Expliciunt nove tabule eclipse composite per Magistrum Johannem Curteys socium Collegii Oxonie de Mertone, et supponunt quantitates dyametrorum solis et lune et umbre, ut scribitur ante folio 4^o et 7^o ubi ponitur ars componendi tabulas eclipsis et tabulas diversitatis aspectus’.

127 See the brief entry in Emden 1957–1959, vol. 1, 530.

128 Merton College Records MS 4.16, p. 26.

129 North 2004.

130 This link is asserted by George Brodrick but with no evidence. See Brodrick 1885. Geoffrey Martin and Roger Highfield are more careful but did not mention John Curteys, see: Martin and Highfield 1997, 132–133.

131 The mention of folios four and seven shows that the volume was probably not originally bound, and that Lewis had different quires in his possession.

show that he was taught or taught himself from those tables and canons. Correcting and editing sources is also a constant for Lewis who is responsible for the enhancement of John Killingworth's Jupiter and Saturn tables or Simon Bredon's table of chords. Where Lewis found those sources is also another question. It is likely that after he left Cambridge in 1466, he found his way to the University of Oxford, and perhaps to Merton. The donation he made in 1490 to Merton College is evidence of his link to this institution. Direct access to sources such as Simon Bredon's manuscripts (particularly MS. Digby 168), Walter Hertt and John Curteys's writings, that he plausibly may have only found at Merton College, are other hints of this connection. To this might be added that he perhaps knew some contemporary fellows.

On the 25 October 1497, a certain master John Davys borrowed the book donated by Lewis Caerleon seven years before. This volume was thus unchained for the occasion.¹³² The manuscript offered in 1490 does not seem to have survived since the words of the second folio do not correspond to an extant manuscript. However, MS. Savile 38 displays on the verso of the front endleaf (the former pastedown) the following ownership inscription: 'Pertinet magistro Johanne Davys'. The two John Davys were certainly one and the same person. John Davys (d. 1521) was a fellow of Merton College between 1484 and 1497, thus much younger than Lewis but contemporary to him.¹³³ However, since MS. Savile 38 does not correspond to the manuscript donated to the college in 1490,¹³⁴ it is thus possible that John Davys had it from the college or directly from Lewis Caerleon before 1495.

A more plausible association is between Lewis Caerleon and Richard Fitzjames (d. 1522). Elected fellow in 1465, he was warden of Merton College between 1483 and 1507, but also chaplain to Henry VII from 1489. His interest in astrology is attested by the zodiac archway he commissioned for the college in 1497, but also for the collection of books he requested during his wardenship.¹³⁵ He thus received the astrological manuscript assembled by William Reed, MS. Digby 176 and a volume containing astronomical tables.¹³⁶ However, if it was not at Merton, there is a strong chance that Lewis Caerleon and Richard Fitzjames met at the Royal court at some point.

132 John Davys pledged a manuscript of Seneca in exchange (Salter 1923, 215).

133 Emden 1957–1959, vol. 1, 551–552.

134 MS. Savile 38 does not seem to have been damaged, no folios or quires were removed, replaced or moved. It does not display the keywords, *vere puncta*, of the volume donated by Lewis Caerleon at Merton College.

135 See Carey 2012.

136 Thomson 2015, vol. 2, 953. On MS. Digby 176, see Boudet and Miolo 2022.

Those different sources demonstrate that Lewis Caerleon was directly or indirectly linked to Merton College. In any event, he had probably access to manuscripts and works preserved in the institution at that time. There is no longer any doubt that he was in Oxford at some point after 1466 and before his imprisonment in 1484. The last piece of evidence in favour of his stay in Oxford after 1466 is contained in Lewis's own writings.

5.2 The early stages of the *opus eclipsium*

Although Walter Hertt's and John Curteys's tables and canons were certainly used by Lewis as educational tools to learn eclipse tables composition and eclipse computations, he also produced his own work. The first stage of his scientific production is displayed in the notebook. Those early steps are symbolised by the detailed computation of the solar eclipse of 28 May 1481. The table of contents of the notebook refers to this as a computation made in various ways (*Calculatio eclipsis solis anno 1481 per diversas vias*). Indeed, this calculation was made according to four different sets of tables. It was first performed with the Toledan tables and John of Lignères's tables dated to 1322 (fols 12^v–13^v).¹³⁷ Both sets are explicitly invoked within the computation, though the heading on fol. 12^v only mentions the Toledan tables put under the authority of Azarchel (al-Zarqālluh, d. 1100) to whom they were usually attributed during the medieval period: 'Calculatio eclipsis contingentis anno domini currente 1481, post meridiem, 28 diei Maii, ut sequitur secundum tabulas Azarchelis'. The first line of the calculation specifies that the true time of the conjunction is given in mean days (*diebus non equatis*). Immediately after, Lewis Caerleon gives the equation of time (*equatio diei*) – allowing to find the time in true days (*diebus equatis*) – in the Toledan tables and in John of Lignères's tables.¹³⁸ Only the main results, such as the true time of the conjunction given in true days, are given according to both sets of tables, the rest was computed with Latin Alfonsine tables.

¹³⁷ For the edition of the Toledan tables, see Pedersen 2002, for John of Lignères's tables, see *The Tables of 1322*, ed. Chabás and Saby 2022.

¹³⁸ MS Ee.3.61, fol. 12^v: 'Tempus vere coniunctionis diebus non equatis post meridiem prescriptis 3 hore, 51 minuta, 45 secunda, 31 tertia/ Equatio dierum secundum magistrum Johannem de Lineriis, 19 minuta, 18 secunda, 16 tertia, 30 quarta/ Equatio dierum secundum Azarchelem 20 minuta, 21 secunda, 32 tertia' ('Time of the true conjunction predicted in mean days after midday 3 hours, 51 minutes, 45 seconds, 31 thirds/ Equation of time according to John of Lignères, 19 minutes, 18 seconds, 16 thirds, 30 fourths/ Equation of time according to Azarchel, 20 minutes, 21 seconds, 32 thirds').

The computation is partially made again with another set of tables, called the ‘new tables’, based on the Oxford meridian. For that purpose, Lewis starts from the true time of the conjunction found with John of Lignères’s tables to perform the whole calculation again with this new set of eclipse tables. Those new tables are in fact those made by John Curteys as they are based on the *Albion*’s diameters as specified by Lewis himself in his aforementioned note. The introductory paragraph of this part of the computation reads as follows:

Computation of the same eclipse according to the new eclipse tables based on the values of the diameters of the Sun, the Moon and the shadow of the Earth that are found in Al-bategni, Gebir, and the commentator of the *Almagest* [*Almagesti minor*] and Richard of St Alban. Those are the diameter of the Sun at mean longitude 32 minutes, 32 seconds; the diameter of the Moon at apogee, 29 minutes, 20 seconds, and at perigee, 35 minutes and 20 seconds; the diameter of the shadow of the Earth at apogee 38 minutes, 10 seconds, and at perigee 45 minutes, 56 seconds etc. And computed as well according to the new tables of lunar parallax based on the Oxford meridian.¹³⁹

After the whole computation was redone, Lewis added another way to derive other parts of the same calculation with the help of the ‘new tables expanded’, meaning that the ‘new tables’ composed by John Curteys were enhanced. The title of this part is explicit: ‘Computation of the same eclipse with the new tables expanded to the individual minutes rejecting all fractions up to the minute, both in time and in motion’.¹⁴⁰ This shorter calculation end with a long paragraph signed by Lewis Caerleon where he explains the origin of the difference between the results obtained with the ‘new tables’ and with the ‘expanded tables’, which according to him, are due to the lunar parallax in latitude.¹⁴¹

If the new tables themselves are the work of John Curteys, the question of responsibility for their enhancement arises. The answer may be found in manu-

139 MS Ee.3.61, fol. 13^v: ‘Calculatio eiusdem eclipsis secundum novas tabulas eclipsis fundatas super quantitate dyametrorum solis et lune et umbre ut ponuntur Albategni, Gebir et commentator super *Almagesti* et Ricardus de Sancto Albano, que est hec dyameter Solis in longitudine media 32 minuta, 32 secunda, dyameter Lune in auge epicicli 29 minuta, 20 secunda in opposito augis 35, 20; dyameter umbre in auge epicycli 38, 10, in opposito augis 45, 56 etc. ac etiam secundum novas tabulas de diversitate aspectus Lune ad meridiem Oxonie’.

140 MS Ee.3.61, fol. 14^{vb}: ‘Calculatio eiusdem per tabulas novas expansas ad singula minuta abiciendo omnes fractiones usque ad minuta, tam in tempore quam in motu’.

141 MS Ee.3.61, fol. 14^{vb}: ‘Nota quod tota causa differentie seu discrepantie per hanc viam, sicilicet, per tabulas expansas, a priori, oportet immediate precedente, est propter diversitas aspectus in latitudine’ (‘Note that the whole cause of the difference or discrepancy with this method, that means, with those expanded tables, must be immediately preceding, for it is due to the parallax in latitude’).

scripts commissioned by Lewis Caerleon and containing his own tables. The heading of the lunar eclipse tables found in MS B. 19, Royal MS 12 G I and Add MS 89442 makes it clear and more precise: they are tables expanded to a single minute of the argument of the lunar latitude.¹⁴² The set of eclipse and parallax tables displayed in those three manuscripts are dated to 1482 and 1483, and are based on the Cambridge latitude, though it is specified that the solar eclipse tables were composed in London in 1482.¹⁴³ All the tables are clearly signed in their headings, leaving little doubt about their author, Lewis Caerleon. Thanks to the eclipse table we also learn that he was in London at least from 1482, likely serving Margaret Beaufort and the Lancastrian faction.

The rest of the 1481 solar eclipse computation shows that he used two other methods to derive the same eclipse. He applied for one an arithmetical procedure and for the other a geometrical (trigonometrical) procedure. As for the previous ways of computing the eclipse, he introduced his calculation by a short explanatory paragraph. The arithmetical method is explicitly derived from the doctrine excerpted from Walter Hertt's book. The following calculation based on the extraction of the *radix* of the diameters of the Sun and the Moon is an application or an *exemplum* following the different steps described in the *Ars componendi tabulas eclipsium*. However, the values of the diameters are taken from the Toledan tables.¹⁴⁴ Lewis Caerleon says he prefers this method to the

142 For the quotation of the heading see note 95. One finds another table in MS B. 19 and Royal MS 12 G I, fol. 4^r, with a heading echoing the previous table: 'Tabula latitudinis lune infra terminos eclipsium expansa ad singula minuta argumentis latitudinis lune per me Lodowycum' ('Table of lunar latitude below the limits of eclipses expanded to the individual minutes of the argument of the lunar latitude, by me, Lewis').

143 Cf. MS B. 19 and Royal MS 12 G I, fol. 3^r: 'Hic incipit tabula eclipsis solis secundum diametros Ricardi Abbatis de Sancto Albano ad longitudinem longiorem cum differentia punctorum et minorum casus ad longitudinem propriorem Lune. Sed sol supponitur esse semper in sua longitudine medie in compositione istius tabule per me Lodowycum anno Christi imperfecto 1482 apud Londonum' ('Here begins the table of solar eclipse based on the diameters of Richard the abbot of St Albans, at apogee with the difference of digits and the minutes of immersion at lunar perigee. But the Sun is supposed to always be in its mean longitude in this table composed by me Lewis in the imperfect year of the Christ 1482 at London'). Cf. on Lewis's whole works, see my subsequent article in preparation.

144 MS Ee.3.61, fol. 14^v: 'Calculatio eiusdem eclipsis per extractionem radicis semidiameterum solis et lune secundum quam artem fuerint tabule eclipse eclipsium solis et lune [...] et inveni quantitatem dyametrorum solis et lune secundum doctrinam canonem Gerardi Cremonensis super tabulam Azarchelis [...] tamen elegi hanc viam propter secunditatem ab erroribus etc.' ('Computation of the same eclipse based on the extraction of the roots of the radii of the Sun and the Moon according to what art the solar and lunar eclipse tables displayed [...] and I found the quantity of the diameters of the Sun and the Moon according to the

subsequent one based on ‘geometry and arithmetic’ and entitled *Demonstratio geometrica*, which, according to him, is mistaken as it is based on mean values. This geometrical model is based on the *Albion* and is accompanied with a diagram of the mean time of the eclipse.¹⁴⁵

This eclipse computation was certainly used to apply and evaluate several sets of tables and methods of computation. It was probably also one of the first applications of the ‘expanded tables’ that he drew from John Curteys’s set of eclipse and parallax tables crossed out at the end of the notebook. Interestingly, Lewis Caerleon wrote two notes in two different places facing Curteys’s tables justifying the cancellation of the tables:

Note that I did not compute those eclipse and parallax tables as precisely as the eclipse tables that I donated to the universities of Cambridge and Oxford. However, the difference is subtle and by means of these tables the first part of eclipses may very well be computed.¹⁴⁶

That Lewis claimed the authorship of those tables would seem clear here and might explain why the different references to Hertt and Curteys were erased afterwards. Unless, the verb *calculavi* refers here to the different corrections he made to the different tables and would also explain the signature ‘Lewys’ applied to every folio. In any event, those mentions show that Lewis’s *nove tabule expense* found their ways to the universities of Oxford and Cambridge, to which he donated copies of his tables. The ‘twin manuscripts’, MS B. 19 and Royal MS 12 G I, copied after 1485, may have represented one or both donations, though they do not correspond to the donation made to Merton College in 1490. If the ‘twin volumes’ correspond to the donations mentioned in the note, that would mean that Lewis would have come back to his notebook after 1485 to add both notes. It seems highly probable that Lewis made the different donations during his lifetime.

canonical doctrine of Gerard of Cremona on the tables of Azarchel [...]. However, I chose this method because of the errors of the second method’). Lewis probably refers to the following Toledan canons, i.e. Pedersen 2002, Cb 193–198 or Ca 186–187 or Cc 289–293, to find the diameters of the luminaries.

145 MS Ee.3.61, fol. 15^r. For the detail see Appendix 2, *infra*.

146 MS Ee.3.61, fol. 147^v: ‘Nota quod istas tabulas eclipsium et diversitatis aspectus cancellavi quia non calculavi istas tabulas ita precise sicut tabulas eclipsium quas dedi universitatibus Cantabrigie et Oxonie, insensibilis tamen est differentia et per istas tabulas satis bene et prime parte eclipsium calculari’. On fol. 151^v, one finds a similar note: ‘Nota quod tabulas precedentes quia eas non ita precise calculavi sicut tabulas quas dedi universitatibus Cantabrigie et Oxonie tamen quasi insensibilis est differentia in calculo, experiatur quicumque velit’.

Tab^l p^ro^pter eclips^{is} solis ad lon^gitudⁱⁿem d^{ie} sem^{per} excessu^m
 et p^ro^pter lon^gitudⁱⁿem p^ro^pter ultra long^{itud}em long^{itud}em

Abbe p^ro^pter

W^o p^ro^pter tabulas eclips^{is} et d^{ie} p^ro^pter
 aspect^{us} arc^{us} h^{or}um q^uo n^o calculum
 etiam etiam p^ro^pter eas q^uas
 d^{ie} omⁿib^{us} h^{or}is t^{er}min^{is} et ex^{tra}
 n^o p^ro^pter d^{ie} et p^ro^pter t^{er}min^{is}
 p^ro^pter et p^ro^pter et t^{er}min^{is}

lon ^g	lat ^{it}	lon ^g	lat ^{it}	lon ^g	lat ^{it}	lon ^g	lat ^{it}	lon ^g	lat ^{it}
27	0	28	0	29	0	28	0	29	0
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0

6. 4. 2. 7. 2. 1. 0.

Abbe.

Fig. 3: Lewis Caerleon’s note facing a solar eclipse table; MS Ee.3.61, fol. 147^r; courtesy of the Syndics of Cambridge University Library.

The genesis of his work is well-represented by this brief passage. It is remarkable that in the two notes, Lewis only mentions the eclipse tables that he composed, and not the parallax tables based on the Cambridge meridian, which are present in MS B. 19 and Royal MS 12 G I. A short inscription written by Lewis in front of the parallax tables excerpted from John Somer's book demonstrates that at the time, Lewis had not yet composed his parallax tables based on the Cambridge meridian and eclipse tables but was planning to. Indeed, he already stressed the need for a new set of parallax tables, and here again, he points out that the parallax table facing his commentary was mistaken and that despite his editions, some errors remain. The process is very similar to the one observed earlier with Walter Hertt and John Curteys's compositions. In this note, Lewis explicitly states that he proposed to elaborate a new set of parallax tables based on the meridian of Cambridge and new eclipse tables.

In these tables I found some errors that I corrected, and some of them remain incorrect. With God's favour, I propose to build other new parallax tables based on the meridian of the University of Cambridge and new eclipse tables with all tables for the same purpose.¹⁴⁷

This note probably predates the computation of his new set of tables that may be dated to 1482. The 1481 eclipse computation might be a retrospective computation since a part of this employed those *nove tabule expanse*.

The short eclipse canons (fols 152^v–153^r) associated with the eclipse and parallax tables are divided up into two different parts as is often the case with such instructions to find lunar and solar eclipse. The first part is entitled 'Modus operandi pro eclipsi lune per tabulas novas' and the second part 'Canones eclipsium solis per easdem tabulas'. There is little doubt that the tables used in those canons are those situated on fols 147^v–151^r. The mention of parallax tables made for the Oxford latitude demonstrate that they are indeed the tables in question.¹⁴⁸ The question arises of who authored this short piece. No signature or mention of Lewis Caerleon may be found in those canons. The table of contents does not mention him as the author of this short text, but the canons are clearly associated with the table: 'with examples and subsequent tables with

147 MS Ee.3.61, fol. 152^r: 'in illa tabula quosdam errores inveni quos correxi et hec restant quidam incorrecti. Alias, tunc favente Deo, novas tabulas diversitatis aspectus ad meridiem Universitatis Cantebrie propono construere et novas tabulas eclipsium cum omnibus tabulis easdem continentibus etc.'

148 MS Ee.3.61, fol. 152^v: 'intra in tabulas diversitatis aspectus factam pro latitudine Oxonie' ('Enter in the table of parallax made for the latitude of Oxford').

their canons'.¹⁴⁹ However, it should be noted that Lewis copied these canons verbatim in MS B. 19 and Royal MS 12 G I for his 'expanded tables' of 1482 and 1483, based on John Curteys's tables but adapted to the Cambridge latitude, only modifying the short passage mentioning the meridian by 'factam pro latitudine Cantebriegie' ('made for the latitude of Cambridge').¹⁵⁰

In the notebook, one set of tables in particular can surely be attributed to Lewis Caerleon. It is situated right after a single lunar eclipse table, based on 'old eclipse tables', which is crossed out. Unlike the previous eclipse and parallax tables, the set of tables copied on fols 155^r–156^r was not cancelled by Lewis Caerleon. Fol. 155^r displays a table of the difference between the mean velocities of the two luminaries (*superatio lunae*) in one hour at mean conjunction or opposition, and fol. 156^r shows the same difference in true conjunction or opposition. This excess between both velocities is central for calculating the time between mean and true conjunctions of the luminaries. These two tables are provided with two canons, one on fol. 154^{vb} and the other on fol. 156^r.¹⁵¹ Those tables may be found in a more expanded version in Add MS 89442. A set of tables entitled 'Tabula revolutionis coniunctionum et oppositionum solis et lune cum motibus' displays these same tables in degrees (Add MS 89442, pp. 71–76), minutes and seconds (Add MS 89442, pp. 77–117). They are supplemented by a table of the mean motion of the Sun and the Moon, the mean argument of the Moon at mean conjunction and the mean motion of the head of the dragon (the lunar node) (Add MS 89442, p. 71). The notebook represents a first stage of this set which was greatly expanded by Lewis and included in Add MS 89442; this may explain why those tables were not crossed out. The canons situated at the end of the set of tables displayed in Add MS 89442 (pp. 117–118) were also expanded by comparison with the two short canons copied in the notebook. The text gives some hints regarding the date of composition of the tables. Lewis Caerleon provides an *exemplum operationis* to illustrate his instructions. The

149 MS Ee.3.61, fol. 153^r: 'cum exemplis et tabulis sequentibus et eorum canonibus'.

150 These 'new' canons are displayed in the 'twin manuscripts', MS B. 19, fols 14^v–15^r and Royal MS 12 G I, fol. 15^{r-v}.

151 The heading of the first table specifies that the canons are situated on the left (fol. 154^v): 'Prima tabula et est tabula distantie solis et lune in gradu solum tempore medie coniunctionis et oppositionis cuius canones precedentes hic a sinistris in folio precedente'. Fol. 155^v, which remains blank has been ruled for a table and displays the following title: 'Differentia motuum solis et lune in hora tempore coniunctionis vere et oppositionis vere luminarium', this table was finally copied on fol. 156^r.

example is the first conjunction of the year 1482.¹⁵² Lewis probably expanded those tables of difference between the solar and lunar velocities on that year.

The same year 1482 Lewis developed new eclipse and parallax tables. A work that he continued in 1483 with new interpolation tables.¹⁵³ The set of eclipse tables elaborated in 1482–1483 is displayed in the three manuscripts commissioned and supervised by Lewis. These tables are derived from Richard of Wallingford's *Albion*, more particularly from Book I, Chapters 18, 19 and 21 containing specifically the diameters values needed for computing a part of these tables. Although these tables are displayed in Add MS 89442, pp. 65–71, they are preceded by a similar set of tables, but, this time, based on al-Battānī's diameters and radii for the Sun, the Moon and the shadow of the Earth, excerpted from Chapters 30, 43 and 44 of his *De scientia astrorum*.¹⁵⁴ Therefore, it seems that in 1482 Lewis of Caerleon elaborated two different sets of tables, one deriving from Richard of Wallingford's *Albion* and the other from al-Battānī's *De scientia astrorum*.

However, if the 'twin manuscripts' do not display the tables derived from al-Battānī, it is certainly because Lewis eventually chose the one based on the *Albion*, as suggested in several notes. At the end of the heading of the first lunar eclipse table based on the *Albion*, he underlined: 'and finally I adhered to those

152 Add MS 89442, p. 117: 'quorum exempla subiungam in sequentibus, volo ergo invenire primam mediani conjunctionem iam anno domini imperfecto 1482' ('to which I will add examples in what follows, therefore, I want to find the first mean conjunction already in the imperfect year of the Lord 1482').

153 They are both displayed in the 'twin manuscripts', MS B. 19 and Royal MS 12 G I, fol. 4': 'Tabula minorum proportionalium seu tabula proportionis vel affinitatis seu portiones longitudinum ad eclipses per me Lodowycum noviter facta anno Christi 1483' ('Table of interpolation or proportion [called in different ways: *tabula minorum proportionalium*, *tabula proportionis*, *tabula affinitatis* or *portionum longitudinum ad eclipses*] for eclipses newly made by me Lewis in the year of the Christ 1483').

154 Add MS 89442, p. 61: 'Tabula eclipsis lunaris secundum diametros Albategni, capitulo 30 et 43 ad longitudinem longiorem cum differentia punctorum et minorum casus et more ad longitudinem propriam noviter facta et expansa ad singula minuta argumenti latitudinis lune per me Lodowycum anno Christi 1482' ('Table of lunar eclipses based on the diameters of Albategni, Chapters 30 and 43, at apogee with the difference of digits and minutes of immersion and delay at perigee, newly made and expanded to the individual minute of the argument of the lunar latitude by me, Lewis, in the year of the Christ 1482'). The solar eclipse table is based on the Chapters 30 and 44. On Chapters 30, 43 and 44 of al-Battānī's *De scientia astrorum*, see al-Battānī, *Scientia astrorum*, ed. Nallino 1899–1907, vol. 1, 50–63 and 96–113.

tables, so that I place them at the beginning of my work'.¹⁵⁵ The reason for this choice is explained in the introduction to his *Opus eclipsium*.

Then, I observed a solar eclipse, in the imperfect year 1482, after midday, the 17 May, of which the beginning of the eclipse was at 5 hours and 54 minutes and its end was after 7 hours and 42 minutes. According to sense and sight, it corresponds to the sentences of Richard the Abbot [Richard of Wallingford]. And therefore I propose to adhere more to them, unless in the future, I prove the contrary by observations with sight, and so may those who follow me.¹⁵⁶

A partial account of this eclipse is recorded in the notebook on the upper parchment flyleaf. Although the detailed computation is not displayed, several values were reported by Lewis such as the positions of the Sun and the Moon their diameters, the times of the beginning of the eclipse, its middle and end; the size of the eclipse (expressed in digits); and times of immersion. Interestingly, Lewis drew the astrological chart of the eclipse at the time of mid-eclipse, the maximum of the eclipse (*figura tempore medii eclipsis*). This is the only evidence of his actual astrological practice, though the notebook includes some astrological tracts and tables. However, as a royal physician, one may assume that he likely practised medical astrology. Indeed, astrological 'universal' predictions based on eclipses were mostly employed in astrometeorology and medicine. Lewis Caerleon's particular focus on eclipses may perhaps be explained by his profession of physician.

In any event, the values recorded by Lewis for the solar eclipse of 17 May 1482 in the notebook and in the introductory text of Add MS 89442 agree. The beginning of the eclipse took place at 5:54 pm and the end at 7:42 pm. Those values also coincide with the Cambridge latitude, demonstrating that he employed his 1482 tables based on the Cambridge meridian. The short statement mentioned above where he endorsed Richard of Wallingford's values was conceived as an empirical confirmation. Lewis Caerleon used eclipse calculations, as well as observations – when doable – to test the accuracy of his tables. In the notebook, he copied two other detailed computations, one made by John of

155 Add MS 89442, p. 61: 'et huic tabule finaliter adhereo ut in principio huius operis premisi' ('and I finally adhere to this table, as I mentioned at the beginning of this work').

156 Add MS 89442, p. 39: 'Ego tunc unam eclipsis solis observavi, anno imperfecto 1482, post meridiem 17 diei Maii quo ad initium eclipsis 5 horis 54 minuta et finis eiusdem post horam 7am 42 minutis, quod mihi ad sensum et aspectum visum est concordare cum sententiis Ricardi Abbatis. Et ideo illius magis adherere propono, nisi in posteris per observationes contrarium probavero ad sensum in aspectu, et sic faciant qui me secuntur. Brevis canon componendi tabulas eclipsium Lewys'.

Genoa (fl. 1329–1348) for the annular solar eclipse of 3 March 1337 computed with the Alfonsine Latin tables based on the Paris meridian,¹⁵⁷ and one for the annular solar eclipse of 7 July 1339 computed for the London latitude with Tolendan tables.¹⁵⁸ Interestingly for the last calculation, the zodiac signs of the ascendants are given for the beginning, middle and end of the eclipse implying an astrological use of this eclipse prediction. These two calculations served as *exempla* to Lewis Caerleon who probably exerted himself with the help of such models.

In addition to the computations of the eclipses that occurred in 1481 and 1482, Lewis Caerleon finally made a detailed computation of the total solar eclipse of 16 March 1485. This calculation is only displayed in the ‘twin manuscripts’ and Add MS 89442. The adverse effect of this full eclipse had been discussed from a medical perspective by Diego de Torres (c. 1480–after 1487), who had the chair of astrology at the University of Salamanca.¹⁵⁹ In the English context, the solar eclipse was interpreted after the event as linked to Anne Neville’s death by the Crowland chronicles.¹⁶⁰ This eclipse was visible from London, and Lewis claimed to have observed it from the Tower of London where he was imprisoned by Richard III. The comparison between the computation and the observation is clearly stated in a short paragraph written at the bottom of the calculation in the ‘twin volumes’, though it is absent from Add MS 89442.¹⁶¹ The tables used were those elaborated by Lewis during his incarceration in 1485 rather than the tables of 1482–1483. The three eclipse computations of 1481,

157 It seems not clear to Lewis Caerleon that this computation was done with Alfonsine tables since in the table of contents he refers to this as ‘Exemplum calculandi eclipsis solis ad meridiem Parisius secundum Tabulas Azarchelis’ (MS Ee.3.61, fol. 2^v).

158 MS Ee.3.61, fols 146^v–147^r. The year is specified as ‘complete’ (1340), but it appears to be the ‘incomplete’ year, so 1339.

159 Amasuno 1972.

160 *The Crowland Chronicle Continuations*, ed. Pronay and Cox 1986, 175.

161 MS B. 19 and Royal MS 12 G I, fol. 6^v, the observation statement begins with: ‘Istam eclipsis Solis anno Christi imperfecto 1485, post meridiem 16 diei Martii contingentem ego observavi in turre Londoni, et inveni principium eclipsis in altitudine solis .31. gradus et finem in altitudine solis .15. gradus fere et in quantitate .10. punctorum fere per estimationem, et sic convenit cum calculo et si aliqua fuerat discrepancia, hoc fuit in quantitate, quia mihi apparuit estimatione quod fuit parvum ultra .9. puncta’ (‘I observed in the Tower of London the solar eclipse of the imperfect year of the Christ 1485, occurring after midday on the 16th March. And I found the beginning of the eclipse with a solar altitude of around 31 degrees, and the end with a solar altitude of around 15 degrees, and an estimate of around 10 digits. And thus this was in accordance with the calculation. And if there was a discrepancy, this would be in quantity, because it appears based on my estimate that it was a little beyond 9 digits’).

1482 and 1485 corresponds to three key periods in the development of Lewis Caerleon's eclipse material. He clearly seemed to have tested the accuracy and efficiency of different sets of tables in predicting eclipses. His notebook preserves the early stage of a whole astronomical agenda devoted to eclipse predictions that he probably started to develop in Oxford. The supervision and commission of the three volumes containing his own works represent the achievement of this *opus eclipsium*.

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Manuscripts

Cambridge,
Cambridge University Archives,
Reg. I.2.32
Cambridge University Library,
MS Ee.3.61
St John's College,
MS B. 19

El Escorial,
Real Biblioteca del Monasterio de San Lorenzo,
O.II.10

London,
British Library,
Add MS 89442
Arundel MS 66
Egerton MS 889
Royal MS 12 G I

Royal MS 12 G X
Sloane MS 1697

Oxford,

Bodleian Library,
MS. Ashmole 393
MS. Ashmole 1437
MS. Ashmole 1796
MS. Bodl. 432
MS. Digby 168
MS. Digby 176
MS. Digby 178
MS. Savile 38
Corpus Christi College,
MS 234
Merton College,
Merton College Records MS 4.16
MS 184

Princeton, NJ,

University Library,
Garett MS 95

San Francisco, CA,

California State Library, Sutro Library, Halliwell-Phillipps Collection,
M000054, no. 4

References

Primary sources

- Al-Battānī, *Scientia astrorum* [Latin translation by Plato of Tivoli], ed. Carlo Alfonso Nallino, *al-Battānī sive Albatēnī opus astronomicum: Ad fidem codicis Escorialensis arabice editum. Latine versum, adnotationibus instructum*, 3 vols, Milan: Ulrico Hoepli, 1899–1907.
- Al-Qabīṣī, Abū ṣ-Ṣaqr ‘Abd al-‘Aziz ibn ‘Uṭmān, *The Introduction to Astrology: Editions of the Arabic and Latin Texts and an English Translation* (Warburg Institute Studies and Texts, 2), ed. Charles Burnett and Keiji Yamamoto, London: Warburg Institute, 2004.
- Bale, John, *Index Britanniae scriptorum quos ex variis bibliothecis non parvo labore collegit Ioannes Baleus, cum aliis: John Bale’s Index of British and Other Writers*, ed. Reginald L. Poole and Mary Bateson, Oxford: Clarendon Press, 1902.
- Leland, John, *Commentarii de scriptoribus Britannicis*, ed. Thomas Goodlad and Anthony Hall, Oxford: Sheldonian Theatre, 1709.
- The Crowland Chronicle Continuations: 1459–1486*, ed. Nicholas Pronay and John Cox, London: Richard III and Yorkist History Trust, 1986.

The Tables of 1322 by John of Lignères: An Edition with Commentary, ed. José Chabás and Marie-Madeleine Saby (Alfonsine Astronomy, 2), Turnhout: Brepols, 2022.

Vergil, Polydore, *Anglica Historia* [1555 version], A hypertext critical edition [and translation] by Dana F. Sutton <<https://philological.cal.bham.ac.uk/polverg/>> (last modified on 25 May 2010, accessed on 1 February 2023).

Secondary sources

- Amasuno, Marcelino V. (1972), *Un texto médico-astroológico del siglo XV: 'Eclipse del sol' del licenciado Diego de Torres* (Cuadernos de historia de la medicina española: Monografías, 21), Salamanca: Universidad de Salamanca.
- Beaujouan, Guy (1964), 'Histoire des sciences au Moyen Âge', *Annuaire de l'École Pratique des Hautes Études, Sciences historiques et philologiques*, 1964: 259–262.
- Beaujouan, Guy (1975), 'Observations et calculs astronomiques de Jean de Murs (1321–1344)', *XIVth International Congress of the History of Science. Proceedings, Tokyo & Kyoto, Japan, 19.–27. August 1974*, Tokyo: Science Council of Japan, 27–30 [reprinted in Guy Beaujouan, *Par raison de nombres: L'art du calcul et les savoirs scientifiques médiévaux* (Collected Studies Series, 344), Aldershot: Variorum, 1991, article VII].
- Boudet, Jean-Patrice (2008), 'Les horoscopes princiers dans l'Occident médiéval (XIIe–XVe siècle)', in Clelia Arcelli (ed.), *Il sapere nelle corti / Knowledge at the Courts* (Micrologus, 16), Florence: SISMEL / Edizioni del Galluzzo, 373–392 [reprinted in Jean-Patrice Boudet, *Astrologie et politique entre Moyen Âge et Renaissance* (Micrologus Library, 102), Florence: SISMEL / Edizioni del Galluzzo, 2020, 3–34].
- Boudet, Jean-Patrice and Laure Miolo (2022), 'Alfonsine Astronomy and Astrology in Fourteenth-Century Oxford: The Case of MS Bodleian Library Digby 176', in Kremer, Husson and Chabás 2022, 57–106.
- Bourgain, Pascale (2013), 'À la recherche des caractères propres aux manuscrits d'auteur médiévaux latins', *Bibliothèque de l'école des chartes*, 171/1: 185–198.
- Brodrick, Georges (1885), *Memorials of Merton College*, Oxford: Clarendon Press.
- Carey, Hilary M. (1992), *Courting Disaster: Astrology at the English Court and University in the Later Middle Ages*, London: Macmillan.
- Carey, Hilary M. (2012), 'Henry VII's Book of Astrology and the Tudor Renaissance', *Renaissance Quarterly*, 65/3: 661–710.
- Clarke, Peter D. (2002), *The University and College Libraries of Cambridge* (Corpus of British Medieval Library Catalogues, 10), London: The British Academy.
- Emden, Alfred B. (1957–1959), *A Biographical Register of the University of Oxford to A.D. 1500*, 4 vols, Oxford: Clarendon Press.
- Emden, Alfred B. (1963), *A Biographical Register of the University of Cambridge to 1500*, Cambridge: Cambridge University Press.
- Emden, Alfred B. (1974), *A Biographical Register of the University of Oxford A.D. 1501 to 1540*, Oxford: Clarendon Press.
- Folkerts, Menso (1989), 'Euclid in Medieval Europe', in *Questio: De rerum natura*, vol. 2: *The Benjamin Catalogue for History of Science*, Winnipeg: University of Winnipeg, 1–63.
- Fronska, Joanna (2014), 'The Royal Image and Diplomacy: Henry VII's Book of Astrology (British Library, Arundel MS. 66)', *Electronic British Library Journal*, 2014/7: 1–28.

- Gushee, Lawrence (1969), 'New Sources for the Biography of Johannes de Muris', *Journal of the American Musicological Society*, 22: 3–26.
- Gushee, Lawrence (1998), 'Jehan des Murs and his Milieu', in Frank Hentschel (ed.), *Musik – und die Geschichte der Philosophie und Naturwissenschaften im Mittelalter*, Leiden: Brill, 339–372.
- Hamesse, Jacqueline (1994), 'Les autographes à l'époque scolastique: Approche terminologique et méthodologique', in Paolo Chiesa and Lucia Pinelli (eds), *Gli Autografi medievali: problemi paleografici e filologici. Atti del Convegno di studio della Fondazione Ezio Franceschini* (Quaderni di cultura mediolatina, 5), Spoleto: Fondazione CISAM, 179–205.
- Husson, Matthieu (2011), 'L'astronomie alphonsine dans l'*Expositio intentionis regis Alfonsii circa tabulas ejus* de Jean de Murs', *Archives d'histoire doctrinale et littéraire du Moyen Âge*, 78: 229–245.
- Husson, Matthieu (2016), 'Exploring the Temporality of Complex Computational Practice: Two Eclipse Notes by John of Murs in the MS Escorial O.II.10', *Centaurus*, 58: 46–65.
- Jones, Michael K. and Malcolm G. Underwood (1992), *The King's Mother: Lady Margaret Beaufort, Countess of Richmond and Derby*, Cambridge: Cambridge University Press.
- Jones, Peter M. (1994), 'Information and Science', in Rosemary Horrox (ed.), *Fifteenth-century Attitudes: Perceptions of Society in Late Medieval England*, Cambridge: Cambridge University Press, 97–111.
- Jones, Peter M. (2004), 'Argentine, John (c. 1443–1508), Physician and College Head', in *Oxford Dictionary of National Biography* <doi.org/10.1093/ref:odnb/642>.
- Jones, Peter M. and Lea T. Olsan (2015), 'Performative Rituals for Conception and Childbirth in England, 900–1500', *Bulletin of the History of Medicine*, 89/3: 403–433.
- Juste, David (2021a), 'Reading Birth Horoscopes in the Middle Ages: Latin Judgements on Nativities 1100–1450', in Danielle Jacquart and Agostino Paravicini Bagliani (eds), *Le Moyen Âge et les sciences* (Micrologus Library, 100), Florence: SISMEL / Edizioni del Galluzzo, 549–593.
- Juste, David (2021b), 'MS Princeton, University Library, Garrett 95', *Ptolemaeus Arabus et Latinus. Manuscripts* <<http://ptolemaeus.badw.de/ms/739>> (updated on 2 September 2021, accessed on 15 February 2023).
- Juste, David (2022), 'MS Oxford, Bodleian Library, Digby 178', *Ptolemaeus Arabus et Latinus. Manuscripts* <<http://ptolemaeus.badw.de/ms/929>> (updated on 20 May 2022, accessed on 15 December 2022).
- Juste, David (2023a), 'MS Cambridge, University Library, Ee 3.61 (1017)', *Ptolemaeus Arabus et Latinus. Manuscripts* <<http://ptolemaeus.badw.de/ms/736>> (updated on 20 April 2023, accessed on 6 June 2023).
- Juste, David (2023b), 'MS London, British Library, Egerton 889', *Ptolemaeus Arabus et Latinus. Manuscripts* <<http://ptolemaeus.badw.de/ms/50>> (updated on 23 February 2023, accessed on 7 June 2023).
- Kibre, Pearl (1952), 'Lewis of Caerleon, Doctor of Medicine, Astronomer, and Mathematician (d. 1494?)', *Isis*, 43/2: 100–108.
- Kremer, Richard, Matthieu Husson and José Chabás (eds) (2022), *Alfonsine Astronomy: The Written Record* (Alfonsine Astronomy, 1), Turnhout: Brepols.
- Leader, Damian Riehl (1988), *A History of the University of Cambridge*, vol. 1: *The University to 1546*, Cambridge: Cambridge University Press.
- Lorch, Richard (1975), 'The Astronomy of Jābir ibn Aflah', *Centaurus*, 19/2: 85–107.

- Martin, Geoffrey and J. Roger L. Highfield (1997), *A History of Merton College, Oxford*, Oxford: Oxford University Press.
- Maxwell, Kate, James R. Simpson and Peter V. Davis (eds) (2013), *Performance and the Page = Pecia: Le Livre et l'écrit*, 16.
- McKitterick, David (1986), *Cambridge University Library, a History: The Eighteenth and Nineteenth Centuries*, Cambridge: Cambridge University Press.
- Miolo, Laure (2019), 'In Quest of Jean des Murs's Library: An Overview of His Readings and Uses of Manuscripts', *Erudition and the Republic of Letters*, 4/1: 13–39.
- Miolo, Laure (2021), 'A New Astronomical Text by Jean des Murs', *Cahiers de recherches médiévales et humanistes*, 42/2: 329–359.
- Miolo, Laure (2022), 'Retracing the Tradition of John of Genoa's *Opus astronomicum* Through Extant Manuscripts', in Kremer, Husson and Chabás 2022, 343–380.
- Miolo, Laure and Stefan Zieme (forthcoming), 'Lewis Caerleon and the Equation of Time: Tabular Astronomical Practices in Late Fifteenth-Century England'.
- North, John David (1976), *Richard of Wallingford: An Edition of His Writings*, 3 vols, Oxford: Clarendon Press.
- North, John David (1977), 'The Alfonsine Tables in England', in Yasukatsu Maeyama and Walter G. Saltzer (eds), *ΠΙΣΜΑΤΑ: Naturwissenschaftsgeschichtliche Studien. Festschrift für Willy Hartner*, Wiesbaden: Steiner, 269–301.
- North, John David (1986), *Horoscopes and History*, London: The Warburg Institute.
- North, John David (2004), 'Killingworth [Chillingworth], John (d. 1445), Astronomer and Mathematician', *Oxford Dictionary of National Biography* <doi.org/10.1093/ref:odnb/5307>.
- Nothaft, C. Philipp. E. (2015), 'Critical Analysis of the Alfonsine Tables in the Fourteenth Century: The Parisian *Expositio Tabularum Alfonsii* of 1347', *Journal for the History of Astronomy*, 46/1: 76–99.
- Nothaft, C. Philipp. E. (2018), 'John Holbroke, the Tables of Cambridge, and the "True Length of the Year": A Forgotten Episode in Fifteenth-Century Astronomy', *Archive for History of Exact Sciences*, 72: 63–88.
- Nothaft, C. Philipp. E. (2019), 'Jean des Murs's *Canones Tabularum Alfonsii*', *Erudition and the Republic of Letters*, 4/1: 98–122.
- Parkes, Malcolm (1969), *English Curive Book Hands 1250–1500*, Oxford: Clarendon Press.
- Pedersen, Fritz S. (2002), *The Toledan Tables: A Review of the Manuscripts and the Textual Versions with an Edition*, 4 vols, Copenhagen: Kongelige Danske Videnskaberne Selskab.
- Pouille, Emmanuel (1980), 'Jean de Murs et les Tables Alphonsines', *Archives d'histoire doctrinale et littéraire du Moyen Âge*, 47: 241–271.
- Powicke, Maurice (1931), *The medieval books of Merton College*, Oxford: Clarendon Press.
- Rawcliffe, Carole (2004), 'Denman, Thomas (d. 1500/01)', *Oxford Dictionary of National Biography* <doi.org/10.1093/ref:odnb/52671>.
- Ringrose, Jane (1998), 'The Royal Library: John Moore and his books', in Peter Fox (ed.), *Cambridge University Library: The Great Collections*, Cambridge: Cambridge University Press, 78–89.
- Rhodes, Dennis E. (1967), *John Argentine, Provost of King's: His Life and His Library*, Amsterdam: Menno Hertzberger & Co.
- Roberts, Gordon (2016), *Robert Recorde: Tudor Scholar and Mathematician*, Cardiff: University of Wales Press.

- Saby, Marie-Madeleine (1988), *Les canons de Jean de Lignères sur les tables astronomiques de 1321*, 3 vols, MA thesis, École nationale des chartes, Paris.
- Salter, Herbert Edward (1923), *Registrum annalium collegii Mertonensis 1483–1521* (Oxford Historical Society, 76), Oxford: Clarendon Press.
- Sawyer, Daniel (2017), 'Missing Books in the Folk Codicology of Later Medieval England', *Mediaeval Journal*, 7/2: 103–132.
- Sharpe, Richard (1997), *A Handlist of the Latin Writers of Great Britain and Ireland before 1540: With Additions and Corrections* (Publications of the Journal of Medieval Latin, 1), Turnhout: Brepols.
- Skemer, Don C. (2013), *Medieval and Renaissance Manuscripts in the Princeton University Library*, vol. 1, Princeton, NJ: Department of Art and Archaeology, Princeton University.
- Snedegar, Keith (1999), 'The Works and Days of Simon Bredon, a Fourteenth-Century Astronomer and Physician', in Lodi Nauta and Arjo J. Vanderjagt (eds), *Between Demonstration and Imagination Essays in the History of Science and Philosophy Presented to John D. North* (Brill's Studies in Intellectual History, 96), Leiden: Brill, 285–309.
- Snedegar, Keith (2004), 'Caerleon, Lewis (d. in or after 1495), Physician and Astronomer', *Oxford Dictionary of National Biography* <doi.org/10.1093/ref:odnb/4324>.
- Talbot, Charles H. (1962), 'Simon Bredon (c. 1300–1372) Physician, Mathematician and Astronomer', *British Journal for the History of Science*, 1/1: 19–30.
- Tanner, Thomas (1748), *Bibliotheca Britannico-Hibernica sive, De descriptoribus, qui in Anglia, Scotia, et Hibernia ad sæculi 17 initium floruerunt, literarum ordine juxta familiarum nomina dispositis commentarius*, London: s.n.
- Thomson, Rodney (2009), *A Descriptive Catalogue of the Medieval Manuscripts of Merton College, Oxford: With a Description of the Greek Manuscripts by N. G. Wilson*, Oxford: D. S. Brewer.
- Thomson, Rodney (2011), *A Descriptive Catalogue of the Medieval Manuscripts of Corpus Christi College, Oxford*, Oxford: D. S. Brewer.
- Thomson, Rodney (2015), *The University and College Libraries of Oxford* (Corpus of British Medieval Library Catalogues, 16), 2 vols, London: The British Academy.
- Thomson, Rodney (2016), *A Descriptive Catalogue of the Medieval Manuscripts in the Library of Peterhouse, Cambridge*, Oxford: D. S. Brewer.
- Trapp, Joseph Burney (2010), 'Urswick, Christopher (1448?–1522), Courtier, Diplomat, and Ecclesiastic', *Oxford Dictionary of National Biography* <doi.org/10.1093/ref:odnb/28024> [revised version, first published in 2004].
- Voigts, Linda E. (1995), 'A Doctor and His Books: The Manuscripts of Roger Marchall, d. 1477', in Richard Beadle and Alan J. Piper (eds), *New Science Out of Old Books: Studies in Manuscripts and Early Printed Books in Honour of A. I. Doyle*, Aldershot: Scholar, 249–314.
- Watson, Andrew G. (1965), 'Christopher and William Carye, Collectors of Monastic Manuscripts, and "John Carye"', *The Library*, 55/2: 135–142.
- Watson, Andrew G. (1976), 'A Merton College Manuscript Reconstructed: Harley 625; Digby 178, fols. 1–14, 88–115; Cotton Tiberius B. IX, fols. 1–4, 225–35', *Bodleian Library Record*, 9: 207–217 [reprinted in Andrew G. Watson, *Medieval Manuscripts in Post-Medieval England* (Collected Studies Series, 775), Aldershot: Ashgate, 2004, article XIII].
- Zepeda, Henry (2013), *The Medieval Latin Transmission of the Menelaus Theorem*, PhD thesis, University of Oklahoma at Norman.
- Zepeda, Henry (2018), *The First Latin Treatise on Ptolemy's Astronomy: The Almagesti minor (c. 1200)* (Ptolemaeus Arabus et Latinus: Texts, 1), Turnhout: Brepols.

Appendix 1: Description of Cambridge, University Library, MS Ee.3.61

Cambridge, University Library, MS Ee.3.61

Old shelfmarks: 820 (John Moore)

Summary of the contents:

Lewis Caerleon, *Eclipsis Solis post meridiem 17 die maii ut sequitur anno Domini imperfecto* 1482; Lewis Caerleon (?), *De arte compositionis tabularum astronomie*; Richard de Wallingford, *Rectangulus*; Lewis Caerleon, *Calculatio eclipsis Solis* 1481; Lewis Caerleon (?), note on chords and sinus; commentary on the Toledan tables canons Cb; Johannes de Lineriis, *Algorismus minutiarum*; Anonymous, *Algorismus*; John Killingworth, *Algorismus*; Simon Bredon, *Expositio super almagesti*, Book I (incomplete); Anonymous, notes about astronomical instruments; Lewis Caerleon, short canons regarding John Walter's tables; John Walter, universal table of the ascension of the signs; al-Qabīsi (Alcabitius), *Introductorius* (incomplete); Menelaus Theorem; *Almagesti minor* (excerpts); Johannes Holbroke, *Opus primum et Opus secundum*, and tables; *Residuum Trutina Hermetis*; John of Genoa, *Investigatio eclipsis Solis anno Christi 1337*; John of Lignères, *Canons Priores astrologi motus corporum*, only the canons devoted to eclipses (canons 33–38); Johannes de Lineriis, *Canones Cuiuslibet arcus propositi sinum rectum*; Simon Bredon, *Arismetica* (commentary on the *De institutione arithmetica*); Anonymous, *Canones componendi tabulas angulorum*, mentioning the Oxford meridian; Lewis Caerleon, example based on the table of angles and parallax; Anonymous, astrological tables (tables of aspects) attributed to Humphrey, duke of Gloucester with canons; table of square and cubic roots; John Curteys (?), *De compositione tabularum diversitatis aspectus*; John Curteys (?), eclipse and parallax tables; Lewis Caerleon, *Modus calculandi eclipsis solis secundum canones Azarchelis, anno Christi 1339 completo [...] pro Londoniense*; John Curteys, eclipse and parallax tables; interpolation tables excerpted from the book of John Somer with Lewis Caerleon's canons; John Curteys (?), eclipse canons; John of Genoa, table of solar and lunar velocities with columns for their radii 'Tabula semidiametrorum Solis, Lune et umbre'; table excerpted from John Somer's book; Lewis Caerleon, lunar eclipse table; tables of difference between the solar and lunar velocities at the time of mean and true conjunction, and their canons; Lewis Caerleon (?), *Canon tabularum Ptholomei de corda et archu*; Lewis Caerleon (?), *De exordio annorum secundum diversas sectas*; Anonymous, *Notula de quantitate anni*; Anonymous, judgement on the nativities of Henry VI,

Cum rerum motu; Anonymous, treatise on quadrature of the circle; Campanus de Novare, *De quadratura circuli*; John of Saxony, *Exempla super tabulas primi mobilis et canones Johannes de Lineriis* (incomplete); Lewis Caerleon, note and computation on the conjunction Mars/Jupiter of 1484; Lewis Caerleon, computations of the length of the seasons and the year on the year 1482; Lewis Caerleon, circular diagram with notes.

s. XV^{ex} (between 1481 and 1484)

Origin: England (Cambridge and Oxford)

Written in Latin. Mostly copied by Lewis Caerleon. A composite manuscript assembled by Lewis Caerleon between 1481 and 1484, made of different quires bound together at that time. The table of contents is autograph.

Provenance:

Lewis Caerleon; Richard Jones (fols 47^v, 140^r, 182^v); William Carye (fol. 1^v); John Moore (1646–1714) – manuscript cited by Thomas Tanner as Norwich Moore 820); George I who donated the manuscript to the University Library of Cambridge in 1715.

Physical description:

192 fols of parchment and paper. Parchment endleaves, bifolia are mostly of parchment. Fols 1^v; 2^r; 18^{r-v}–26^r; 29^v blanks. Parchment and paper flyleaves are mounted on paper stubs.

51 Quires: ii + 1² (fols 1–2, parchment mounted on paper stub) + 1 leave of parchment mounted on a stub (fol. 3) + 2⁴ (fols 4–7) + 3² (fols 8–9) + 4⁴ (fols 10–13) + 5² (fols 14–15) + 6⁶ (fols 16–21) + 7⁴ (fols 22–25) + 8³ (fols 26–28) + 9² (fols 29–30) + 10⁴ (fols 31–34) + 11² (fols 35–36) + 12⁴ (fols 37–40) + 13² (fols 41–42) + 14⁴ (fols 43–46) + 1 parchment flyleaf (fol. 47) + 15³ (fols 48–50) + 16² (fols 51–52) + 17³ (fols 53–55) + 1 parchment flyleaf (fol. 56) + 18³ (fols 57–60) + 19² (fols 61–62) + 20⁴ (fols 63–66) + 21² (fols 67–68) + 22⁴ (fols 69–72) + 23² (fols 73–74) + 24⁴ (fols 75–78) + 25² (fols 79–80) + 26⁶ (fols 81–86) + 27² (fols 87–88) + 28⁶ (fols 89–94) + 29² (fols 95–96) + 30⁴ (fols 97–100) + 31² (fols 101–102) + 32⁴ (fols 103–106) + 1 parchment flyleaf (fol. 107) + 33¹⁰ (fols 108–117) + 34⁷ (fols 118–124) + 1 parchment flyleaf (fol. 125) + 35⁶ (fols 126–131) + 36² (fols 132–133) + 37⁶ (fols 134–139) + 38⁶ (fols 134–139) + 39² (fols 140–141) + 40⁵ (fols 142–146) + 41⁶ (fols 147–152) + 1 parchment flyleaf (fol. 153) + 42⁴ (fol. 154–158) + 1 parchment flyleaf

(fol. 159) + 1 paper flyleaf (fol. 160) + 43⁴ (fols 161–163) + 44² (fols 164–165) + 45⁴ (fols 166–169) + 46² (fols 170–171) + 47⁴ (fols 172–175) + 48² (fols 176–177) + 49⁴ (fols 178–181) + 1 parchment flyleaf (fol. 182) + 50⁴ (fols 183–186) + 51² (fols 187–188) + 1 parchment flyleaf (fol. 189) + iii parchment flyleaves (fols 190–192) + i unfoliated paper enleaf.

Modern binding (1966).

Appendix 2: Contents of Cambridge, University Library, MS Ee.3.61

- Fol. 1^r** **Lewis Caerleon, *Eclipsis Solis post meridiem 17 die maii ut sequitur anno Domini imperfecto 1482***
 Computation of the eclipse of 17 May 1482 including the astrological chart of the mid-eclipse.
- Fols 1^v–2^r** Remain blanks.
- Fol. 2^v** **Table of contents**
 Table of contents copied by Lewis Caerleon.
- Fols 3^r–7^v** **Lewis Caerleon (?), *De arte compositionis tabularum astronomie***
 ‘Circa compositionem tabularum elevationum signorum [...]–[...] signorum prescriptorum prout volueris. Explicit’.
 A florilegium largely inspired by John of Sicily’s commentary on the Toledan tables canons.
 This is followed by a note written in a sixteenth-century hand referring to the conjunction between Saturn and Jupiter which will take place in 1702. The author of the note also predicted a new conjunction of both planets in 1763. The note ends with a prediction of the end of the world in 1765.
- Fols 8^r–12^{rb}** **Richard de Wallingford, *Rectangulus***
 Different tables entitled ‘De compositione rectanguli’ (fols 8^r–9^v); ‘De utilitatibus rectanguli’ (fols 9^v–11^v); ‘Canon tabule corde verse’ (fols 11^v–12^{ra}); ‘Tabula pro rectangulo’ (fol. 12^{rb}).
 Fols 8^r–12^{ra}: ‘[Rubric] Prologus in artem componendi rectangulum. [Text] Rectangulum in remedium tediosi et difficilis operis armillarum [...]–[...] arcum tuum in tabula tunc non oportet bis intrare. [Rubric] Explicit compositio rectanguli et operatio cum eodem’.
 At the bottom of fol. 12^r, an early modern hand wrote the date ‘1326’.

- Fols 12^v–15^r** **Lewis Caerleon, *Calculatio eclipsis Solis 1481***
 Fol. 12^v–15^r: ‘[Rubrique] Calculatio eclipsis [Solis] contingentis anno domini 1481, 28 Maii post meridiem, ut sequitur secundum tabulas Azarchelis [...] fol. 13^v: Calculatio eiusdem eclipsis secundum novas tabulas [...]–[...] novas tabulas de diversitate aspectus Lune ad meridiem Oxonie ... [fol. 14^r] Calculatio eiusdem per tabulas novas expansas [...] [fol. 14^v] Calculatio eiusdem eclipsis per extractionem radicis semidiametrorum solis et lune [...] [fol. 15^r] Lewis Caerlyon, Demonstratio geometrica eclipsis solis apparentis anno domini imperfecto 1481 post meridiem’.
 Signature at the bottom of fol. 14^v: Lewis Caerlyon in medicinis doctor. Fol. 15^r displays a figure of the eclipse.
- Fol. 15^v** **Lewis Caerleon (?), note on chords and sinus**
 ‘Corda recta vel sinus rectus est medietas chorde [...]–[...] canones vero magistri Iohannis de Lineriis continentur in isto libro etc.’
 Mentions John of Lignères, the Toledan tables and Gerard of Cremona.
- Fols 16^r–17^v** **Commentary on the Toledan tables canons Cb**
 ‘Incipit opusculum doctorum subtilis super aliquos canones Azarchelis. Quoniam cuiusque actionis quantitatem temporis metitur spatium [...]–[...] Propositio ista apparet vera in numeris’.
- Fols 18^r–26^r** Remain blanks.
- Fols 26^v–29^r** **Johannes de Lineriis, *Algorismus minutiarum***
 ‘Modum representationis minutiarum vulgarium et phisicarum proponere [...]–[...] ad propositum minutiarum vulgarium et phisicarum sufficiunt. Explicit de minutiis vulgaribus secundum magistrum Johannem de Lineriis’.
- Fols 30^r–31^r** **Anonymous, *Algorismus***
 ‘Ars operandi per probas in speciebus algorismi [...]–[...] 8 ergo bene sit. Explicit de probis’.
- Fols 31^v–42^v** **John Killingworth, *Algorismus***
 ‘Incipit prohenium in algorismum magistri Johannis Kyllyngworth. [Prologue] Oblivione raro traduntur que certo. [Text] Brevis sermo de 4or primis speciebus [...]–[...] ad denominatorem numeri quadrandi etc. Explicit tractatus brevis calculationis M. John Kyllyngworth quondem socii collegium Walteri de Merton, Oxonie’.
 Tables displayed on fols 40^r–42^v are linked to John Killingworth’s *Algorismus*. Fol. 40^r: Tabula multiplicationis integrorum; fol. 40^v:

Tabula uniformis additionis; fol. 41^r: Tabula difformis additionis, fol. 41^{va}: Residuum tabule difformis additionis; fol. 41^{vb} (unfinished): Tabula multiplicationis fractionum divisionis, fol. 42^r: Tabula reductionis integrorum ad minutias phisicas.

Note written by Lewis Caerleon at the bottom of fol. 40^r: ‘Nota quod in ista tabula nullus numerus scribitur bis in una linea descendente a capite tabule [...]–[...] notabile signum ut patet in suprascripta tabula et canones vero istius tabule ponuntur intitulum precedente de Algorismo Magistri J Kyllingworth’.

Fols 43^r–45^r **Simon Bredon, *Expositio super almagesti, Book I (incomplete)***
‘[Rubric] Expositio M. Symonis super quedam capitula Almagesti Ptholomei. Nunc superest ostendere quanta sit maxima declinatio ecliptice ab equinocciali’.

Fols 45^v–46^r **Anonymous, notes about astronomical instruments**
‘Fiat triangulus rectangulus qui est triangulus [...]–[...] quem numeri divide pro denumerationem fractionis vel per 4 et exhibit idem scilicet 45 etc.’

Not copied by Lewis Caerleon.

The same treatise may be found in a fourteenth-century English manuscript containing several writings by Richard of Wallingford (MS. Ashmole 1796).

Fol. 46^v **Lewis Caerleon, short canons regarding John Walter’s tables**
‘Pro operatione subsequente tabule duo sunt consideranda primum quod signum et quis gradus signi est cuius ascensio est querenda’.

Fol. 47^r **John Walter, Universal table of the ascension of the signs**
‘Tabula diversitatis ascensionis signorum pro omni terra habitabili secundum declinationem Almeonis et dicitur esse tabula Magistri Johannis Walteri, sed tamen certus sum quod non potest esse vera, propter difformitatem augmenti et decrementi ascensionis singulorum in circulo obliquo, sed errat hec regula in latitudine 52 graduum per 26 minuta. Conceptio tamen est laudabilis quia per hanc viam possumus devenire ad gradum in omni regione ascendentem per altitudineme poli notam ut inferius declarabo etc. Lewys’.

Fols 48^r–54^v **al-Qabīsi (Alcabitius), *Introductorius (incomplete)***
‘Deinde Mercurius, deinde Luna que est terre proprior et cursu omnibus velocior [...]–[...] gradus significat initii contrarietis’.
Differentia. I.12–Differentia II.40 (Al-Qabīṣī, *Introduction to Astrology*, ed. Burnett and Yamamoto 2004, *Alcabitius*).

Fols 54^v–55^r**Menelaus Theorem**

‘Kata coniuncta potest haberi per numerum’ (Zepeda 2018, 78–79).

Fol. 55^{r-v}***Almagesti minor* (excerpts)**

‘Libro 5 parvi Almagesti propositione 18. Elongationem Lune a centro terre cognosces iuxta terminos [...]–[...] et illud quoque rarissime eveniet’.

Excerpt added by a sixteenth-century hand. Passage preceded by a paraphrase of the *Almagest* V.17.**Fols 56^r–57^r,
63^v–65^r, and
56^r–73^v****Johannes Holbroke, *Opus primum* (fols 56^r–57^r) et *Opus secundum* (fols 63^v–65^r), and tables (fols 56^r–73^v)**

Canons copied below the tables.

Opus primum, fols 56^r–57^r: ‘Quoniam celestium motum calculus annorum supputatione [...]–[...] informare mihi propositum sit. Explicit canonis’.*Opus secundum*, fols 63^v–65^r: ‘Incipiunt canones magistri Johannis Holbroke ad opus secundum. Gloriosus atque sublimis Deus a rerum exordio [...]–[...] in fine primi gradus Cancrī ut sic tabula diuturnior existeret. Hanc si quis desiderat eam in 3^o folio precedente istius libri inveniet in pergamento scriptis etc.’ Added note ‘Vide solum et videm finem canonis’.Short canon added in the right margin of fol. 69^r, facing the ‘Tabula diversitatis differentie ascensionum universe terre’: ‘Per istam tabulam poteris cognoscere ascensiones’.Added table on a folio left blank but ruled by a sixteenth-century handwriting (fol. 70^{r-v}): ‘Tabula aequationis Solis inventa in anno Christi 1220’.**Fols 57^v–62^r****Lewis Caerleon, notes on John Holbroke’s tables**‘[in marg.] Secundum Holbroke. [Text] Nota quod media coniunctio Saturni et Jovis fuit ante annum diluvii .280. 33 diebus [...] (fol. 58^r) nota quod a tempore magistri Johannis de Lineriis usque ad annum domini 1428 completum stelle fixe processerunt [...]–[...] et proveniet verus locus eiusdem planete in 9a sphaera, et sic operandum est in omnibus 5 planetis etc. Lewys’. Followed by a short note on fol. 62^v: ‘Pro vero loco capitis draconis, primo debes calculare eius medium motum’.Different calculations made by Lewis Caerleon on the inferior margin of fols 65^v–66^r. Those computations mention the longitude and latitude of Cambridge and other values (fol. 66^r): ‘Longitudo Cantabrigie 15 gradus, 45 minuta/ Latitudo Cantabrigie 52 gradus 19

minuta; Altitudo capitis Arietis Cantebrigie 37 gradus 41 minuta; Umbra solis recta in principio Arietis Cantebrigie 15 puncta 32 minuta'. 'Radices augium planetarum ad meridiem Cantabrigie'.

Fol. 74^{r-v}

Residuum Trutina Hermetis

Fol. 74^r: 'Trutina Hermetis ostendens moram nati in utero per distantiam graduum lune ab ascendente vel a gradu 7e domus'. Fol. 74^{va}: a table entitled 'Residuum Trutine Hemertis'. Fol. 74^{vb}: three short paragraphs written by Lewis. (1) A short paragraph written by Lewis Caerleon on a case study of a nativity of 1403 based on the table: 'Quedam nativitas accidit 29^o diebus, 12 horis, 41 minutis a principio anni domini 1403, 26 gradus Leonis ascendente, erat quorum luna in 24 gradu Scorpionis [...]–[...] in quo fuit spermatis infusio secundum opinionem huius tabule compositoris etc.'; (2) 'Nota quod compositor huius tabule supponit moram minorem, scilicet luna exeunte supra terram in principio 7e domus [...]–[...] ut patet per tabulam suam etc.'; (3) 'Item, nota quod ipse dividit distantiam lune ab angulo per gradus equales et non per gradus ascensionum seu per tempora horis diurnaruis vel nocturnaris [...]–[...] ut patet patet evidenter per tabulam etc.'

Fols 75^r–81^v

John of Genoa, *Investigatio eclipsis Solis anno Christi 1337*

'[Rubric] Distinctio calculatio eclipsis Solis pro anno Christi 1337 in mense Martii secundum tabulas Alfonsii ad meridiem Parisius. [Text] Ad investigandum eclipsim Solis proximam venturam oportet procedere secundum hunc modum. Primo oportet querere tempus prime medie coniunctionis anni secundum modum datum in canone de hoc facto [...]–[...] Duratio eclipsis: 2 hore, 3 minuta, 54 secunda, 16 tertia, et secundum me 2 hore, 3 minuta, 52 secunda, 52 tertia. Explicit'.

Detailed computation of the solar eclipse of 3 March 1337, corrected by Lewis 'secundum me'.

Note by Lewis (fol. 81^v): 'Nota et indubitanter scias quod ego Lodowycus Caerlyon in medicinis doctor, singula prescripta calculo proprio probavi, et hoc feci quia inveni errores in divisione sua quando divisit excessum 3e diversitatis aspectus lune in latitudine super 2am, quia credidi ex illo modico errore plures maiores errores secutoros. Sed tamen quasi minima est discrepantia, scilicet, in paucis secundis et tertiis et numquam devenerit ad unicum minutum. Quicumque idem velit probare sciat quod ego posui primum operationem suam et subsequentem meam'.

Fols 82^r–86^v John of Lignères, *Canons Priores astrologi motus corporum, only the canons devoted to eclipses (canons 33–38)*

‘Canon magistri Johannis de Lineriis de calculatione eclipsium extractus de canonibus suis et est 60, 61, 62 et 63 canonum suorum sicut ego inveni [...] Eclipsis solis et lune in quocunque anno voleris possibilitatem invenire. Quere primam conjunctionem mediam januarii [...]–[...] horam medie eclipsis et maxime obscurationis solis. Expliciunt canones optimi et precissi utriusque eclipsis secundum magistrum Johannem de Lineriis’.

Fols 86^v–96^r Johannes de Lineriis, *Canones Cuiuslibet arcus propositi sinum rectum*

‘Cuiuslibet archus propositi sinum rectum invenire. Archus cuius sinum queris [...]–[...] ut prius quousque concordet cum vero loco solis qui fuit in radice et sic patet propositum. Expliciunt canones magistri Johannis de Lineriis. Nota tamen quod hic non ponuntur ordinate, quia canones eclipsium proponuntur cum suis quotationibus, ut patet in principio istius tractatus etc.’

Note preceding the canons fol. 86^v and referring to the canons copied in the inferior margin: ‘Item hic subsequenter ponuntur alie conclusiones extracte de canonibus eiusdem magistri Johannis de Lineriis, quarum quotationes ego posui in margine sicut ipse ponit in suo libro etc.’

In the lower margin of fols 86^v–87^r, the canon (7) devoted to the construction and use of instruments excerpted from John of Lignères’s *Cuiuslibet arcus* are copied: ‘Instrumentum pro linea meridia considera [...]–[...] et erit vera linea meridiana pro loco illo etc.’

Fols 96^v–105^v Simon Bredon, *Arismetica (commentary on the De institutione arithmetica)*

‘[Running title] Arismetica Magistri Symonis Bredon continens sententiam arismetrice Boecii. [Text] Quantitatum alia continua que magnitudo dicitur [...]–[...] geometricalis proportio inter 2um et 3um terminum reperitur. Explicit Arismetica Bredon’.

Fol. 106^{r-v} Anonymous, *Canones componendi tabulas angulorum, mentioning the Oxford meridian*

‘[Running title] Nota canones sequentes pro componendo tabularum angulorum pro eclipsisibus. [Text] Nota quot requiruntur hic ad habendum archum primum, cuius sinus est primum proportionale. Primo punctus ecliptice [...]–[...] 4um proportionale, se-

cundo archuato et eius archu de 90 subtracto etc.’

Note added by Lewis Caerleon right after the canons: ‘Fforte pre-scripta quotatio linearum non concordat in simul tabula angulorum, tamen series et ordo rerum seu proportionalium concordant etc.’

Fol. 107^{r-v} Lewis Caerleon, example based on the table of angles and parallax

‘Exemplum componendi tabula angulorum et diversitatis aspectus ad eclipses per calculationem Lodowyci Caerlyon in medicinis doctoris et calculatur ad latitudinem 51 gradus 50 minuta secundum doctrinam Albategni et Ricardi de Sancto Albano, libro primo, conclusione 12, 13, 14, 15 et 16, ut patet ibidem ex demonstrationibus eius pro 7 horis ante meridiem Sole in ultimo secundo contrariorum [...]–[...] Nota quod hoc est verum ad horam seu distantiam predictam, scilicet 7 horis, a meridie ante meridiem supposita Luna in principio signi Cancri 0 in gradu et 0 in minutis et secundis, et supposita luna in auge eccentrici et epicycli, ut supponunt Alfraganus in *Floribus Almagesti*, capitulo 27, Albategni, capitulo 30, et Ptholomeus 5° Almagesti, capitulo 17, qui sententialiter ponunt in locis preallegatis maximam diversitatem aspectus palem in circulo altitudinis apud orizontem Luna in auge ecentrici et epicycli 54 minuta. Sed Luna in auge ecentrici et oppposito auge epicycli 64’.

Fol. 108^r Table entitled ‘Conversio horarum et fractionarum in gradibus / Conversio graduum in tempora’

Fols 108^r–120^v Anonymous, astrological tables (tables of aspects) attributed to Humphrey, duke of Gloucester with canons

The canons are situated below the tables fols 108^v–116^r.

Fols 108^v–116^r: ‘[Rubric] Incipit prologus in tabulas illustrissimi principis et nobilissimi domini ducis Gloucestrie. Effectus planetarum presentes preteritos et futuros pronosticare voltentibus [...]–[...] equa domos sicut prius fecisti. Explicit’.

Fols 121–124 blanks. Fol. 124^r is ruled for a table.

Fols 125^r–141^v Table of square and cubic roots

Tables of square and cubic roots for number 1 to 4680. A later handwriting continued until 4730.

Fol. 125^r: Tabula continens quadratos et cubitos cum radicibus eorumdem. On fol. 125^r: notes written by Lewis Caerleon: ‘Nota quod medium proportionale in quadratis est numerus proveniens

ex multiplicatione radice parte in sequentem radicem [...]–[...] ut patet per magistrum Symonem Bredon in arismetica sua versus finem capitulo de proportionalitate geometrica’.

Fol. 142^{r-v}

John Curteys (?), *De arte componendi tabulas eclipsium*

At the left top of the margin fol. 142^r: ‘Extracta de libro Magistri Walteri Hertt’.

Right top margin, signature fol. 142^r: ‘Lewys’. Same signature on the verso (fol. 142^v), top margin ‘Lewys’.

Fol. 142^{r-v}: ‘Ad opus eclipsium requiritur notitia quantitatum dyametri corporis solaris, corporis lunaris in aspectu et dyametri umbre terre in contactu spere lunaris et quantitas maxime diversitatis aspectus in circulo altitudinis Luna extracte apud horizontem’.

Followed by the running title ‘De arte componendi tabulas eclipsium’. The text begins on fol. 142^r: ‘Si volueris componere tabulas eclipsis pro longitudine propriori longiori epicicli Lune [...]–[...] (fol. 142^v) Sicut ergo habebis puncta eclipsis et minuta’.

Followed by different values said to be excerpted from Albategni, Gebir (Jabir ibn Aflah) and Azarchel (Toledan tables) preceded by the mention: ‘Nota quod Azarchel posuerit semidiametrum Solis in longitudine media: 16 minuta, 20 secunda’.

Fol. 143^{r-v}

John Curteys (?), *De compositione tabularum diversitatis aspectus*

Running title: ‘De compositione tabularum diversitatis aspectus sine astrolabio’. Sine astrolabio was crossed out.

Fol. 143^r: ‘Invenias primo gradus ascendente et altitudinem Lune et altitudinem gradus motus centri [...]–[...] et quotiens est diversitas aspectus latitudinis’.

In front of the text a note (written by Lewis as well) mentioning a calculation error has been erased.

Fol. 143^r: This canon is followed by three short paragraphs entitled in the margin ‘Altitudo Lune’, ‘Altitudo medii celi’ and ‘Altitudo gradus 90’.

‘Altitudo Lune: Pro altitudine Lune invenienda per altitudinem gradus 90 ab ascendente sicut operare [...] Altitudo medii celi. Invenias gradus ascendente [...] Altitudo gradus 90: Istum sinum multiplica per sinum archus inter ascendens et Lunam’.

A horizontal red line has been traced to highlight the division between the two parts on the page. A new text begins as followed: ‘Signata aliqua hora ante meridiem vel post, diversitatem aspectus

Lune in longitudine et latitudine ad opus eclipsis calculare pro eadem hora [...]’ and ends on fol. 143^v: ‘ad 17am ut patet ibidem ex demonstrationibus eius etc.’ In the right margin (fol. 143^v): ‘Nota quod totius et precisus est accipere diversitatem aspectus in circulo altitudinis de tabula Albategni, intrando tabula cum distancia Solis vel Luna a cenith capitum’.

Fol. 143^v: a four-line note in a paler ink written afterwards by Lewis and erased. It mentions Richard of Wallingford’s *Albion* and the *Almagesti minor*.

Fols 144^r–146^r John Curteys (?), eclipse and parallax tables

All the tables have been crossed out.

Lewis’s signature may be found on of fols 144^r, 145^r, 146^r. Fols 144^v, 145^r: Two notes written in the upper margin ‘*corrigitur ultimate*’.

Fol. 144^r: Parallax table. At the top of the folio the lunar sign is drawn. ‘Tabula diversitatis aspectus Lune ad latitudinem Oxonie, scilicet, 51 graduum et 50 minutarum, sed non est precise calculata, sed differt a [the following part in italics is crossed out] *Hertt sufficienter correcta. Sed dubito precisa veritate alium per unum minutum et alium per differentiam*’. The bottom of fol. 144^r is missing, it has been cut off later.

Fol. 144^v: Two eclipse tables: (1) Tabula eclipsis ad longitudinem longiorem. Eclipsis Lune; (2) Tabula eclipsis Lune ad longitudinem propiorem. The two tables has been crossed out.

A computation has been written by Lewis below the tables, but part of it is illegible because the page has been cut off: ‘Nota quod maxima mora totalis possibilis in eclipsis solis esset vix 6 minuta si esset coniunctio [...] Tabule eclipsium Solis et Lune supponendo dyametrum corporis Solaris’.

A note in a smaller size written in the right margin facing the second table: ‘Nota quod numerus interceptus ostendit quantitatem argumenti et numerorum et cum quolibet incipit eclipsis habere moram’.

Fol. 145^r: At the top of the folio the solar sign is drawn. Two solar eclipse tables in the first half page: (1) Tabula eclipsis Solis ad longitudinem longiorem; (2) Tabula eclipsis Solis ad longitudinem propiorem.

Two other tables are drawn below. They are parallax tables such as the ones on fol. 144^r and give value for Cancer and Leo. A note has been written by Lewis above the respective headings of the tables:

‘Hic consequenter ponatur exemplar faciendi tabulas diversitatis aspectus in longitudine et latitudine secundum canones prepositos in isto quaterno’.

Fol. 145^v: Two parallax tables providing the values in Virgo and Libra. At the bottom of the page, a note wrote by Lewis: ‘Quamvis hoc opus prescriptum de diversitate aspectus non sit precise verum et perfectum, propter vitium forte scriptores, tamen dat bonum exemplum et viam describendi tabulam diversitatis aspectus in longitudine et latitudine, bene intellegenti. Nota etiam quod istud exemplum sequens de compositione tabularum eclipsis est corruptus scriptoribus non intelligentibus. Ideo probationem antequam ei considas. Nota etiam quod iste magister, quantitatem dyametri Solis et une et umbre, ut notatur in proximo folio precedente sub tabulas suis de eclipsis solis, supposuerit in componendo istas tabulas etc.’

Fol. 146^r: Example of eclipse table. In the right margin, Lewis’s signature: ‘Lewys’. ‘Exemplum de compositione tabularum eclipsium secundum canones antepositos folio 4^o precedente istius quantitatum. Compositio tabularum eclipsium Lune in longitudine longiori’.

In the lower margin, this note: ‘Istud exemplum corruptur per scriptores, ego multa correxi, sed tamen, cave bene’.

Fols 146^v–147^r **Lewis Caerleon, *Modus calculandi eclipsis solis secundum canones Azarchelis, anno Christi 1339 completo [...] pro Londoniense*** ‘[Running title] Modus calculandi eclipsis Solis secundum canones Azarchelis, anno Christi 1339 completo de Julio 6 diebus, 16 horis, 52 minuta, 42 secunda fuit tempus coniunctionis medie pro Londonie. Medius motus Solis et Lune 3 signa, 22 gradus, 41 minuta, 10 secunda, 49 tertia [...]–[...] Ascendens in principio eclipsis eclipsis: 25 Libre. In medio eclipsis: 6 Scorpionis. In fine eclipsis 17 Scorpionis. A principio istius eclipsis per 6 annos solares et 7 menses incipiet effectus istius eclipsis et durabit effectus per 2 annos 24 dies et 8 horas.

It appears that the solar eclipse occurred in the 7 July 1339, so *in anno incompleto* and not *completo* as erroneously written in the running title.

Fols 147^v–151^v **John Curteys, eclipse and parallax tables**

In the lower and upper margins the mention ‘adde’ or ‘adde partem proportionalem’ have been added as directions to use the

tables. Those directions are also specified in the following canons. Fol. 147^v: Solar eclipse table entitled: ‘Tabula punctorum eclipsis solaris ad longitudinem longiorem cum differentia seu excessu eorundem punctorum in longitudine propiori’.

Short text written in the right margin:

‘Nota quod istas tabulas eclipsium et diversitatis aspectus cancellavi quia non calculavi istas tabulas ita precise sicut tabulas eclipsium quas dedi universitatibus Cantebrie et Oxonie, insensibilis tamen est differentia et per istas tabulas satis bene et prime parte eclipsium calculari’.

Fol. 148^r: ‘Tabula minutorum casus eclipsium solaris ad longitudinem longiorem cum differentia seu excessu eorundem ad longitudinem propiorem ultra longitudinem longiorem’.

Fol. 148^v: ‘Tabula eclipsis lunaris ad longiorem longitudinem cum differentia tabula punctorum quam minutorum casus et minutorum dimidii more ad longitudinem propiorem’.

Fol. 149^{r-v}: ‘Residuum tabule eclipsium lunaris’. In the lower margin of fol. 149^r: ‘Nota quod sub titulis minute est differentia minuenda a minutis casus in hac tabula ad habendum eadem minuta casus pro longitudine propiori’.

Fol. 150^r: Three tables. On the left: ‘Tabula motus equati’ followed by a short canon: ‘Accipe motum equatum in prima linea a dexteris qui intitatur motus equatus, et accipe differentiam 3e diversitatis aspectus et 4e in capite tabule in minutis et in concursu differentie et motus equati, invenes partem proportionalem in minutis quam adde vel minue de horis 2e diversitatis aspectus quemadmodum docent canones’. At the end of the table: ‘corrigitur verum’. On the right: Two interpolation tables one above another: ‘Tabula attacium: Tabula triangularis, verum correcta per me’. Followed by a ‘Tabula quadrangularis’: ‘Ista tabula est bene correcta per me. Tabula quadrangularis’.

Fol. 150^v: Parallax table. ‘Tabula diversitatis aspectus Lune in longitudine pro Oxonia, sed non est precisa sed deficit alii per unum minutum vel circiter’. A note at the bottom of the page has been entirely erased and is not legible with a UV lamp.

Fol. 151^r: Parallax table (excess) ‘Residuum tabule diversitatis aspectus in longitudine’. At the top right of the page ‘Lewys’.

Fol. 151^v: Parallax table ‘Tabula diversitatis aspectus lune in latitudine pro Oxonia grosse calculata per albionum’.

Followed by two notes:

‘Nota quod tabulas precedentes quia eas non ita precise calculavi sicut tabulas quas dedi universitatibus Cantabrigie et Oxonie tamen quasi insensibilis est differentia in calculo, experiatur quicumque velit’.

‘Expliciunt nove tabule eclipse composite *per Magistrum Johannem Curteys socium Collegii Oxonie de Mertone*, et supponunt quantitates dyametrorum solis et lune et umbre, ut scribitur ante folio 4° et 7° ubi ponitur ars componendi tabulas eclipsis et tabulas diversitatis aspectus’.

Fol. 152^r Interpolation tables excerpted from the book of John Somer with Lewis Caerleon’s canons

‘Tabula proportionalis diversitatis aspectus secundum quamcumque differentiam ad 30 extracta de copia manus proprie Frater Sommer’.

Below, interpolation table: ‘Portiones longitudinum et est tabula attacium expansa’.

Two short canons are facing the two tables:

First canon: ‘Nota quod ista tabula facta est ad alleviandum laborem. Primo ergo, intrandus est in tabula communem diversitatis aspectus regionis [...]–[...] et minuta latitudinis, si pro eis operatis’.

Second canon: ‘Nota quod tabula invente subscripta est tabula intitulata ab Azarchele tabula attacium de equatione diversitatis aspectus Lune, sive tabula equationis [...] Istas tabulas inveni scriptas in quodam veteri libro ex manu Frater Somer, istos tunc canones feci ego Lodowycus et in illa tabula quosdam errores inveni quos correxi et hec restant quidam incorrecti. Alias, tunc favente Deo, novas tabulas diversitatis aspectus ad meridiem Universitatis Cantabrigie propono construere et novas tabulas eclipsium cum omnibus tabulis easdem continentibus etc.’

In the margin of the second table, in red ink: ‘hec est antiqua tabula’.

Fols 152^v–153^v John Curteys (?), eclipse canons

The eclipse canons are divided into two different parts as it is usual: lunar eclipse (fol. 152^v) and the solar eclipse (fols 152^v–153^v). Emphasis on the different parts made by Lewis who highlighted in red some words to rubricate them. He also wrote in the margins, the titles of the different steps of the eclipse computation developed in his canons.

Fol. 152^v: '[Rubric] Modus operandi pro eclipsi Lune per tabulas novas. [Incipit] Intra in tabula eclipsium lunaris cum argumento latitudinis secundo equato cum signis et gradibus eius in capite tabule et cum minutiis [...]–[...] si nullum fuerit dimidium more subrathe solum tempus casus a tempore medio eclipsis pro initio eclipsis habendo et ipsum dupla pro duratione eclipsis habenda etc. Et sic completur opus eclipsis Lune'.

Fols 152^v–153^r: '[Rubric] Canones eclipsium solis secundum easdem tabulas. [Incipit] Pro quo primitus ista sunt requerenda et memorie commendanda, scilicet tempus vere coniunctionis lunarium diebus equatis. Verus locus lunarium, argumentum verum lune, superatio lune in una hora, centrum lune [...]–[...] principium eclipsis et durationem totalem eclipsis sicut ibidem invenitur [addition by Lewis Caerleon] accipiendo super partem proportionalem de differentia punctorum et minorum casus inter 2 longiores et sic completur opus. Explicit'.

Fol. 153^v

Lewis Caerleon's notes

On the possibility of a lunar eclipse:

'Secundum Albategni, Arzachelem et Ricardum de Sancto Albano: si distantia a modo sit ultra 12 gradus et 14 minuta non erit eclipsis Lune. Secundum alios si distet per 14 gradus vel plus non erit eclipsis'.

Followed by 'Inventa latitudine lune tempore oppositionis vere cum illa ingredi tabulas Albategni scilicet eclipsim lune quam si solum in tabula longitudinis propioris et non longioris invenies [...]–[...] dico fere propter diversitatem motus lune diversi in hora, propter variationem argumenti in tempore eclipsis etc.'

Fol. 154^r

John of Genoa, table of solar and lunar velocities with columns for their radii 'Tabula semidiametrorum Solis, Lune et umbre'

In the upper margin 'Istam tabulam dubito'. Followed by 'Nota quod luna equatur in tabula considerando equationem centri lune et eius equatione pro una hora distantie ab auge hoc est pro centro, unius gradus et 51 secunda. Sed in quasi tabula quam habemus nulla consideratio ab equatione centri etc.' The table of John of Genoa is indeed computed by considering the 'anomaly' affecting the movement of the Moon: it is described by the equation of centre, which is a corrective function.

John of Genoa's table of radii of the Sun, the Moon and the shadow of the Earth (on the left margin), associated with the canon *Verum*

motus Solis et Lune in una hora. The two last parts of the canon are missing (as it is usual in the tradition) and begins differently.

Heading of the table: ‘Tabula semidiametrorum Solis, Lune et umbre et pertinet ad eclipses’.

The canon begins: ‘Cum argumento Solis invenies dyametrum eius sicut et motum in una hora sicut semidyametrum Lune et umbre et motum Lune in hora, cum argumento vero Lune. Si argumentum precise non inveneris, vide differentiam. Intrando cum minora propinquiori primo et precise cum maiori propinquiori [...]–[...] in centro epicycli exeunte in auge. Sed in Sole habetur vericumque fuerit’.

Fol. 154^r

Table excerpted from John Somer’s book

Red rubric above the table: ‘Tabula semidyametrorum solis et lune et umbre et variationis extracta de libro Fratris Sommer de manu sua propria’.

Canon associated with the table: ‘[Rubric] Sequitur canon tabularum semidiametrorum solis et lune et umbre sequenter extractus de copia manus Frater Sommer. [Text] Cum volueris scire quantitatem dyametri Solis per ista tabula [...]–[...] Item nota quod diametri solis, et lune et semidiametri sunt initii in eclipsi solis, dyametri et semidiametri lune et umbre sunt initii in eclipsi lune etc.’

Fols 154^v and 155^r–156^r

Lewis Caerleon, lunar eclipse table (fol. 154^v); tables of difference between the solar and lunar velocities at the time of mean and true conjunction, and their canons, fols 155^r–156^r

Notes ‘relegitur’ and ‘relegitur totum’ or ‘relegitur totum et corrigitur totum’.

Fol. 154^v: ‘Tabula eclipsis Lune pro punctis et minutiis pro gradibus et minutiis argumenti latitudinis lune, fundata super veteres tabulas eclipsium’. This table was crossed out.

Two short canons in the right margin:

‘Pro canone tabule sequentis bipartite, quarum prior pars ponatur in prima medietate proximi folii sequentis et est de gradibus distantie luminarium equate tempore medie coniunctionis et oppositionis pro vera coniunctione vel oppositione habenda. Secunda sequentia et est pro minutiis superfluentibus ultima gradus est notandum quod habitis vero loco solis et lune et differentia motuum solis et lune in una hora, id est superatione lune in hora pro tempore medie coniunctionis vel oppositionis [...]–[...] Si vero volueris corrigere vel componere tabula distantie [written above

pro gradus] tot accipe in latere sinistro differentiam motuum solis et lune quamcumque volueris et reduc eam ad idem genus fractionum et per eam sic reductam divide gradum distantie lunarium [...]–[...] ad quocumque gradum volueris’. Added in a sloppier hand: ‘De compositione vero tabule pro minutis superfluentibus invenies in folio proximi’.

Fol. 155^r: ‘Prima tabula et est tabula distantie solis et lune in gradu solum tempore medie coniunctionis et oppositionis cuius canon precedit hic a sinistris in folio precedente etc.’

Fol. 155^v: No table, but the page was ruled for a table. A heading was written: ‘Differentia motuum solis et lune in hora tempore coniunctionis vere et oppositionis vere luminarium’. The table was copied on the next folio.

Fol. 156^r: Same heading as for fol. 155^v: ‘Differentia motuum solis et lune in hora tempore coniunctionis vere et oppositionis vere luminarium’, it includes the addition: ‘pro minutis ultra gradus perfectos in distantia solis et lune’.

A table associated with a short canon in the margin, explaining how to compute and correct it:

‘Si velis componere vel corrigere tabulam istam de minutis superfluentem ultra gradus distantie luminarium tempore medie coniunctionis vel oppositionis accipe differentiam motuum Solis et Lune [...]–[...] compones tabulam usque ad huius minuta ut produxi’.

Fol. 156^v

Lewis Caerleon (?), *Canon tabularum Ptholomei de corda et archu*

‘Canon tabularum Ptholomei de corda et archu quas Ptholomeus ponit directione prima Almagesti, capitulo II^o, que tabule habent primo lineas numeri continentes numerum graduum et minorum ab 0 in gradibus et 30 in minutis usque in 180 gradus crescendo certissime per additionem 30 minorum [...]–[...] 2da corda correspondente archui 18 gradus, 24 minuta. Et sic operandis est usque in casu consimili etc.’

Lewis Caerleon (?), *De exordio annorum secundum diversas sectas*

‘De exordio annorum secundum diversas sectas. Sciendum quod Greci suorum annorum primum computant ab Alexandro Magno et ideo annum suum incipiendo ab Octobri [...]–[...] Anni insuper Diocletiani et anni Alfonsi incipiunt a Junio etc.’

Fols 156^v–158^v Anonymous, *Notula de quantitate anni*

According to the table of contents, this text was found by Lewis in John Somer's book. He refers to this text as 'Item quidam bone notule extracte de copia Fratr̄is Sommer de quantitate anni'.

Extensive annotation to the Latin Alfonsine tables and John of Lignères. Some sources of the text are mentioned in the margins. The text also quotes: al-Battani, Albumasar, Azarchel (Toledan tables), Thebit ibn Qurra, etc.

Fols 156^v–158^v: 'De quantitate anni secundum computationem vulgarem. Annus apud diversas sectas quantitate variatur, nam apud Latinos annus accipiuntur pro spatio temporis quo Sol recedit ab aliquo puncto certo zodiaci [...] (fol. 158^v) [in the margin: Conclusio] Nos, quia vestigia et doctrinam peritorum astronomorum regis Alfonsi sequentes et considera communibus nostro tempore acceptis diligenter [...]–[...] Quotiens vero fuerit caput Arietis in meridionali parte circuli brevis a 180 gradibus usque in 360 gradus dictum equatio motus accessus et recessus, predicta subtrahi a medio modo augium planetarum ut habeatur augium verus locus etc., ut patet per tabulas Alfonsi et similiter Thebit etc.'

Fols 159^r–175^v Anonymous, judgement on the nativities of Henry VI, *Cum rerum motu*

'Cum rerum motu ac varietate sideree virtutis intelligentiam [...]–[...] vere scientie dilectoribus via veritatis clarius ministratur. Amen. Completum est hoc opusculum, anno Domini M^{mo}CCCC^oXLI^o, XVIII^o die mensis Julii magistris meis specialibus magistro Johanni Somerset et magistro Johanni Langton in vigilia assumptionis beate Marie eodem anno mense Augusti in familia Regis apud Schene per manus meas liberatum'.

Fol. 176^{r-v} Anonymous, treatise on quadrature of the circle

'Proposito circulo quadratum equale describere [...]–[...] circulum quod fuit proportionum. Explicit'.

Fols 176^v–177^v Campanus de Novare, *De quadratura circuli*

'Franco scolasticus Loadencensis ad humanum archiepiscopum scripsit hunc librum de quadratur circuli [...]–[...] omnis ergo circulus est equalis quadrato. Explicit de quadratura circuli'.

Here the treatise is falsy attributed to Franco of Liège.

Fols 178^r–181^r **John of Saxony, *Exempla super tabulas primi mobilis et canones Johannes de Lineriis* (incomplete)**

‘Quia plures astrologorum diversos libros fecerunt de operationibus tabularum [...] (fol. 178^v) illum numerum minorem propinquarem quem accepisti in tabula [...] (fol. 179^r) Umbram rectam seu extensam per quamcumque altitudinem seu alterius notam invenire [...]–[...] cum ergo ascendit de equali cum arcu zodiaci proposito’. Fol. 178^{r-v} only retain John of Saxony’s commentary on the first two canons on spherical astronomy of John of Lignères and fols 179^r–181^r are related to canons 12–18.

Fols 181^v–182^v Remain blanks.

Fols 183^r–184^r Horoscopes for Mrs Moores and her husband dated to 1658 and 1659.

Fols 185–187 Remain blanks.

Fol. 188^v **Lewis Caerleon, note and computation on the conjunction Mars/Jupiter of 1484**

‘Tempus vere coniunctionis ♄ [Saturn] and ♃ [Jupiter] quarto vicinius preter sciri per tabulas anno Domini currente 1484 post meridiem 25 diei novembri’.

Fol. 189^v **Lewis Caerleon, computations of the length of the seasons and the year on the year 1482**

‘[Running title] Lewis anno Christi 1482 imperfecto. [Beginning of the computation] Dies a vero equinoctio vernali ad verum equinoctium autumnale secundum tabulas Alfonsi’.

Fol. 190^r **Lewis Caerleon, circular diagram with notes**

‘Circulus exterior est 30 et circulus interior ecentricus Solis’

Fols 191^v–192^r Sixteenth-century drawings of the navicula.

Appendix 3: Table of contents (Cambridge, University Library, MS Ee.3.61, fol. 2^v)

Contenta istius liber

Tractatus de arte compositionis tabularum astronomie

Tractatus de compositione rectanguli et eius utilitatibus

Calculatio eclipsis solis anno domini 1481 per diversas vias [added 'Ludo' by a sixteenth-century handwriting]

Opus doctoris subtilis super canones azarchelis sed non completus

Algorismus de minutiis vulgaribus secundum magistrum Johannem de Linyeriis

Ars operandi per probas

Algorismus magistri Johannis Kylyngworth

Tractatus Magistri Johannis Asshynden de coniunctione σ [Mars] et h [Saturn] in Cancro et de coniunctione h in a [Jupiter] in Scorpione, cum permutatione triplicitatis

Introductorium Alkabitii sed non completum

Opus primum magistri Johannis Holbroke in reductione tabularum Alfonsii ad annos Christi, menses, dies et horas etc.

Item secundum opus eiusdem in compositione novarum tabularum mediorum motuum et equationis dierum

Item diverse tabule eclipsium et tabula equationis dierum secundum magistrum Johannem de Lyneriis

Trutina Hermetis pro calculatione nativitatum

Exemplum calculandi eclipsis solis ad meridiem Parisius secundum tabulas Arzachelis

Item canones magistri Johannis de Lyneriis completi, sed non [in] recto ordine quia canones eclipsis ponuntur in principio ubi deberent poni canones corde et arcus qui secuntur

Arismetica magistri Symonis Bredon

Quidam canones componendi tabulas angulorum pro eclipsibus sed non precisi et meliores habentur in isto primo tractatu de compositione tabularum et operationi habentur versus finem huius libri ante tabulas eclipsis expansas

Exemplum componendi tabulas angulorum et diversitatis aspectus ex opere meo proprio

Tabule directionum Umfredi ducis Gloucestrie

Tabula continens numeros quartos et cubicos et eorum radices

Item notabilis ars componendi tabulas eclipsium et diversitatis aspectus cum exemplis et tabulis sequentibus et eorum canonibus, inter quas est exemplum calculandi eclipsis solis ad meridiem Londoniensis secundum canones Arzachelis

Tabula dyametrorum [solis] et lune et umbre et tabule distantie lunarium, tabula stationis lune in hora cum aliis tabulis necessariis pro coniunctionibus et oppositionibus et eclipsibus lunarium

Item quidam bone notule extracte de copia Fratris Sommer de quantitate anni

Item tractatus des calculatione nativitatis Regis Henrici 6 et potius de correctione etc.

Item tractatus de quadratura circuli. Item alius tractatus de eodem

Item quedam extracta super canones magistri Johannis de Lyneriis per magistrum Johannem de Saxonia sed non completus

[Added 'Lewys Kaerlyon' by a sixteenth-century hand]

Manuscripts in Performances

Karen Desmond

Medieval Music Rolls, Scribes and Performance: The Extant Rolls of Thirteenth-Century English Polyphony

Abstract: Most medieval music manuscripts extant today were not used in the performance of music. While the surviving large manuscript codices of relatively high production quality have a certain performative capacity as items of prestige or cultural capital, the overwhelming palaeographical and codicological evidence points to the difficulties singers would encounter if they tried to perform from these manuscripts. Addressing questions surrounding the relationship of ‘performance’ to ‘manuscripts’, this study focuses on a set of ‘lower-grade’ sources – manuscript fragments of suspected music rolls copied in England during the thirteenth century – that I argue represent an early stage in the written transmission of the music compositions copied on them. In particular, I shall focus on questions of layout and how their *mise-en-page* suggests a more ‘ad hoc’ or experimental approach to the copying of their contents compared to the careful planning usually evident in music codices. I propose that close study of these sorts of fragments may bring us closer to the written documents that may have informed some medieval music performances.

1 Introduction

Most medieval music manuscripts were not used in the performance of music. This is true of books of plainchant with music notation copied at and for Western European religious institutions since the early tenth century, of the compilations of secular song copied throughout Europe in the later Middle Ages and of the collections of polyphonic compositions that proliferated from the thirteenth century onwards. While these large manuscript codices of relatively high production quality have a certain performative capacity as items of prestige or cultural capital, the overwhelming palaeographical and codicological evidence points to the difficulties singers would encounter if they tried to perform from these manuscripts: some of the artefacts are simply too small for more than one or two people to use at the same time, and in many others, not all the voice parts were viewable in the same manuscript opening. Most preserve repertoires that scholars believe were actually composed decades before their extant manu-

script copies, and as physical objects the manuscripts themselves bear little evidence of the wear and tear that would have resulted from regular use. The most reasonable conclusion from the evidence in the manuscripts is summed up here by Stanley Boorman:¹

Indeed, the general structure of the contents of many of these sources (into the early fifteenth century) argues that they were not compiled for performance, but rather as repositories of important and highly-regarded repertoires [...]. [Their particular arrangement in the manuscripts suggests] strongly that the primary intention was to present an organized archive. Such a view is reinforced by the frequent presence of a repertoire that was old-fashioned, perhaps almost obsolete [...]. The collected weight of the evidence suggests that they were never intended for use in performance.

Manuscripts that support this conclusion abound. The most comprehensive source of the *Magnus liber organi* – the large collection of polyphony associated with the twelfth- and thirteenth-century cathedral of Notre Dame in Paris – is Florence, Biblioteca Medicea Laurenziana, Plut. 29.1 (F), a tiny manuscript copied c. 1240 by a single scribe. It has twelve musical staves squeezed into pages that are 232 mm (H) × 157 mm (W) in size.² For many of the motet manuscripts copied in the second half of the thirteenth century, the page turns often do not coincide for every voice part. Thus, once the singer of an upper voice part turned a page, the notes for the middle voice or lower voice may no longer have been visible.³ Copying mistakes could make performance impossible, too: while the generally accomplished scribe of the first large (and sumptuously illustrated) collection of Guillaume de Machaut's music planned the page layout carefully, Elizabeth Eva Leach outlines one example where scribal errors rendered the virelai *Dame, a qui* unperformable.⁴ Questions about their use and purpose also arise when beautifully prepared manuscripts show few signs of wear. Manuel Pedro Ferreira has written of the 'ambitious political and religious agenda' that informed the careful preparation of the manuscripts for Alfonso X's *Cantigas de Sancta Maria*. Yet, he notes, considering the four surviving copies that are 'lightly used' and the lack of dissemination of the repertoire beyond Alfonso's court, the surviving manuscripts seem to reflect Alfonso's use of written cultural artefacts to promote a particular ideology and political am-

¹ Boorman 2018, 547.

² The sigla referenced here are those commonly used by musicologists; the complete list of sigla is given at the end of this article.

³ Huck 2015, 19.

⁴ Deeming and Leach 2015, 265–266.

bition rather than as evidence of a courtly culture of singing from written manuscripts of music.⁵

As John Haines has written, most of the sources extant today ‘represent the *endpoint* of a complex writing process’ (my own emphasis).⁶ While Haines may be correct in saying that ‘we will never *fully* know [...] the invisible transmission that preceded them’ (again, the emphasis is mine),⁷ several studies have demonstrated that there are ways into this ‘invisible’ process and that it is possible to uncover some aspects of the prior written transmission of music repertoires. Addressing the theme of this volume and the specific questions surrounding the relationship of ‘performance’ to ‘manuscripts’, I have chosen to focus on a set of ‘lower-grade’ sources here – manuscript fragments of suspected music rolls copied in England during the thirteenth century – that represent (or contain evidence that points to) earlier steps in Haines’s ‘complex writing process’. These English music rolls are generally of a lower production quality than the large retrospective music codices described above.⁸ I argue here that the roll fragments represent an early stage in the written transmission of the music compositions copied on them and that close study of these sorts of fragments bring us closer to the written documents that may have informed some medieval music performances.

While most musicological scholarship previously focused on the sorts of large, high-grade ‘repositories of important and highly-regarded repertoires’ described above, more recently attention has turned to less pristine sources. Helen Deeming’s work on the addition of music compositions to English miscellaneous manuscripts shows scribes experimenting with page layout, for example.⁹ Unbound by the usual conventions for copying polyphonic music, their experimental page layouts illustrate their understanding of how music compositions can straddle different music genres and forms.

In a previous study of fourteenth-century French music notation, I examined a small group of sources, most of which are now fragmentary and of relatively low production quality and all of which contained revealing scribal errors.¹⁰ The motets copied in these sources have been dated from c. 1315 to

5 Ferreira 2016.

6 Haines and Udell 2018, 177.

7 Haines and Udell 2018, 177.

8 In general, the English word ‘scroll’ refers to a document that is unrolled horizontally, while ‘roll’ refers to a document unrolled vertically. The Latin terms – *rotulus* (pl. *rotuli*) – are also commonly used.

9 Deeming 2006.

10 Desmond 2018.

c. 1360, a period when the notational systems used to signify rhythmic duration and metrical groupings were in flux. The datings given for the copying of these sources in the scholarly literature are slightly later: between c. 1335 and c. 1375.¹¹ The scribal errors demonstrate that each of these scribes actively updated the music notation as they worked: each scribe appears to have copied the motets from an exemplar notated in a slightly older style of notation (which I have called ‘extended Franconian notation’) into the newer notational style (*ars nova* notation).¹² The mistakes occurred at moments where they either misunderstood the conventions of the older notation or simply slipped up when making the notational conversions to the newer style. What is also noteworthy about this particular group of sources in which I found these errors is that three of the four are rolls (the fourth source, Koblenz, is a fragment, but is likely to have originated from a manuscript codex). These three rolls are listed in Table 1. When the repertoire copied in these rolls is found in later anthologies copied in manuscript codex format, the sorts of discrepancies I documented for these rolls disappear – a testament both to the large-scale planning and scribal curation of these larger projects, but also to the uptake and dominance of the new *ars nova* notation by the time large retrospective anthologies were copied.

It is the roll format, then, that attests to the continued use of the older notational style. Extended Franconian notation is found in very few extant manuscript codices and these three rolls are no exception. The scribal errors in these rolls, however, offer clues to the notation in which the exemplars for them were written. Thus, in this case, the prior scholarly focus on manuscripts in the codex format resulted in an incorrect assessment of changes in French mensural notation, which is countered by evidence in the extant rolls suggesting a broader uptake (and possibly a longer period of use) for extended Franconian notations in France. These more ephemeral or at least more disposable sources – the rolls – are probably closer not only to the composers’ original fair copies, but perhaps also to the formats in which new compositions may have been first read and

¹¹ Kügle 2008 dates the copying of Br to c. 1334/1335; Hoppin 1956 gives a date range in the third quarter of the fourteenth century for Pic; Brewer 1982 dates Wrocław to the same quarter (the third).

¹² Desmond 2018, 406–411. While it is difficult to make general statements as to the identity of music scribes across a broad geographic and temporal span in medieval Western Europe, in many cases music scribes are thought to have been singers and/or people involved in the organisation of music performance. A recent collection of essays that illuminates the role of the cantor in monastic and cathedral life (other common terms for this role are ‘precentor’ or *armarius*) is Buygis, Kraebel and Fassler 2017. The various duties of the cantor that they document included a ceremonial liturgical role involving some singing, but also as the individual in charge of the abbey’s books and their production and repair.

learnt by performers. Thus, a focus on fragmentary and messier material objects potentially presents more compelling evidence for ‘performing manuscripts’. The case studies chosen for this study ask whether other late medieval rolls might also be closer to ‘performing manuscripts’ than the larger manuscript codices around which musicological scholarship has focused to date.

Table 1: Examples of French music rolls in *ars nova* notation, but probably copied from exemplars in extended Franconian notation.

Source	Layout	Approx. date (possible provenance)	Dimensions (H × W)
Br (the ‘Brussels rotulus’)	1 fol., 2 cols	1330s (Stavelot-en-Malmédy?)	1390 × 175 mm
Pic	1 fol., 2 cols	s. XIV $\frac{3}{4}$ (Picardy, France)	423 × 215 mm
Wroctaw	2 frags of 1 fol., 2 cols	s. XIV $\frac{3}{4}$ (Picardy, France)	210 × 175 mm 210 × 6 mm

In this short study, I shall explore a small group of fragmentary manuscript sources of polyphony copied in thirteenth-century England. Despite their later reuse as flyleaves in the bindings of other manuscript codices, which somewhat obscures their original formats, these fragments are likely to have originated as rolls. In particular, I shall focus on questions of layout: what is it about the *mise-en-page* in rolls that suggests a more ‘ad hoc’ approach to the copying of their contents compared to the careful planning usually evident in music codices? And does the experimental approach to layout evidenced in these rolls imply they are closer to the *beginning* of the ‘complex writing process’ that Haines describes for the copying of music and thus closer to a composer’s first writing-down of the music and/or the written artefacts that performers may have used in performance?

2 Rolls of polyphonic music in thirteenth-century England

As with textual content, in Western Europe from the late ninth century onwards, the predominant format in which musical content was recorded and transmitted from place to place was the codex. But there were still many contexts where the roll was preferred. All sorts of medieval documents were copied on rolls: finan-

cial records, mortuary rolls, chartulary rolls and genealogical rolls, for instance. Practical considerations were paramount: the roll is lightweight and easily portable, which was obviously handy when a roll needed to be carried from institution to institution or used in a particular performance context.¹³ Rolls were also less time-consuming and less expensive to produce than other types of manuscripts. The aesthetic and ritualistic aspects of the roll were also important: unfurling a roll has a particular dramatic effect. Part of the roll's appeal was its 'visual rhetoric', whereby its contents are gradually revealed:¹⁴ 'Le rouleau est par essence un document par invite à une performance alliant la manipulation à la lecture ou à une exhibition (souvent partielle)'. This visual rhetoric culminates in the required *déroulement* – the 'unrolling' (an aspect, incidentally, that has returned to our modern-day interaction with texts on screens, where we 'scroll' downwards to reveal more text).

Today, scholarly interest in the roll format has surged. A subproject of the German Research Foundation's (DFG) 'Material Text Cultures' project at Heidelberg University entitled 'Roles for the King: The Format of Rolls in Royal Administration and Historiography in the Late Middle Ages in Western Europe' has recently been concluded. The project focused on a comprehensive analysis of legal and administrative rolls, such as parliament and chartulary rolls, but it also examined genealogical rolls.¹⁵ Another three-year project at the University of Lorraine in France (2019–2021), entitled 'ROTULUS', is compiling a base inventory of chartulary rolls from the eleventh to the fifteenth centuries.¹⁶ Finally, the recently published monograph by Thomas Forrest Kelly on the medieval roll, *The Role of the Scroll: An Illustrated Introduction to Scrolls in the Middle Ages*, is supported by a useful online database of medieval rolls.¹⁷

13 See Kelly 2019 on the reasons for choosing a roll format.

14 See CRULH, 'ANR ROTULUS "Les « cartulaires-rouleaux » et leur fonction au sein des réseaux monastiques (France, XI^e–XV^e siècles)"', <<https://cruh.univ-lorraine.fr/recherche/projets-anr-en-cours/anr-rotulus>>.

15 The project team hosted a conference, the proceedings of which were published: Holz, Peltzer and Shirota 2019.

16 For the project website, see CRULH, 'ANR ROTULUS "Les « cartulaires-rouleaux » et leur fonction au sein des réseaux monastiques (France, XI^e–XV^e siècles)"', <<https://cruh.univ-lorraine.fr/recherche/projets-anr-en-cours/anr-rotulus>>.

17 Kelly's book was published in the UK on 28 May 2019, a week after I delivered the conference version of this article. I have since read the book and have incorporated some of Kelly's observations and findings into this published version of my conference paper where appropriate. The database of medieval rolls is available here: <<https://medievalscrolls.com>> (accessed on 17 March 2021).

Music rolls have received less focused attention than other types of rolls, although there are some notable exceptions: Kelly's aforementioned book documents numerous examples of music rolls; his earlier work looked at the liturgical scrolls from the cathedral of Benevento; Christopher Page and Lisa Colton both analysed two English manuscript illustrations of three clerics singing from a roll, where the composition illustrated is from a real motet known from other music manuscripts; Ferreira has discussed the rolls depicted in the illustrations of the *Cantigas de Santa Maria*; and Jenna Phillips has assembled a wealth of evidence that suggests the use of rolls in the *trouvère* performance of competitive debate-songs (*jeu-partis*).¹⁸ These studies point to the likely use of rolls in the performance of plainchant (particularly in liturgical processions), within some live performances of secular monophony and in the performance of motets in religious institutions. A recent book by Margaret Bent, Jared Hartt and Peter Lefferts on a newly discovered fourteenth-century English roll (the so-called 'Dorset rotulus') provides a more in-depth contextual study of this individual roll and its repertoire and also, more broadly, the use of the roll format as a medium for notated music between 1250 and 1600.¹⁹

Several of these published studies foreground iconographical evidence of rolls being employed in music performance (see Fig. 1). But is it possible to conclude from these rather sparse examples that the roll was a popular format in performance? The above-mentioned characteristics that determined the use of the roll for other (textual) transmissions – its portability, its lower cost to produce and its dramatic visual rhetoric as a material object – could certainly make it a logical choice for the copying (and performance) of music. In discussing the *extent* of their use, however, it is difficult to assess the number of music rolls in circulation in the late Middle Ages. The format seems to have been more ephemeral than codices, for example, so music rolls showing signs of wear and tear may have been recycled and repurposed very quickly, especially if they were copied without any lavish decoration or illuminations.

18 Kelly 1996; Page 1997; Colton 2011; Ferreira 2016; Phillips 2019.

19 Bent et al. 2021. The current chapter is based on a conference paper I delivered in May 2019 and submitted for publication in 2020, thus the observations on English rolls in their 2021 book could not be incorporated here.



Fig. 1: The Howard Psalter, London, British Library, Arundel MS 83, fol. 63^v (fourteenth century, East Anglia). Three clerics sing a motet (*Zelo tui lingue*) from a roll; courtesy of the British Library Board.

How many music rolls survive today, though? The largest online database of manuscripts of medieval polyphony, DIAMM (Digital Image Archive of Medieval Music), catalogues the manuscript sources of medieval polyphony, including fragmentary ones, from the twelfth to the early sixteenth century.²⁰ Compiling searches of the DIAMM database for the terms ‘scroll’, ‘roll’ and ‘rotulus’ results in a count of twenty-five rolls with polyphony. This seems like a very small number, especially given that the total number of sources in DIAMM’s database is, at the time of writing, 3,963; twenty-five out of 3,963 is a tiny fraction of them. It is likely, however, that the exact format of each of the 3,963 sources has not been recorded accurately in the database.²¹ In what follows, then, I have

²⁰ DIAMM describes the collection as follows: ‘all the currently known sources of polyphony up to 1550 in the UK (almost all sources up to 1450 are available for study through this website); all the “complete” manuscripts in the UK; a small number of important representative manuscripts from continental Europe; a significant portion of fragments from 1300–1450 from Belgium, France, Italy, Switzerland and Spain’. See DIAMM, ‘About Us’, available at <<https://www.diamm.ac.uk/about/>> (accessed on 22 June 2022).

²¹ The DIAMM database does have a specific field for a manuscript’s format, but not all of the rolls recorded have been tagged using it; sometimes the words ‘roll’, ‘rotulus’ or ‘scroll’ are only used in the manuscript’s description.

decided to focus on one geographic area and a single century for which the polyphonic sources have been inventoried recently and in detail: thirteenth-century England.

The recent comprehensive catalogue published by William Summers and Peter Lefferts entitled *English Sources of Thirteenth-Century Polyphony* (2016) lists sixty-eight items, which may represent as many as seventy-six distinct sources.²² Seventeen of the different sources are English liturgical books or miscellaneous manuscripts that transmit isolated polyphonic compositions. The sole complete thirteenth-century codex of polyphony (W₁) copied in the British Isles is also rather exceptional: while it originated in St Andrews, Scotland, it (for the most part) transmits the central Notre Dame repertoire of Paris. The remaining fifty-eight sources are in a fragmentary state. Summers and Lefferts express relative certainty that four of these are rolls and say that five more are ‘possibly’ or ‘perhaps’ rolls, although I would dispute one of these possibilities.²³ Thus, from this published inventory of the English thirteenth-century sources, I count between fifty-one and fifty-five possible codices devoted to polyphonic music and four to eight rolls.

Table 2 lists these eight potential rolls and adds two more that may be roughly contemporaneous (LR 2/261 and Ob Bodley 652), although they are included in the earlier catalogue that pertains to the following century (*Manuscripts of Fourteenth-Century English Polyphony*).²⁴ Their repertoire and palaeographical aspects (including the style of music notation) are similar to the other eight listed here. I have not, however, included in Table 2 other fourteenth-

22 Summers and Lefferts 2016. Five of the sixty-eight have two or three sub-inventories since Summers and Lefferts propose these fragments originated from separate volumes. Thus sixty-eight items potentially represent seventy-six distinct sources (Cjec QB 1 has Fragments A and B; Lbl 5958 has Fragments A and B; Ob Mus c 60 has Fragments A, B and C; Ob Rawl has Fragments A, B and C; and PRu 119 has Fragments A, B and C).

23 While W₃ is described by Summers and Lefferts as ‘possibly from a rotulus’ (Summers and Lefferts 2016, 40), I believe this fragment is probably two leaves from an original (non-contiguous) bifolio from a manuscript codex. It is relatively large in size: now 280 mm (H) × 245 mm (W); Summers and Lefferts reckon it was originally 360 × 280 mm. However, the layout of their voice parts only makes sense to me in the context of a codex. If these fragments were posited as originating from a *rotulus*, we need to imagine both that the surviving leaves were cut down from much longer leaves and that possibly two leaves are missing between fols 1 and 2 since several staves were needed to complete each of the four existing compositions.

24 Summers 1983. Since I had the opportunity to examine the Oxford and Cambridge manuscripts listed in Table 2 in situ, those measurements are my own. The measurements of Cant 128/62 and PRu 119 are taken from Summers and Lefferts’s catalogue, and LR 2/261 from Wathey 1993.

century rolls (for example, Ber 55, Oas 56, Lpro 23 and Egerton 2104) since they have definitive features associated with fourteenth-century notations or reper-toires (such as minim stems).

Table 2: Thirteenth-century rolls with polyphony.

Source	Approximate date (possible provenance)	Current size (H × W)	Approx. original size (H × W)	Stave gauge
Cgc 820/810 (2 frags of 1 fol., 2 cols)	s. XIII med. (England)	286 × 214 mm 284 × 212 mm	700 × 214 mm	14–16 mm (r) 16–18 mm (v)
Cjc F.1*(1 fol., 2 cols)	s. XIII med. (Bury St Edmunds, England)	312 × 207 mm	350–360 × 240 mm	12 mm
Cant 128/62 (1 fol., 1 col.)	s. XIII ex. (Canterbury Cathedral, England)	250 × 196 mm	340–360 × 200 mm	11–13 mm
LR 2/261 (1 fol., 1 col.)	s. XIV in. (England)	290 × 230 mm	600 × 240 mm	14.25 mm
Ob Bodley 652 (2 frags of 1 fol., 1 col.)	c. 1400? (England)	190 × 170 mm 188 × 186 mm	400 × 190 mm	14–16 mm
Ob Savile 25 (1 fol., 1 col.)	s. XIII ¾ (England)	227 × 168 mm	350 × 180 mm	13 mm (r) 15 mm (v)
Ob Rawl/B (4 frags of 1 fol., 1 col.)	s. XIII med (late 1240s?) (Reading/Leominster, England)	140 × 106 mm 142 × 144 mm 164 × 96 mm 140 × 92 mm	775 × 155 mm	13–14 mm (r) 16–17 mm (v)
Ob Rawl/C (3 frags of 1 fol., 1 col.)	s. XIII med. (late 1240s?) (Reading/Leominster, England)	304 × 167 mm 106 × 155 mm 177 × 115 mm	630 × 165 mm	12–13 mm
PRu 119/A (2 frags of 1 fol., 2 cols)	s. XIII (Revesby Abbey?, England)	257 × 300 mm 245 × 190 mm	750 × 330 mm	17–18 mm
PRu 119/B (1 fol., 1 col.)	s. XIII (Revesby Abbey?, England)	257 × 190 mm	400 × 210 mm	13.5 mm

Fig. 2 compares the numbers and types of extant sources. The picture that emerges of the surviving sources from thirteenth-century England is that a substantial portion are rolls, with the major caveat that we as yet have no clear estimate of how many manuscript codices or rolls may have been destroyed.²⁵ While the manuscript codex predominates (as one would expect), nonetheless the number of rolls is in a 1:5 ratio to the number of manuscript codices.

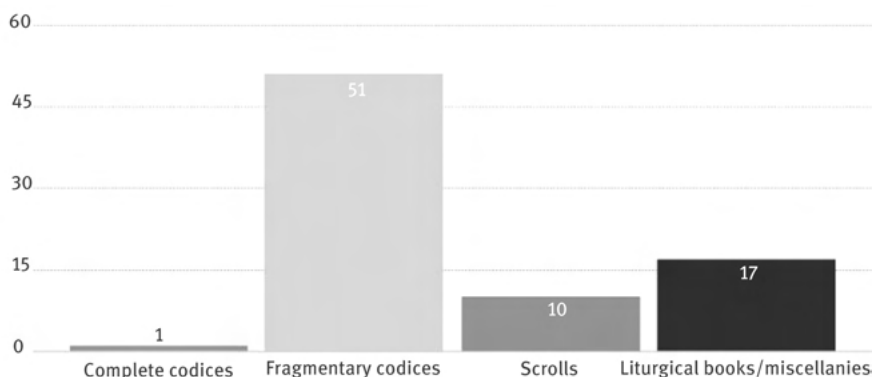


Fig. 2: Numbers of extant sources of thirteenth-century polyphony copied in the British Isles.

Since the majority of the extant sources from medieval England are fragments (barring the one codex of polyphony and the seventeen liturgical or miscellaneous volumes mentioned above), how exactly does one distinguish a fragmentary folio from a manuscript codex from a fragmentary piece of parchment that originated as a roll? In fact, several features can confirm or at least suggest that the original format was a roll and not a manuscript codex. The most telling feature is, of course, the fragment's projected original vertical height. In Table 2, three sources (Ob Rawl/B and Ob Rawl/C, PRu 119/A) have projected original vertical lengths of more than 600 mm. This definitively indicates a roll format.

Second, if the music on one side of the surviving fragment is upside-down, the fragment is almost certainly from a roll. This occurs in one example in Table 2: Ob Bodley 652. Frequently, however, rolls tended to be copied on a single side

²⁵ In terms of lost books, Andrew Wathey's study assembled mentions of lost manuscripts of polyphony listed in various medieval library catalogues and other accounts. Seven rolls are among these. For example, a roll documented in 1307 at Branscombe parish church is described as 'unus rotulus de cantu organico magnus et longus' (Wathey 1988, 3).

and the surface of the parchment's reverse side was not prepared as carefully.²⁶ While none of the rolls in Table 2 are now blank on one side, Cant 128/62, LR 2/261, Ob Rawl/C and PRu 119/B have non-music texts copied on the reverse. Cgc 820/810 has no music copied on its reverse side, although it was probably meant to be added as this side is ruled with music staves. However, the staves on the verso may have been added at a later stage since they have a different stave gauge measurement than the staves on the recto. The four remaining sources also have different copying stints for the recto and verso: the recto and verso of Cjc F.1* were ruled separately and the music copied in two different hands. The same is true of Ob Rawl/B, Ob Savile 25 and PRu 119/A. It is possible, then, that nine of the ten rolls in Table 2 were once blank on the reverse side.

3 Issues of *mise-en-page* and performance

In addition to these codicological features, scribal decisions with respect to page layout may also be indicative of roll (rather than codex) format. For example, if there are larger gaps between compositions (that is, larger than the usual space left between individual staves), such as is found in Cjc F.1* and LR 2/261, this is a good indication that the fragment is from a roll. In copying polyphonic codices, the general practice was to first rule the pages with a consistent number of staves per page and consistent spacing between the staves and then to add the music compositions. In rolls, the scribe could draw only the number of staves needed for each composition first, notate that composition and then leave a noticeable gap before later drawing the staves for the next composition.

Features of *mise-en-page* can also reveal aspects of the sources' function and use, including whether or not they could have been used in performance. In polyphonic codices, music scribes tended to follow certain conventions for situating each polyphonic voice within a manuscript opening. These conventions gradually changed over time. In the earliest motet sources – a genre of composition where the upper voice(s) had more pitches and more lengthy texts than the tenor voice – the convention was to copy the voice parts consecutively. That is, pages were ruled with a single column and each voice was copied directly following the previous voice part. In practice, this often meant that the ending of one voice would continue on the reverse of the page where it was begun and the

²⁶ The non-music rolls stored in the same box as Cgc 820/810 were all copied on the flesh side, while the hair side is blank and the parchment surface less well prepared.

voice it was meant to be combined with following directly after on the reverse side as well. This has obvious implications for performance since, as Oliver Huck notes, ‘Writing parts consecutively often does not allow the user(s) to read all parts at the same time, be it for performance or study; none of the manuscripts shows an interest by the scribe in keeping all parts together on the same opening’.²⁷ Even when scribes began using double-column ruling for manuscript codices later in the thirteenth century and the three voice parts of motets could be placed side by side on a single page (see Fig. 3 for a typical double-column layout), they do not seem to have been very concerned about ensuring that the page turns for each of these two voice parts coincided. Huck found that there were only two codices – Hu and Fauv (both of which were copied in the early decades of the fourteenth century) – that transmit thirteenth-century compositions copied to avoid page turns of this kind.²⁸

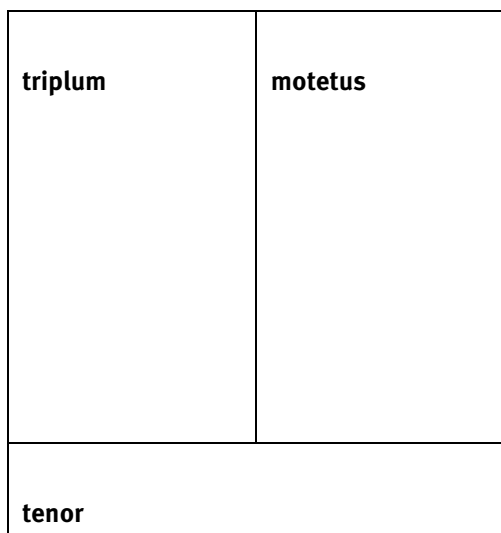


Fig. 3: A typical double-column layout for a motet copied on a folio of a manuscript codex.

Most of the repertoire for the sources in Table 2 consists of three-voice motets notated in parts or polyphonic settings of chants notated in parts. The majority

²⁷ Huck 2015, 19.

²⁸ Huck 2015, 19.

are copied in a single column with the individual voice parts notated successively. This is the case for Cant 128/62, LR 2/261, Ob Bodley 652, Ob Savile 25, Ob Rawl/B, Ob Rawl/C and PRu 119/B (see the first column of Table 2). A roll with parts copied successively is somewhat different to a codex with voices copied successively as there are no page turns in a roll. So was it possible, then, to sing polyphony directly from these rolls since page turns were not an issue? It depends on the vertical height of the roll and specifically on the length of parchment that a single composition occupies. In other words, can one or two singers hold the roll open for the length needed so that all the voice parts to be sung are viewable at once?

By way of an example, let us first consider the composition notated on the recto of the Ob Rawl/B roll, a three-voice Alleluia setting (*Alleluia. Dies sanctificatus*). Ob Rawl/B is likely to be the longest roll listed in Table 2, with a projected vertical height of 1,054 mm (Fig. 4a shows a reconstruction), and along with Ob Rawl/C, it is also the earliest manuscript, probably copied in the 1240s.²⁹ The *Alleluia: Dies sanctificatus* (shown in Fig. 4b) occupies c. 400 mm – about one-and-a-half times as long as an A4 sheet of paper held in portrait orientation. While a little awkward, it seems possible to hold such a roll so that the three voice parts of an individual composition would be visible to all three singers, although it is difficult to say for certain whether the roll was actually used in this way.

Notably, this particular roll has another performance-related feature that is relatively unusual for late medieval polyphonic sources: several performance rubrics annotated in black and red ink. The red ink rubrics are easily visible in Fig. 4b. Indications are given in rubrics written in black ink above the middle voice part, the *duplum*, and above the tenor to repeat the Alleluia setting after the verse is sung. A red rubric with the word ‘chorus’ (written above the tenor text and music for *Super terram*) indicates the chorus is to sing this melisma. The final section of the setting is marked by the red rubric ‘In fine’. Finally, an alternative ending to the setting is provided (highlighted with a dotted box in Fig. 4b), also marked with a red ‘In fine’ rubric, and another detailed rubric indicates this alternative ending can be used for shorter performances (‘vel si brevis ipse deprecit: dicatur sic’).

²⁹ Desmond 2020.

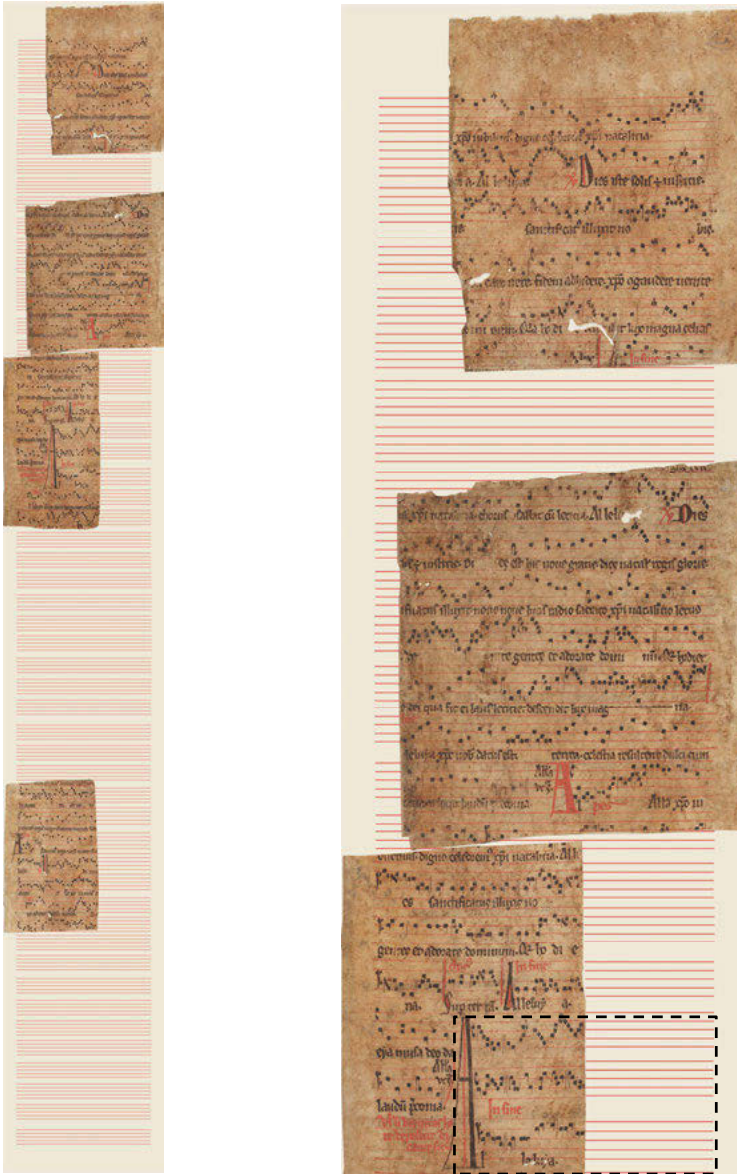


Fig. 4a–b: A reconstruction of Ob Rawl/B (a). The upper portion of Ob Rawl/B with the voice parts of the *Alleluia. Dies sanctificatus* indicated (b). Performance rubrics are given in red ink. A dotted box outlines the alternative ending; Bodleian Library, University of Oxford, MS. Rawl. C. 400*, fols 5^v–7^r; Creative Commons licence CC-BY-NC 4.0.

The *mise-en-page* in this setting also exhibits a flexibility that appears characteristic of the roll format. The alternative ending (indicated by a dotted box in Fig. 4b) is notated in score format with all three parts stacked one on top of the other in this short three-stave system, and begins after the ending of the tenor, which was squeezed into the beginning of two of the three staves of this system (the ending of the tenor is to the left of the dotted box in Fig. 4b). It is possible that the score format for the alternative ending reflects the *mise-en-page* of the scribe's exemplar, but the choice does make sense in this specific instance since all three voices in this alternative ending have the same rhythmic movement and no underlaid texts in the two upper voices. Thus the scribe saved parchment by squeezing this passage into a three-voice score format here.

Other rolls switch back and forth between music notated in parts and music notated in score format. For example, the recto of Cjc F.1* is notated in two columns in parts. On the verso, the first composition (only the ending of which is extant) appears to have been notated in parts, but the second composition, *En averil a tens / O Christe clemencie / T. [SUSTINERE] / [Quartus cantus]*, is notated in a mixture of score and parts (see Fig. 5 where the voice parts of the second composition are labelled; the triplum and motetus are in score, while the tenor is notated as a separate part). Furthermore, the music notation for the top voice (triplum) with the French text was never actually notated, affording us a peak into the process of copying a motet with bilingual texts, where the scribe perhaps had some issues with fitting the music notation to the French text, which was already underlaid.

On the other hand, the *mise-en-page* for Cgc 820/810 seems somewhat wasteful: the recto of the first fragment of this roll has a conductus, *Equitas in curia subrogatur*, which unusually is notated in parts in a two-column format. The normal *mise-en-page* for this sort of piece would have been to notate it in score, with the text only underlaid below the lowest voice since all the voices sing the same text. The scribe may have realised their mistake and decided not to continue copying on this parchment: the recto of the second fragment of Cgc 820/810 has the text of another conductus (*Fulget in ecclesia*) underlaid below the music staves, but the music notation has not been added, indicating that the parchment was discarded in the middle of copying (Fig. 6).

The third source in Table 2 that has a two-column ruling of staves is PRu 119/A, but again the scribe modifies this layout as needed: on the recto side of the *rotulus*, he joins up the two staves to form a single one when necessary to accommodate the tenor part.

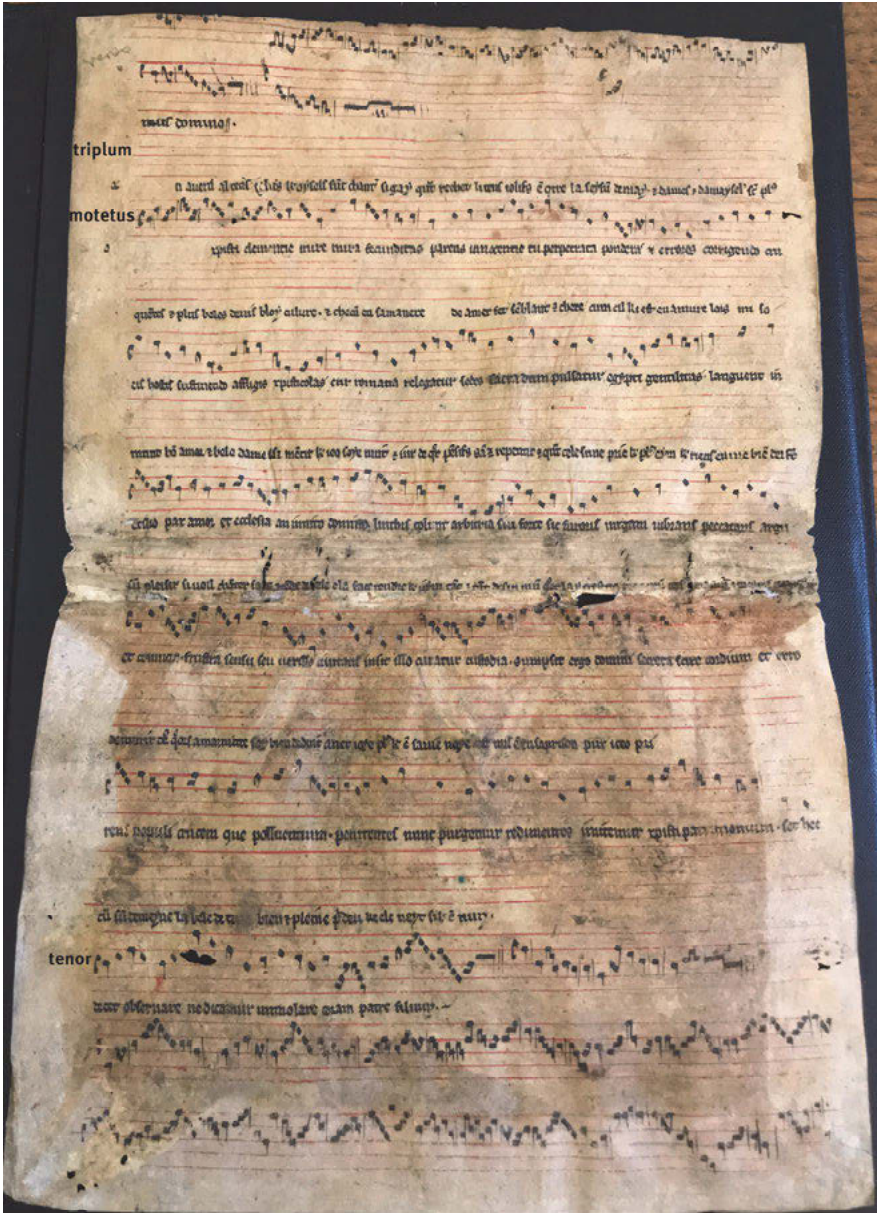


Fig. 5: Switching *mise-en-page* on the verso of Cjc F.1*. For the second composition, the triplum and motetus are in score, while the tenor is notated as a separate part (see voice labels in black). Cambridge, St. John's College, F.1*. By permission of the Master and Fellows of St John's College, Cambridge.

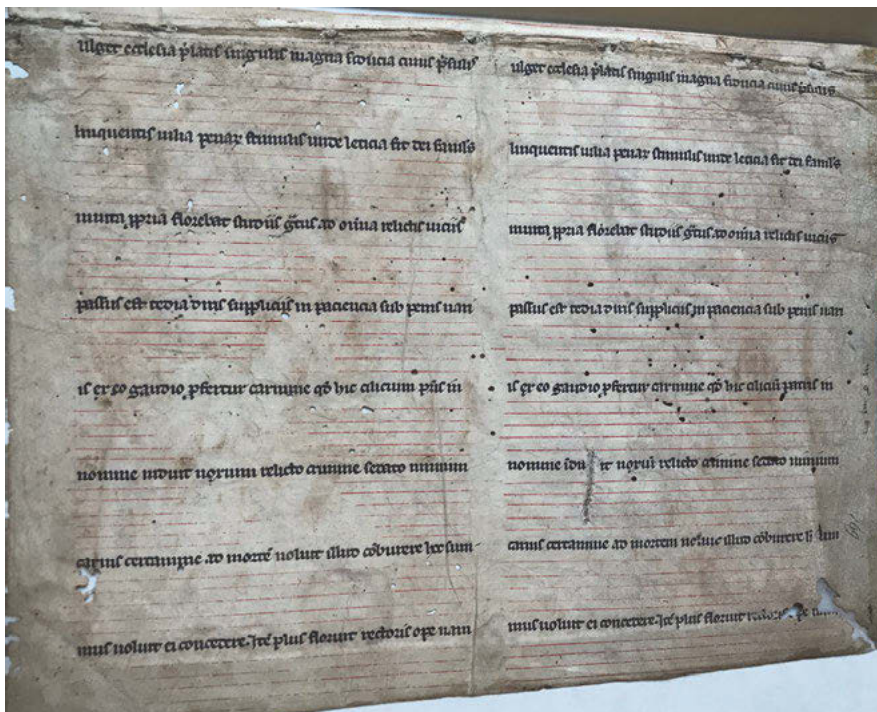


Fig. 6: Two-column format on the recto of Cgc 820/810 for the conductus *Fulget ecclesia* (music notation not filled in). Cambridge, Gonville and Caius College, 820/810. By permission of the Master and Fellows of Gonville and Caius College, Cambridge.

Layouts are flexible in rolls, then. That is, they seem to be more ad hoc and similar to the sorts of experimental page layouts that Deeming documents for the polyphonic compositions added to thirteenth-century English miscellanies. But beyond this, *mise-en-page* in the roll format may have prompted new conceptualisations about the relationship between the voice parts in these polyphonic genres and how the relationships between the voices were formed in their visual (and sounding) instantiations. In his analysis of motet layouts in the thirteenth and fourteenth centuries, Huck proposes a *rotulus* layout that bridges the two centuries and is indicative of a new conceptualisation of the motet. While he does not specifically analyse the layout of thirteenth-century English rolls, his analysis of the layout of continental rolls leads him to hypothesise that it is the roll format that first ‘shows the beginnings of a correspondence between

the unity of the motet and the unity of the writing (and reading) area'.³⁰ As mentioned above, the earliest codices to demonstrate Huck's 'unity of the writing/reading area' are the fourteenth-century manuscripts Hu and Fauv. However, as I have demonstrated here, even the earliest English roll copied in the 1240s allows an entire polyphonic composition to be viewable (and performable) within a single visual area.

4 Conclusion

The rolls considered in this case study are not particularly attractive. All of them are damaged due to their recycling as binding materials or document wrappers by thrifty scribes and precentors once their musical contents were regarded as obsolete.³¹ Even when they were first copied, they were all of a lower production quality than most extant thirteenth- and early-fourteenth-century music manuscript codices: their parchment is lower grade, initial decoration is mostly absent or infrequent and the text scripts are often not as practised as one might find in contemporaneous books of plainchant or polyphony. The music notation is generally very precise, however. And as described above, there are several instances of scribes making adjustments on the spot or realising mistakes and abandoning projects.

While the evidence does seem to point to the possibility of these rolls being used in performance, it is still difficult to say conclusively exactly how they were used. As mentioned above, the iconographic evidence supports their use in the performance of polyphony, and documentary evidence reveals that rolls were also used in other performative contexts as well.³² These rolls certainly appear to be closer to the act of composition than the large-scale anthologies in which polyphonic repertoires were eventually collected. But perhaps it is also possible to speak of the roll as allowing for an element of 'scribal performance', of acts of creativity and skill in the moment-to-moment execution of their craft. To push the metaphor a little further, if organising a collection of polyphonic music can be compared to fashioning a formal performance of a musical repertoire where the programme is thought out months ahead, the repertoire careful-

³⁰ Huck 2015, 21.

³¹ Wathey speaks of the relatively short shelf life of polyphonic music (Wathey 1998, 1).

³² Along with the probable use of rolls in music performance, Kelly discusses the documentary evidence of the use of the roll in dramatic performances and in the recitation of poetry (Kelly 2019, Chap. 5).

ly rehearsed and surprises kept to a minimum during the ‘performance’ itself, perhaps copying a *rotulus* is more like an informal performance or even an improvised one. With production-level codices, many decisions needed to be made ahead of time. The scribe had to have a plan for the musical genres to be copied, how many voice parts there were, what sorts of texts were to be underlaid and so on. But in the music we find copied on this particular set of rolls, there is evidence of on-the-spot decisions being made repeatedly, based on flow, context and trying out new ideas and approaches. The roll allowed the medieval music scribe – and possibly the composer as well – to visualise and ultimately hear polyphonic composition in new ways.

Manuscripts (arranged by sigla)

- Ber 55 – Berkeley, Castle Archive, Select Roll 55.
 Br – Brussels, Bibliothèque royale de Belgique, Ms. 19606.
 Cant 128/62 – Canterbury, Cathedral Library, Add. Ms. 128/62.
 Cgc 820/810 – Cambridge, Gonville and Caius College, 820/810.
 Cjc F.1* – Cambridge, St John’s College, F.1*.
 Cjec QB 1 – Cambridge, Jesus College, MS QB 1.
 Egerton 2104 – London, British Library, Egerton 2104.
 F – Florence, Biblioteca Medicea Laurenziana, Plut. 29.1.
 Fauv – Paris, Bibliothèque nationale de France, Français 146.
 Hu – Burgos, Monasterio de Las Huelgas, II [formerly IX].
 Koblenz – Koblenz, Landeshauptarchiv, Best. 701 Nr. 243.
 Lbl 5958 – London, British Library, Harley 5958.
 LR 2/261 – London, The National Archives, LR 2/261.
 Lpro 23 – London, The National Archives, E 149/7/23.
 Oas 56 – Oxford, All Souls College, MS 56.
 Ob Bodley 652 – Oxford, Bodleian Library, Bodley 652.
 Ob Lat. liturg. b. 19 – Oxford, Bodleian Library, Lat. liturg. b. 19.
 Ob Mus c 60 – Oxford, Bodleian Library, MS. Mus. c. 60
 Ob Rawl/A – Oxford, Bodleian Library, MS. Rawl. C. 400* (fols 1–4).
 Ob Rawl/B – Oxford, Bodleian Library, MS. Rawl. C. 400* (fols 5–8).
 Ob Rawl/C – Oxford, Bodleian Library, MS. Rawl. C. 400* (fols 9–10) + Ob Lat. liturg. b. 19 (fol. 4).
 Ob Savile 25 – Oxford, Bodleian Library, MS. Savile 25.
 Pic – Paris, Bibliothèque nationale de France, Collection de Picardie, 67.
 PRu 119 – Princeton, NJ, University Library, Garrett 119.
 W₁ – Wolfenbüttel, Herzog August Bibliothek, 628 Helmstadiensis.
 W₃ – Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 499.
 Wrocław – Wrocław, Biblioteka Uniwersytecka, Ak 1955/kn 195.

References

- Bent, Margaret, Jared C. Hartt and Peter M. Lefferts (2021), *The Dorset Rotulus: Contextualizing the Early English Motet* (Studies in Medieval and Renaissance Music, 23), Woodbridge: The Boydell Press.
- Boorman, Stanley (2018), 'The Sources', in Mark Everist and Thomas Forrest Kelly (eds), *Cambridge History of Medieval Music*, Cambridge: Cambridge University Press, 527–560.
- Brewer, Charles (1982), 'A Fourteenth-Century Polyphonic Manuscript Rediscovered', *Studia Musicologica Academiae Scientiarum Hungaricae*, 24/1–2: 5–19.
- Buygis, Katie Ann-Marie, A. B. Kraebel and Margot E. Fassler (eds) (2017), *Medieval Cantors and Their Craft: Music, Liturgy and the Shaping of History, 800–1500* (Writing History in the Middle Ages, 3), Woodbridge: Boydell & Brewer, York Medieval Press.
- Colton, Lisa (2011), 'Languishing for Provenance: *Zelo tui languet* and the Search for Women's Polyphony in England', *Early Music*, 39: 315–326.
- CRULH, 'ANR ROTULUS "Les « cartulaires-rouleaux » et leur fonction au sein des réseaux monastiques (France, XI^e–XV^e siècles)"', available at <<https://cruh.univ-lorraine.fr/recherche/projets-anr-en-cours/anr-rotulus>> (accessed on 22 June 2022).
- Deeming, Helen (2006), 'The Song and the Page: Experiments with Form and Layout in Manuscripts of Medieval Latin Song', *Plainsong and Medieval Music*, 15/1: 1–27.
- Deeming, Helen and Elizabeth Eva Leach (eds) (2015), *Manuscripts and Medieval Song: Inscription, Performance, Context, Music in Context*, Cambridge: Cambridge University Press.
- Desmond, Karen (2018), "'One is the loneliest number ...": The Semibreve Stands Alone', *Early Music*, 46: 403–416.
- Desmond, Karen (2020), 'William of Wycombe, the Rawlinson Fragments, and Writing English Polyphonic Prosulated Alleluyas c. 1250', *Journal of the American Musicological Society*, 73/3: 639–709.
- DIAMM, 'About Us', available at <<https://www.diamm.ac.uk/about/>> (accessed on 22 June 2022).
- Ferreira, Manuel Pedro (2016), 'The Medieval Fate of the *Cantigas de Santa Maria*: Iberian Politics Meets Song', *Journal of the American Musicological Society*, 69/2: 295–353.
- Haines, John and Stefan Udell (2018), 'Motets, Manuscript Culture, Mise-en-page', in Jared Hartt (ed.), *A Companion to Medieval Motets*, Woodbridge: The Boydell Press, 175–192.
- Holz, Stefan G., Jörg Peltzer and Maree Shirota (eds) (2019), *The Roll in England and France in the Late Middle Ages: Form and Content*, Leck: De Gruyter.
- Hoppin, Richard (1956), 'Some Remarks a propos of Pic', *Revue belge de Musicologie / Belgisch Tijdschrift voor Muziekwetenschap*, 10: 105–111.
- Huck, Oliver (2015), 'The Layout of the Early Motet', *The Journal of the Alamire Foundation*, 7: 11–32.
- Kelly, Thomas Forrest (1996), *The Exultet in Southern Italy*, Oxford: Oxford University Press.
- Kelly, Thomas Forrest (2019), *The Role of the Scroll: An Illustrated Introduction to Scrolls in the Middle Ages*, New York: Norton.
- Kügler, Karl (2008), 'Two Abbots and a Rotulus: New Light on Brussels 19606', in David Butler Cannata, Gabriela Ilnitchi Currie, Rena Charnin Mueller and John Louis Nadas (eds), *'Quomodo cantabimus canticum?': Studies in Honor of Edward H. Roesner*, Madison, WI: American Institute of Musicology, 143–182.
- Page, Christopher (1997), 'An English Motet of the 14th Century in Performance: Two Contemporary Images', *Early Music*, 25: 7–32.

- Phillips, Jenna (2019), 'Singers without Borders: A Performer's Rotulus and the Transmission of *Jeux Partis*', *Journal of Medieval History*, 45: 55–79.
- Summers, William J. (1983), *English Fourteenth-Century Polyphony: Facsimile Edition of Sources Notated in Score* (Munchener Editionen zur Musikgeschichte, 4), Tutzing: Hans Schneider.
- Summers, William J. and Peter M. Lefferts (2016), *English Sources of Thirteenth-Century Polyphony* (Early English Church Music, 57), London: Stainer & Bell.
- Wathey, Andrew (1993), *Manuscripts of Polyphonic Music: Supplement to B/IV, 1–2. The British Isles, 1100–1400*, Munich: G. Henle.
- Wathey, Andrew (1988), 'Lost Books of Polyphony in England: A List to 1500', *Royal Musical Association Research Chronicle*, 21: 1–19.

Matthieu Husson, Samuel Gessner

Astronomical Computation as a Performance: Determining Planetary Positions with the Manuscript Erfurt, Angermuseum, 3134

Abstract: In this paper we argue that hand computation is not a mechanical endeavour, especially in the case of the long and complex procedures that astronomers need to follow. On the contrary, in addition to specialised skills, it also requires choices and anticipation ‘on the spot’. These choices produce variations in the procedure followed and its meaning, as well as discrepancies in the numerical results, which can drastically change the description and comprehension of the celestial phenomenon under scrutiny. Our approach is to consider one specific manuscript and to reproduce the computations to the best accuracy of our historical knowledge. We show that, as historians, we cannot consider computations in the abstract, disregarding the manipulation of the manuscript, without essential loss of meaning and understanding. On the side of manuscript studies, by highlighting some features of these artefacts and their possible uses by historical actors, we demonstrate the way in which they become scientific tools.

1 Introduction

Fifteenth-century astronomers had at their disposal some of the most significant astronomical works from the Hellenistic period, Al-Andalus times, and the Latin Middle Ages. All these astronomical works share a ‘Ptolemaic’ approach, broadly construed. They nevertheless differ markedly in some structural details of the geometrical models and in the numerical values of certain parameters on which the computational tools depend. The numerical results they produce are clearly distinct in most cases. Yet despite the circulation of this variety of works in the fifteenth century, the then common practice of astronomical computations was to rely on just one family of such works. This family constitutes what we today call Alfonsine astronomy because these works derive from a table set that had begun to circulate in Latin around Paris, under the name of Alfonso X, king of

Castille in the 1320s.¹ While a given astronomer could in principle choose to compute celestial positions relying on non-Alfonsine material, those of the numerous yearly prognostications and horoscopes produced in this period, and that have been analysed, show Alfonsine positions.

It turns out that most of the several hundred astronomical manuscripts produced and assembled during the fifteenth century and extant in patrimonial libraries are ‘toolbox manuscripts’, as described in recent scholarship.² These typically consist of texts, numerical tables, diagrams and volvelles (moveable diagrams featuring rotatable parchment discs and threads). Their purpose is not only to propose an astronomical theory and a (mathematical) view of the cosmos, but primarily to provide the means to execute the long computations required to establish the celestial positions of the luminaries and planets, or to predict the time and number of eclipses. While some of these aggregations were based on the criteria of a book collector, or a librarian, some others can be singled out as being the idiosyncratic deed of an astronomical practitioner, or a group of university masters specialised in astronomy. These manuscripts were often assembled by the astronomers who used them.

The use that can be made of such a toolbox manuscript depends on the specialised skills, experience and habits of the astronomers as much as on what the manuscript objectively offers in tabular, instrumental or theoretical content. It stands to reason that the same material consisting of tables and instruments will be used differently, even if the aim were the same, namely, to compute planetary positions. In this paper we argue that hand computation is not a mechanical endeavour, especially in the case of the long and complex procedures that astronomers need to follow. On the contrary, in addition to specialised skills, it also requires choices and anticipation ‘on the spot’. These choices produce variations in the procedure followed and its meaning, as well as discrepancies in the numerical results which can drastically change the description and comprehension of the celestial phenomenon under scrutiny. We assume that the use of the same toolbox manuscript by a beginner would certainly have been different to that of an experienced expert in astronomical computation, particularly concerning the choices and anticipation. Understanding the non-mechanical dimension of hand computations as they were conducted by astronomers is the main reason why we approach them as a performance. We understand performance here as the execution of a task requiring specialised skills and implying choices which result in significant variations in the process and result of the task.

1 North 1977; Poulle 1984; Chabás and Goldstein 2003; Kremer, Husson and Chabás 2022.

2 Husson 2021a; Kremer 2022.

For the sake of simplicity, two of the potential sources of variations in the computation procedures and results will not be considered here. Both were probably obvious to historical actors, but bear little or no intentionality on their side. First, one can wrongly execute a given arithmetic operation, thus creating a variation in the computation procedure and probably its result. We will consider that astronomers did not intentionally produce this kind of errors, although this is not to say that their arithmetic rules were the same as ours. In fact, we know for sure that they used other numbers, quantities and arithmetic rules to those of today's mathematics. It is crucial to our analyses that we follow as closely as possible their arithmetical practices: converting all numbers to a modern format would in many cases erase or deeply transform the choices that astronomers had to make when computing. Second, astronomical computations relied on hand-produced texts, tables and instruments, which can show variants of different sorts in different witnesses. We are not comparing here the results of the same procedure executed with variants of the same tables or instruments as they may appear in different manuscript copies.³ Of course, a given astronomer could have different witnesses of the same work or even collate different versions of a procedural text or of a numerical table and select one which seemed fit in the context of a given computation. Many of these toolbox manuscripts show traces of such collation processes or even, though more rarely, instances of two copies of the same work in the same codex. Our point here is that while astronomers were aware of those discrepancies between manuscript witnesses and had strategies to address them, including explicit strategies of emendation of numerical tables, they would not intentionally create scribal randomness in their computational tools.

In this chapter the object of inquiry will be those sources of variation which imply some sort of intentionality lying between the supra-intentional level of the choices of a community (namely that of preferring Alfonsine astronomy against other astronomical traditions), and the infra-intentional arithmetical and scribal mistakes. Such sources include the choice of the computational tools within the Alfonsine tradition; the choice of the procedure to apply with these tools; and the way to handle approximation, interpolation between values, and precision. Our approach is to consider one specific manuscript and to reproduce the computations to the best accuracy of our historical knowledge. Along the way we analyse the various elements of choices left to the astronomer's appreciation, and the various ways in which the manuscript itself – given its material, visual and intellectual dimensions – orients or constrains these

³ For such analyses see Husson 2021b.

choices. We argue that, as historians, we cannot consider computations in the abstract, disregarding the manipulation of the manuscript, without an essential loss of meaning and understanding. From the point of view of manuscript studies, in highlighting some features of these artefacts and their possible uses by historical actors, we demonstrate the way in which they become scientific tools. From the history of astronomy perspective, we seek a more embedded understanding of astronomical computations, which constitute one of the central practices of the whole discipline.

In the first section we describe the manuscript selected for this analysis and justify our choice: Erfurt, Angermuseum, 3134. The following section is dedicated to the computations of five positions of the Sun and Venus on consecutive days around the spring equinox of 1459 in Erfurt. Each part is devoted to a different computational tool, respectively the *Parisian Alfonsine Tables*, the *Theorice novelle* and the *Tabule magne* (the latter two being included in the manuscript Erfurt, Angermuseum, 3134). These tools, all belonging to the Alfonsine tradition, will be presented in more detail in their respective parts. The *Parisian Alfonsine Tables* are the most widely used table set of the Alfonsine tradition and we use it as a point of comparison for the other two computation procedures.

2 The manuscript and its context

The manuscript codex Erfurt, Angermuseum, 3134, presents itself first as a leather and wood box that is 39 cm long, 35.5 cm wide, and a few centimetres thick. The box shows traces of four clamps, which were used to keep it closed. This leather and wood structure forms the fifteenth-century binding of a thirty-nine folio codex that combined parchment (fols 1–5, 12–13, 20–21, 27–28, and 32–39) and paper (fols 6–11, 14–19, 22–26, and 29–31).⁴ Since we had access only to pictures of the manuscript it is not possible for us to determine the exact quire structure of the codex. It is however clear that the document in its current state was assembled in the fifteenth century from different materials deemed to be pertinent by the astronomers who produced the codex.⁵ This is one of the frequent and characteristic features of such toolbox manuscripts.

⁴ Hauber 1916, 59–63.

⁵ See below for a suspicion of an undocumented restoration intervention in one part of the manuscript at least.



Fig. 1: Erfurt, Angermuseum, 3134, fol. 37^r. Theory of the motion of Mercury as a parchment volvelle. In its central volvelle the ‘children’ of Mercury are represented, including a musician, a sculptor, a painter, a writer, an astronomer and a smith (see Hauber 1916). Photo: Dirk Urban, 2023. Courtesy of Angermuseum Erfurt.

The visual configuration of the manuscript reflects its material characteristics. One can broadly distinguish two large sections of the document on a visual basis. The last one from fol. 32 to fol. 39 has a strong coherence on the level of material, visuals and content (Fig. 1). It was probably an independent codicological unit at some point in the process of production of the codex, although its *explicit* shows that it was completed in the same year, 1459, as were the other parts (fol. 37^v). This part contains no text, only a richly decorated series of volvelles (e.g. revolving paper discs attached to the page) dedicated to the computation of celestial positions, which probably deserve an analysis from an art history perspective along with those of astronomy and astrology. The first thirty-three folios of the codex appear as a more complex compilation, given its material and visual diversity. Generally, these folios have much less elaborate deco-

ration than that which is found in the last section of the codex. They contain tables, volvelles and texts presented in diverse ways (Figs 3–5). Tables and instruments are usually presented with two colours – black and red – but significant portions of tables use three colours – black, red, and blue – with a computational meaning attached to this use of colours, indicating different reading directions in the table (e.g. fols 10^r–13^v). The ruling used for the various tables is not uniform and also varies between the tabular and textual parts. While it might be very difficult to decide on palaeographical grounds whether different portions of the manuscript were copied by different hands, this seems highly probable to us. As the changes of hands and page layout do not correspond in obvious ways with the material structure of the codex, it is likely that different actors were cooperating in producing this first part of the manuscript.

Different elements allow us to situate the context of production of this codex with a fair level of confidence and accuracy. At several points in the document (fols 27^r–29^r) the mention of Erfurt and 1458 are attached to some specific astronomical parameters which astronomers call *radices* (‘roots’), and are possible initial values for astronomical computations. The historical actors mentioned in the manuscript were masters of arts at Erfurt University or linked to university institutions:

1. Wilhelm Muetlin of Wimppina (fol. 26^r).⁶
2. The ‘Bursa lapidis leonis’ (College of Steinlauden), the name of a master’s college in Erfurt located centrally, next to the town’s fish market (fols 26^r, 37^r).
3. Nicholaus Hartmut of Meiningen who was a *baccalaureus* at Erfurt University in 1454, he executed the seven Campanus type volvelles (fol. 37^r).⁷
4. Johannes Pistoris of Herrenberg, a master in Erfurt in 1450, he was the prepositus of the ‘Bursa lapidis leonis’ (fol. 37^r).

This link to Erfurt University is interesting because this centre was, with Leipzig, one of the early sites for the pursuit of astronomy in German lands. In the middle of the fifteenth century, it was well connected with many other universities with strong traditions in astronomy, like Paris, Oxford, Prague, Krakow, Padova and Vienna. From 1420 onwards, Erfurt and Leipzig Universities, like many others in Europe during the fifteenth century, had the ambition to publish yearly astrologi-

⁶ ‘finite Sunt hec tabule de veris et medijs motibus necnon tabule proportionum omnium planetarum per me Wilhelmum muetlin de vonipina anno domini 1459 Erffordie in bursa lapidis leonis’ (‘Here ends the table of true and mean motion, not the proportion tables of all planets, by me Wilhelm Muetlin of Wimppina on the year 1459 in Erfurt at the “Bursa lapidis leonis”’).

⁷ ‘Anno 1458 completo hec theorice de motibus septem planetarum Sunt finite per bacc Nicolaum’ (‘On the complete year 1458 these theories of the motion of the seven planets are achieved by Nicholaus baccalaureate’).

cal prognostications. These were complex documents that sought to anticipate the main meteorological, economic and political events of the coming year based on a detailed astrological analysis of the figure of the sky (essentially Sun, Moon and planetary positions as seen from a specific location) at key moments of the year like the solstices, equinoxes, possible eclipses, and so on.⁸ Before any such astrological analysis can be done, the luminaries' and planets' positions must be established. If we exclude the cases where this position was directly read on an ephemerides, this required extensive and highly specialised computations, entailing several days of work for an expert astronomer. These prognostications were therefore as much a demonstration of the mathematical, astronomical and astrological skills of those who produced them, as a document for the consideration of the educated public and political elite of those cities.

The established tradition of publishing annual prognostications was a relevant element of the production context of the manuscript, although not unique to Erfurt and Leipzig. More characteristic of these universities was the fact that the astronomers of this period showed particular interest in a certain type of astronomical instrument. They developed a novel type of *equatorium* (instrument for planetary astronomy) which appeared in these milieus for a few decades before vanishing. They named these instruments that were dedicated to the computation of planetary positions *Theorice novelle* (*New Theories*).⁹ Erfurt and Leipzig masters produced manuals for their production and use. Built instruments are also usually found as a collection of volvelles in a manuscript. Each volvelle can be used to perform computations to obtain a planetary position. They may or may not be accompanied by texts explaining their uses. This feature of the Erfurt and Leipzig astronomic communities singles them out in the overall late mediaeval astronomical tradition. In most cases, when an active community of astronomers was formed over a few generations of masters and disciples, they usually produced a new arrangement of the astronomical tables, which would become their central contribution. For Erfurt and Leipzig this contribution presented not as a table set, but as a new type of astronomical instrument which developed from 1458 to 1484, as extant sources indicate today.¹⁰ Only very few later copies are known, dating from the early sixteenth century.

One particular version of a *Theorice novelle* instrument is present in the Angermuseum manuscript. The first four folios contain the volvelles dedicated to the computation of the luminaries and planets. It is only on fols 27^r–29^v that a set of

8 Tur 2018.

9 Poulle 1980, 375–392.

10 Poulle 1980, 392.

tables and a procedural text indicating the use of the instruments is copied. Between these two portions of the *Theorice novelle* one finds a long tabular work: the *Tabule magne* of John of Lignères, a Parisian master of the 1320s. The *Tabule magne* themselves were not copied in one go. Near the last third, on fols 21^r–25^v, a long division table was inserted which did not strictly belong to John of Lignères's work, although it could be very useful for computing planetary positions. This way of combining different works into one composite unit was also very typical of toolbox manuscripts in general. We will see in the following section that this entanglement goes beyond the organisation of the content in the codex. It has concrete implications in the way the manuscript can be used as a computation tool, especially to adapt it to the local needs of the astronomer. As mentioned above, the last portion of the codex, from fol. 32^r to fol. 39^v, contains another type of planetary instrument which is a version of that initially designed by Campanus of Novara in his *Theorica planetarum*. This textbook was very common in mediaeval universities, and many versions of the *Campanus equatoria* are extant in manuscripts.¹¹ Some of the moving parts of the instrument are now lost so that it would be difficult today to actually use it to produce positions.

When John of Lignères composed the *Tabule magne* in around 1325 in Paris, he had the idea to associate it with an instrument for planetary computation of his own design. None of the twenty-four manuscripts that contain parts of the *Tabule magne* contain a copy of John Lignères planetary instruments. Thus, the close association of the *Theorice novelle* with the *Tabule magne* in the Erfurt, Angermuseum, 3134 manuscript is an interesting feature, which somehow revisits John of Lignères's initial idea with his work. We will thus follow the path suggested by the manuscript itself and compute positions for Venus and for the Sun using the *Theorice novelle* and the *Tabule magne*. This will also be a way to analyse the entanglement of the two tools in this specific context.

¹¹ Benjamin and Toomer 1971.

3 A few positions for the Sun and Venus

3.1 The *Parisian Alfonsine Tables*

The *Parisian Alfonsine Tables* are a set of astronomical tables contained in at least 174 manuscript witnesses from the fourteenth and fifteenth centuries.¹² At least six manuscripts containing this table set extant today were probably available in Erfurt during the fifteenth century.¹³ The total number is a measure of the success of this table set within the Alfonsine tradition: it appears to surpass the diffusion of the *Tables of 1322* by John of Lignères, of which a little more than sixty witnesses were identified. This large diffusion began in Paris around the 1320s. While this is the reason why modern scholarship included the word ‘Parisian’ in the title of this table set, astronomers in the fourteenth and fifteenth centuries were mostly referring to this work with expressions like ‘the tables of King Alfonso’. This points to a second essential historical fact about this table set: the elements originate in Al-Andalus and more specifically from the work patronised by King Alfonso X in the later part of the thirteenth century.¹⁴ The exact content of the *Parisian Alfonsine Tables* is subject to variations from one witness to another. It seems clear, however, that the tables pertaining to the topics of chronology, motions of the eighth sphere, and planetary motions are core elements.

The computation of planetary positions with the *Parisian Alfonsine Tables* followed a series of broad steps, common not only in Alfonsine astronomy but more generally in most of the works available to Latin astronomers. In first approximation, positions were computed as if the planets and luminaries had a constant motion: the mean motion. This provided a mean position which was then adjusted by one or two equations in order to find the true position of the celestial object. The important point in the context of this study is to note that the principle of successive approximations to the target celestial position was deeply inscribed in the logic of the computation. How these successive approximations were handled, not only on the level of the individual operations but also more broadly by the design of tools and procedures for computations, is an essential element of the choices that we want to analyse.

12 Figures for the number of manuscripts that attest to Alfonsine works provided in this paper come from a collectively established survey of about one thousand manuscripts collectively in the context of the ERC project ALFA. The survey will soon be available online.

13 Erfurt, Universitätsbibliothek, CA 2° 237, CA 2° 37, CA 2° 384, CA 2° 395, CA 4° 360, and CA 4° 362.

14 North 1977; Poulle 1984; Chabás and Goldstein 2003; Kremer, Husson and Chabás 2022.

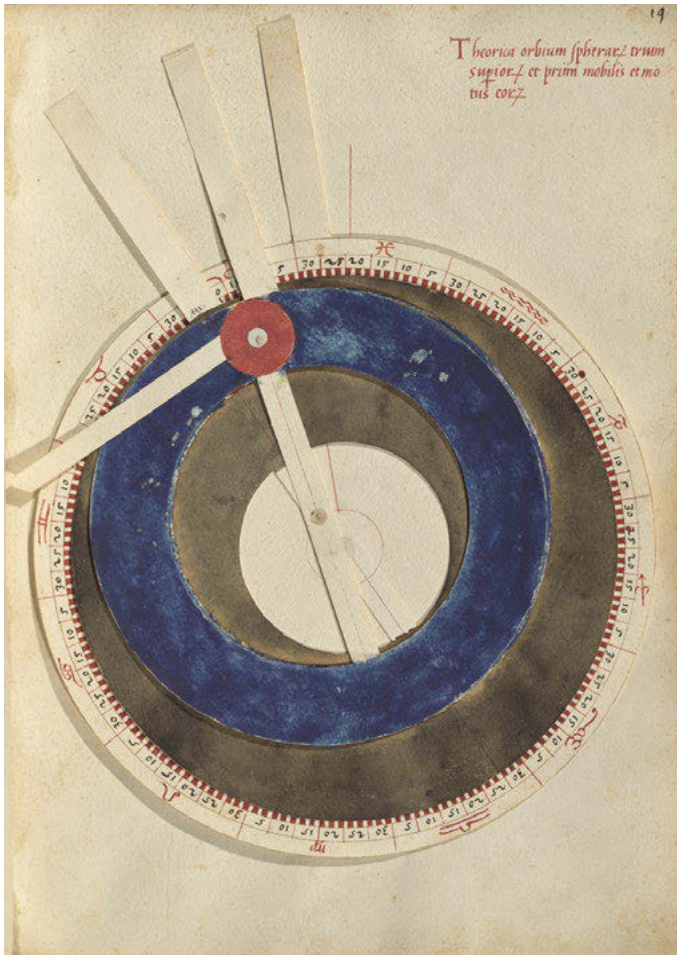


Fig. 2: Paris, BnF, Latin 7276A, fol. 19^r. See the eccentric blue ring for the equation of centre, and the epicycle red disc for the equation of argument. Courtesy of Bibliothèque nationale de France.

The computation of the mean position itself is broken down into several steps. First, one needs to know the root (*radix*) of the motions, which is the position of the celestial object at a specific date and place, its initial position. This information is usually found in the Alfonsine tradition in a dedicated table of roots (*radices*) for celestial motion. Then one must use a mean motion table in order to know how much the celestial object has moved between the date of the root and the date chosen for the computation. The addition of the root and the motion found in the mean motion table produces the mean position of the celestial

object. This mean position bears the information concerning the date and place of the computation. If the root is not set for the location for which you compute, you also have to consider the difference of meridians between the two places and add or subtract the mean motion of your celestial object during the time separating the two meridians.

Equations must then be applied to the mean position to take into account variations of the celestial object's velocity. These equations can be additive, if the celestial object happens to be faster than its mean motion, or subtractive, if the celestial object happens to be slower than its mean motion. Equations have a geometrical rationale and do not directly depend on the time and place of the computation. We illustrate this with a *volvelle* instrument of the Campanus type, clearly showing this rationale (Fig. 2). Note that this instrument is not part of the manuscript we are analysing here, and that we have selected it mainly for convenience, for the demonstration. The first equation, usually known as the equation of centre, depends on the eccentricity of the luminary or planet. You can see the eccentric blue ring on the folio in Fig. 2. The Sun, Moon and five planets have an equation of this type. As the planets and the Moon have a more complex motion they require a second equation, known as the equation of argument. It depends on the position of the planet on its epicycle, which is shown as the red circle on the folio in Fig. 2. This geometrical configuration has an important symmetry around the line joining the planet's apogee (the place where the planet is farthest from the Earth) and perigee (the place where the planet is closest to the Earth). This symmetry often plays an important role in the design of computation procedures for planetary positions. This is the case of the *Parisian Alfonsine Tables* one begins by computing the position of the apogee which is assumed to share the same motion as the fixed stars. Then, from the difference of the apogee and the mean position one deduces the equation of centre. In the case of the Sun, the computation stops after the mean position of the Sun has been corrected by adding or subtracting the equation of centre. In short, the computation of the solar position comprises the following steps:

1. Take the *radix* of the Sun.
2. Compute the Sun's mean position and adjust for your place.
3. Find the difference of the Sun's mean position and the apogee (previously computed or given).
4. Compute the Sun's equation.
5. Compute the Sun's true position by correcting its mean position with the equation.

In all the other cases, a second correction (equation) is needed. To obtain it, one has to find the mean position of the planet, or Moon, on its epicycle (the dot at the foot of the paper tab on the red disc, Fig. 2), a value generally named the ‘mean argument’ in mediaeval sources. From this value, and the previously calculated equation of centre, one computes the second correction, the equation of argument. The equation of argument depends both on the position of the epicycle (red disc) on the eccentric (blue ring) and on the position of the planet on the epicycle (the dot at the foot of the paper tab of the red disc, Fig. 2). It is thus a quantity dependent on two others. Such a mathematical relation between three quantities is not easily presented in a tabular format. In the *Parisian Alfonsine Tables*, as in all tables following the layout of Ptolemy’s *Handy Tables*, ‘equations’ for the Moon and the planets are presented as five dependent tables (all presented on the same grid and sharing the same argument column): one table for the equation of centre; one for the equation of argument; and three tables to interpolate and take into account the interdependence of the two equations which are named *minuta proportionalia* (‘proportional minutes’), *longitudo longior* (‘farther distance’), and *longitudo propior* (‘closer distance’). It is not essential here to explain in detail how this arrangement of tables works; we simply need to remember that it allows one to take into account the fact that when the epicycle is closer to the Earth, the effect of the planetary position on the epicycle is more important than when the epicycle is far from the Earth.¹⁵ Briefly put, in order to compute the position of Venus with the *Parisian Alfonsine Tables* one follows these steps:

1. Take the *radix* of Venus’s mean motion (epicycle position).
2. Compute Venus’s mean position and adjust for your place.
3. Find the difference of Venus’s mean position and the apogee (previously computed or given).
4. Compute Venus’s equation of centre (+ *minuta proportionalia*).
5. Take the *radix* of Venus’s mean argument (planet on the epicycle).
6. Compute Venus’s mean argument and correct it with the equation of centre.
7. Compute Venus’s equation of argument and adjust it according to the *minuta proportionalia* and *longitudo longior* or *longitudo propior*, depending on whether the epicycle is closer or farther than the mean distance from the Earth.
8. Compute Venus’s position by correcting its mean position with the equation of centre and the equation of argument.

15 Van Brummelen 1994.

To obtain a numerical reference against which to compare the astronomical tools in our manuscript witness Erfurt, Angermuseum, 3134, we have selected six dates around the spring equinox of 1459 and computed the position of the Sun and Venus for the Erfurt meridian with the *Parisian Alfonsine Tables*. It is not necessary to give the detailed computation here since only the results are pertinent for us here as a point of comparison (Table 1).¹⁶ Between 12 and 13 March the Sun is entering Aries, thus marking the spring equinox and the beginning of the (astronomical) year. Venus for its part is slowing down: from 9 to 10 March, it is making a progression of almost eight minutes, while from 12 to 13 March the progression is only thirty-one seconds (almost sixteen times slower). Venus is approaching its ‘stationary point’ and will soon after begin retrogradation, as can be seen with Venus’s position on 14 March. In other words, both the Sun and Venus are near astronomically important points of their trajectory. Finally, it is also significant to keep in mind that naked eye observation would typically not discriminate between differences in positions in the precision of arcseconds. The computations presented here are thus beyond what a fifteenth-century observer could assert. This is a mathematical endeavour.

Table 1: Positions in longitude of the Sun and Venus for Erfurt noon mean solar time, computed with the *Parisian Alfonsine Tables*. The positions are given in degrees in sexagesimal notation (signs of 60°, degrees; minutes, seconds of arc), where the semicolon separates the integer degrees from the minutes.

<i>Parisian Alfonsine Tables</i>		
	Sun	Venus
9 March 1459	5,56;43,47	29;33,13
10 March 1459	5,57;43,03	29;41,09
11 March 1459	5,58;42,15	29;47,15
12 March 1459	5,59;41,24	29;51,30
13 March 1459	0,0;40,32	29;52,01
14 March 1459	0,1;39,40	29;51,06

¹⁶ Values have been computed with the ‘astromodels’ spreadsheet of Richard L. Kremer and Lars Gilson, which can be downloaded from <<https://dishas.obspm.fr/resources>> (accessed on 18 July 2023). ‘Astromodels’ is based on Erhard Ratdolt’s princeps edition of the *Parisian Alfonsine Tables* dated 1483 (*Alfontij regis castelle illustrissimi celestium motuum tabule*). The time difference between the meridian of Erfurt and that of Toledo has been taken as one hour according to Kremer and Dobrzycki 1998.

3.2 The *Theorice novelle*

The *Theorice novelle* instruments were devised in the context of Erfurt University around 1450. This type of planetary instrument relies on general principles that are closely connected to those of the above computation with tables like the *Parisian Alfonsine Tables*. The two-step procedure of determining first a mean position and then one or two equations in order to find the true position is maintained. The mean position is found from a mean motion table and a root (*radix*). In the *Parisian Alfonsine Tables*, the time quantity with which one enters the table, and which corresponds to the amount of time between the date for which the root is fixed and the target date of the computation, is expressed as a sexagesimal number of days (and possibly some additional sexagesimal parts of days). This is quite peculiar. In contrast, most of the other table sets in the Alfonsine tradition expressed this time quantity in calendrical units of Julian years, months, days, and hours. This is also the case of the *Theorice novelle* in the Angermuseum manuscript. The roots for Erfurt and the (elapsed) year 1458 are also given in small tables.

While the mean motion part of the operation is obtained through tables, the equations are found through the manipulation of the volvelles and the reading of their scales (Fig. 3). Relying on several ingeniously designed uneven scales, one first reads an equation of centre from the instrument, and second an adjusted equation of the argument, taking into account the varying distance of the epicycle from the Earth (actually changing the size of the epicycle instead of changing its distance). There is a fixed external zodiacal scale serving as a reference for the position of the epicycle on the eccentric. Outside of this scale, a first uneven scale provides the equation of centre. The scale allowing the reading of the equation of centre has a step of 1° comparable to the step of the *Parisian Alfonsine Tables* for that quantity. A second uneven scale, with a step of 1, provides the *minuta proportionalia* and ranges from 0 to 6 on this instrument, while the corresponding table of *minuta proportionalia* in the *Parisian Alfonsine Tables* is much more precise, ranging from 0 to 60. Moreover, a centrally fixed moving volvelle can be adjusted with a paper tab, named the *almuri*, to the fixed zodiacal scale (on the upper part of fol. 3^r, Fig. 3). Pivoting on the same centre there is a second paper tab, the *regula*, used for the equation of argument (at the bottom of fol. 3^r, Fig. 3). A second-degree scale is found on this volvelle. It is divided both into natural signs (twelve times 30°) and physical signs (six times 60°), and serves as a reference for the position of the planet on the epicycle. A second more complex uneven scale associated with a bundle of converging straight lines is spread symmetrically over the volvelle disc. It allows the adjusted equation of argument to be read. This second uneven scale has a step of 1°

and is numbered every 3° (see the central part of the instrument in Fig. 3). We assume that interpolations between the marked graduations are made ‘visually’ when reading these scales. Step by step the value of each of these two equations is found, then added to or subtracted from the mean position by turning the *almuri* by the equation’s quantity, as the instrument scales themselves prescribe (the numbers on the scales are tagged by ‘a’, for addition, or ‘m’, for subtraction), until the true position results.

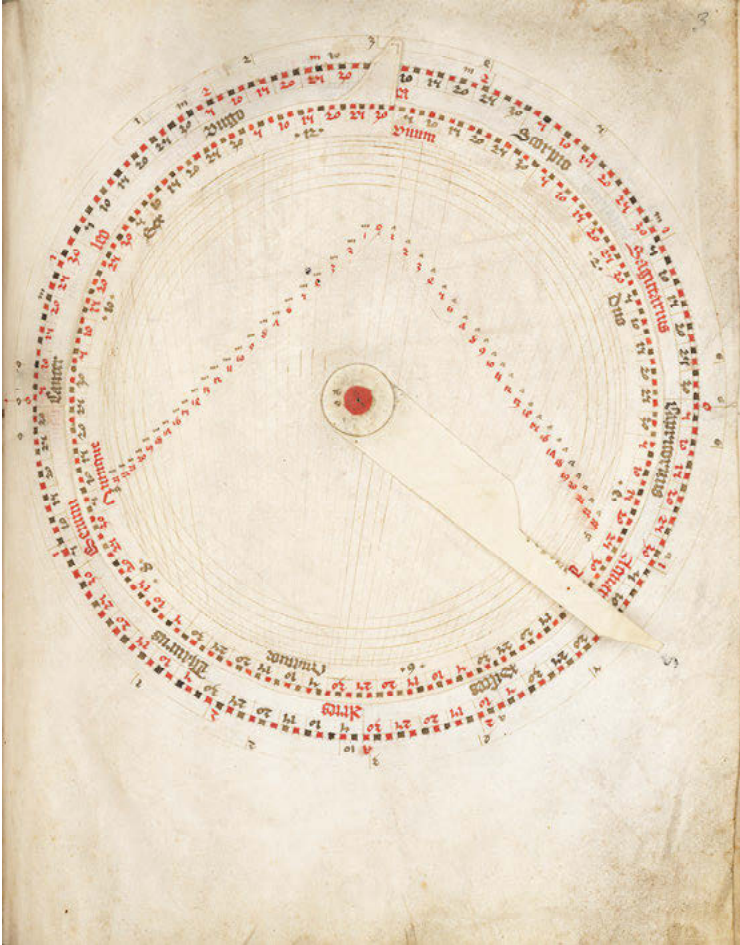


Fig. 3: Erfurt, Angermuseum, 3134, fol. 3^r. *Theorice novelle* for the Sun and Venus (during a restoration, the volvelle of Mercury, with maximum equation of c. 22° , has been wrongly inserted on this page during a restoration). Photo: Dirk Urban, 2023. Courtesy of Angermuseum Erfurt.

To compute a mean solar position at noon in Erfurt for 12 March (incomplete)¹⁷ 1459, one begins by reading on fol. 27^v the root (*radix*) of the Sun for Erfurt in 1458 *completo* ('complete'), meaning that 1458 Julian years have elapsed since incarnation at the time for which the root value is given. The value 4,48;31° is found. Then, on the same folio, one reads from the mean motion of the Sun table, the motion of the Sun for the first two elapsed months of the year, and adds the value of eleven elapsed days to it. This amounts to 1,8;59°. One then has to add the value of the root to the value of the mean motion in order to find the mean position. This produces 5,57;30. However, looking closely at the format of the numbers, the experienced astronomer will be able to deduce that they are expressed in physical signs of 60°, in the fashion of the *Parisian Alfonsine Tables*, from which these roots and mean motions were very likely computed. The outer scale on the *Theorice nouvelle* instruments uses natural signs of 30°. In fact, they are marked with their names (*aries, taurus, gemini*, etc.) rather than numbered. Thus, before entering the instrument scale, a conversion needs to be performed so that the mean position number depends on the same numeration system as the outer scale. Converted to natural signs of 30°, the mean position is 11s 27;30. While this conversion is a rather trivial operation, the scales of the argument on the epicycle of the instrument have a nice layout that mixes the 30° and 60° types of signs. This allows the conversion between the two notation systems to be obtained graphically.

To find the equation of centre for the Sun, one opens the codex on fol. 3^r where the instrument for Sun and Venus is inserted, and one adjusts the small paper tab of the central volvelle, named *almuri*, on the outer zodiacal scale to the required value of the mean position. In our case, it is *pisces* 27;30°. There is no need to look for the position of the apogee or perigee, for they are materialized on the instrument as the origin (zero) of the uneven graduation for the equation of centre. In other words, when the instruments were designed the apogees were fixed once and for all. They do not share the motion of the eighth sphere and fixed stars as they do in the *Parisian Alfonsine Tables*. Given the very slow motion of the fixed stars this approximation is of little numerical consequence if the instrument is used for dates close to the date for which the apogees were fixed. So once the *almuri* is positioned, one estimates from the outer uneven scale the value of the equation of centre. Our estimation is 2;7° in this particular case (Fig. 4). This estimation is by essence very subjective. It depends, specifically, on the understanding one has of the quantitative behaviour

¹⁷ According to the convention in the *Parisian Alfonsine Tables*, 12 March begins at noon. Correspondingly, the eleventh day has elapsed at 12 noon on the day that has the date 12 March.

of the equation of centre in the region of the scale where it approaches its maximum value. Given that the two authors have already spent several years examining tables and instruments of this kind, the proposed estimation is certainly informed by this long previous experience, perhaps not unlike an estimation made by the masters using this manuscript in the fifteenth century. Readers are encouraged to make their own estimation and experiment. The values of this equation's graduation are marked with an 'a', indicating that it must be added to the mean position to get the true position. This addition can be done in two ways. The first is by manually moving the *almuri* by $2;7^{\circ}$ in the positive direction and reading the true solar position from the scale at the *almuri*'s new position. When performing the addition manually (i.e. graphically) it is impossible to achieve accuracy by taking into account single minutes of the equation. Thus, in this case the true solar position obtained is around *pisces* $29;30$. One can also, however, perform the addition arithmetically. In this case the value *pisces* $29;37^{\circ}$ is found. For the sake of comparison with the *Parisian Alfonsine Tables* we will consider this second more precise value. This again is a subjective choice.

For some astronomical reasons which are not relevant here, Venus and the Sun share exactly the same mean motion and equation of centre.¹⁸ For the instrument design, this means that the Sun and Venus share the same volvelles. Only the equation of centre part is used when computing a solar position, while the central volvelle must be used to compute Venus's equation of argument. However, in the manuscript in its current state, the central volvelle of fol. 3^r is not that of Venus but that of Mercury. The volvelle for the equation of argument of Venus is found on the next page on fol. 3^v. We think this disorder is the result of a later undocumented 'restoration' of the instruments in the codex. This points to the fragility of these paper or parchment instruments with moving parts that could easily lose connection with their original location. As far as the computation is concerned, the first steps of computing Venus and solar positions are exactly the same. The mean position of Venus's epicycle centre is equal to the mean position of the Sun, so for Erfurt, noon of solar mean time on 12 March 1459, equals *pisces* $27;30^{\circ}$. Corrected with the equation of centre, this produces *pisces* $29;37^{\circ}$.

¹⁸ Pedersen 2011, 295–328.

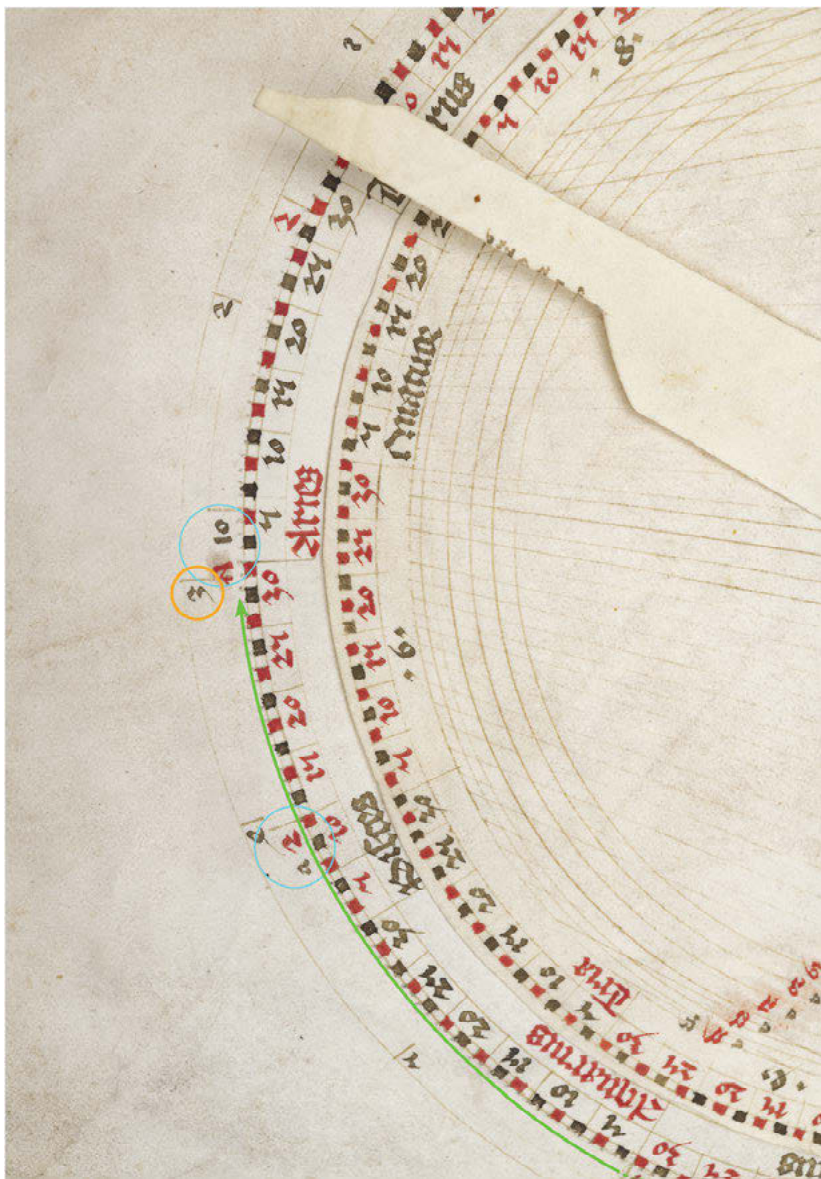


Fig. 4: Erfurt, Angermuseum, 3134, fol. 3', detail. The green arrows mark the mean position of the Sun 11s, 27;30'. The number 3, circled in orange, gives the value of the *minuta proportionalia* for this position. The two blue circles mark, 'a 2' and 'a 2;10', corresponding to the value of the equation of centres between which we visually estimate a value of +2;7°. Photo: Dirk Urban, 2023. Adapted and annotated by the authors. Courtesy of Angermuseum Erfurt.

To obtain the second equation of this position one needs to compute Venus's position on its epicycle (true argument). The corresponding process using the *Theorice novelle* instrument is very similar to the one we have already described starting with mean motion. On the folio opposite the one with the mean solar motion, fol. 28^r, one reads the root of Venus's argument as 2,4;56°. Using the table on the same folio one adds up the mean motion for two months and eleven days, yielding a mean motion of the argument of 1,13;19°. Adding the root and the mean motion of Venus's argument produces 2,48;15°. Now, the *regula* (the long, centrally fixed paper ruler) is positioned at the same step as adjusting the *almuri* on the solar mean position. That means that one uses the mean motion information from the tables on fols 27^v and 28^r, gathered in advance, to set the two volvelles of the instrument (*almuri* and *regula*) to their initial position. One begins by setting the *almuri* to the mean position of the Sun, holding the *almuri* with the 'epicycle' volvelle to which it is attached in its position. One then adjusts the *regula* to 2,48;15° on the scale inscribed on the rim of the 'epicycle'. As before, because this scale is graduated in natural signs of 30°, one can convert 2,48;15° into this format, that is, 5s 18;15°. Alternatively, as the signs of 60° are also marked on that scale, one could enter directly with 2,48;15°.

This is the moment when a crucial operation with the volvelles needs to be carefully performed. While the *almuri* of the 'epicycle' volvelle is moved from the mean position of Venus (and the Sun), that is, *pisces* 27;30, to the true position by manually/graphically adding the equation of centre 2;7°, it is crucial that the previously set *regula* be maintained in its absolute position in order to obtain *pisces* 29;37. This shift will automatically affect Venus's argument: it amounts to graphically subtracting the equation of centre 2;7° from the mean argument of Venus 5s 18;15°. Although the scale division is not detailed enough, showing slightly more than 5s 16;0°, a trained computer will quickly mentally subtract the numbers and find 5s 16;8° for the true argument of Venus. Once this is done, it is possible to read on the outer scale of the fixed zodiacal ring the *minuta proportionalia*: 3, in our case.

The configuration of the instrument now allows one to use the last uneven scale and read the equation of the argument (Fig. 5). One first looks at which of the three concentric circles corresponds to the *minuta proportionalia*. In our case, with a value of 3, the central concentric circle is selected. Then from this circle one follows the closest lines in the bundle of straight lines and reads off the equation of argument, finally interpolating by a graphically estimating a value. In our case this produces 28;0° with a sign 'a' of addition. The final step is a simple addition of 28;0° to *pisces* 29;37°, which produces *aries* 27;37° or simply 27;37° because *aries* is the first zodiacal sign.

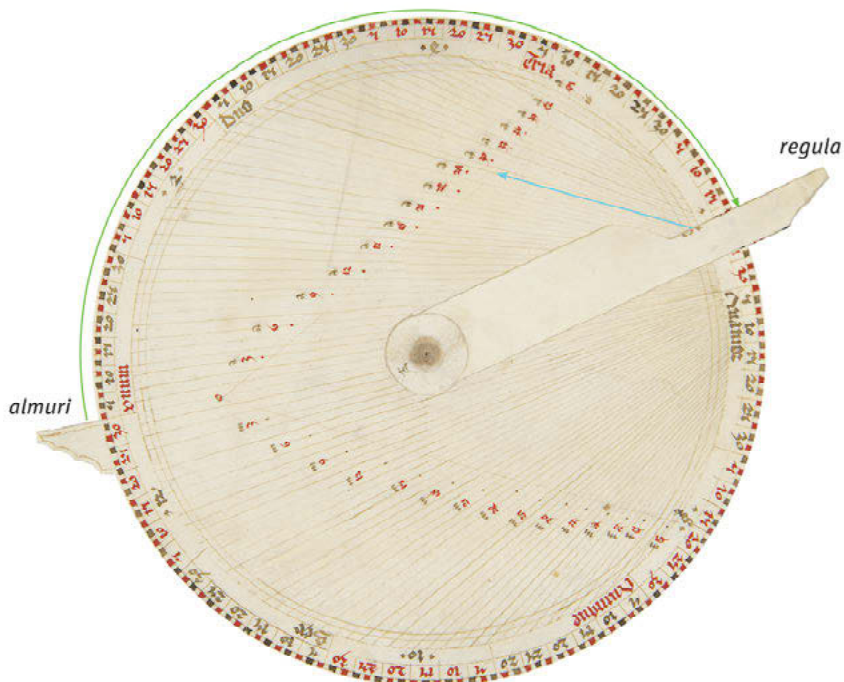


Fig. 5: Erfurt, Angermuseum, 3134, fol. 3^v, detail. The green arrow marks the true argument of Venus $5s\ 16;8^{\circ}$ between the *almuri* and the *regula*. Selecting the inner circle corresponding to the value 3 of the *minuta proportionalia*, one follows the closest straight line from there to the v-shaped graduation in the centre of the volvelle and reads ‘a 28’. This is the value (*a* for additive) of the equation of argument in degrees. Photo: Dirk Urban, 2023. Adapted and annotated by the authors. Courtesy of Angermuseum Erfurt.

Examining the positions on successive noons between 9 and 14 March obtained with the *Theorice novelle*, two things come to the mind (Table 2). First, while the spring equinox occurs between 12 and 13 March as with the *Parisian Alfonsine Tables*, in comparison the Sun appears to be slightly behind with the *Theorice novelle*. A more striking difference concerns the behaviour of Venus. While using the *Parisian Alfonsine Tables* Venus was slowing down in direct motion before reaching a stationary point, the *Theorice novelle* Venus is neither stationary nor direct or retrograde but somehow erring randomly between these different states. Such behaviour cannot be ascribed to the real motion of Venus. In fact, astronomers in this tradition usually assume that the first differences of any astronomical quantity should change slowly and smoothly. This assumption grounded their practices of interpolation and some of their practices of

table emendation. In our case, these assumptions completely exclude, even on purely mathematical grounds, the behaviour here witnessed for Venus. Thus, in all likelihood, Erfurt masters would have identified it as a mathematical artefact pointing to the structural limit of their instrument.

Numerically, this erratic behaviour occurs because the order of magnitude of the approximation made during the interpolation operations are similar to the order of magnitude of the variation of the quantity that is interpolated. This occurs when the quantity is near one of its boundaries and when the step of interpolation is too large. This computational phenomenon, we surmise, was probably familiar to many astronomers. However, the cost of overcoming it is high, and there are only two options. First, one can refine the step of interpolation, which would require changing the instrument, being able to compute a more precise and accurate value of the target quantity and being able to draw more precise scales. Or, one can try to improve the interpolation procedures themselves to adapt them to these situations, which is a non-trivial mathematical problem. Both of these strategies were adopted by different astronomers, including John of Lignères in his *Tabule magne*.

Table 2: Position for the Sun and Venus with the *Theorice novelle*. While the Sun's position increases at a close to uniform pace, Venus shows erratic behaviour. It seems to move backwards, slowing down dramatically, then moves forwards and backwards again.

	<i>Theorice novelle</i>	
	Sun	Venus
9 March 1459	<i>pisces</i> 26;39	<i>aries</i> 28;9
10 March 1459	<i>pisces</i> 27;39	<i>aries</i> 27;39
11 March 1459	<i>pisces</i> 28;38	<i>aries</i> 27;38
12 March 1459	<i>pisces</i> 29;37	<i>aries</i> 27;37
13 March 1459	<i>aries</i> 0;37	<i>aries</i> 28;37
14 March 1459	<i>aries</i> 1;36	<i>aries</i> 27;36

3.3 The *Tabule magne*

The *Tabule magne* were composed and compiled in around 1325 in Paris by the Parisian master John of Lignères. They had a much more modest diffusion than the *Parisian Alfonsine Tables* (twenty-four known witnesses) but a considerable reception nonetheless, as in the mid-fourteenth century they inspired in one way or another the *Oxford Tables*, an important table set of the Alfonsine tradi-

tion.¹⁹ The *Tabule magne* adhere to the overall structure of planetary computation: the mean position is determined first, then adjusted with an equation in order to obtain the true position. Unlike the *Theorice novelle*, they use exclusively natural signs of 30°. Usually, the roots and positions of the apogees are given for Paris in dedicated tables. Interestingly, these tables for the roots and the apogees, not directly pertinent for Erfurt, were not copied in the Angermuseum manuscript. Instead, to use the tables one has to rely on the roots given in the mean motion tables for the *Theorice novelle* and, on the apogee, values that can be read on the instrument dials. In particular, in this configuration the apogees of the *Tabule magne* are fixed once and for all, and the approximation inherent in the *Theorice novelle* will also affect the *Tabule magne*. This shows that the entanglement of the works contained in the manuscript also impacts the way the computation can be performed. By not including the roots for Paris belonging to the *Tabule magne*, a selection is made, which adapts the toolbox for the location of Erfurt. More prosaically, this will also imply some further number conversion between the systems of natural and physical signs.

The main feature of the *Tabule magne* concerns the treatment of the equations (except for the Sun). Instead of two successive equations which then need to be combined through a complex procedure and the use of three auxiliary tables, John of Lignères prepared a single large double-argument table. The two arguments are the mean centre and the mean argument. Entering the table with these directly gives the values of the equation of centre and the equation of argument combined. These tables are generally presented with steps of 6° for the value of the mean centre (position of the centre of the planet's epicycle) and mean argument (position of the planet on its epicycle). In the cases of Venus and Mars, however, a step of 3° is used for the argument around the value where the equation of argument reaches its maximum. In other words, John of Lignères, probably tried to avoid or mitigate exactly the kind of numerical phenomenon seen in the case of the *Theorice novelle*. He used the above-mentioned first strategy of mitigation by refining the step of interpolation. John of Lignères also explored the strategy of working on the interpolation procedures. In fact, this was a necessity because no standard practices for double argument table interpolation were explicitly available in Paris during the fourteenth century. The instruction text circulating with the *Tabule magne*, not extant in our manuscript but extant in other manuscripts, presents two distinct interpolation pro-

19 North 1977.

cedures.²⁰ It is sufficient for our argument here to rely only on the simpler one of these two procedures.²¹

In order to compute the position of the Sun in Erfurt for 12 March 1459, one first looks for the root of the Sun's motion on fol. 27^v in the small tables copied with the *Theorice novelle* instruction text. The value 4,48;31° (corresponding to the Sun's position at the very end of the year 1458) is found, which needs to be converted in natural signs of 30° in order to operate within the *Tabule magne*. This produces 9s 18;31°. One then reads from the mean motion tables on fol. 6^r the mean motion of the Sun for two months and eleven days, to obtain 2s 8;59,43°. Added to the root of the Sun motion this gives a mean solar position of 11s 27;30,43°, after which the position of the apogee must be read on the volvelle of the Sun and Venus on fol. 3^r. As the scale is divided into degrees, the value cannot have a precision beyond a simple fraction of one degree; it is approximately 3,1;0°. This value is then subtracted from the Sun's mean position, which produces 8s 26;30,43°, corresponding to the Sun's 'mean argument': the mean anomaly. Reading and interpolating from the single-argument table of the solar equation on fol. 21^r, one finds a solar equation of 2;10,0° with this value. The true solar position, finally, is obtained by the addition of the equation to the mean position, that is, 11s 29;40,43.

As before, the computation of Venus's position begins with exactly the same steps so that the mean position of the centre of Venus's epicycle is 11s 27;30,43° and the 'mean centre' of Venus is found by subtracting the apogee read on the scale of the *Theorice novelle* instrument. Venus's mean centre equals the mean anomaly of the Sun, 8s 26;30,43°. The root of Venus's mean argument (position of Venus on its epicycle) is read on fol. 28^r in the small tables associated with the *Theorice novelle* which give, as above, 2,4;56° or 4,4;56° when converted to natural signs of 30°. Using the mean motion table of the *Tabule magne* on fol. 6^r to find a mean motion of the argument is easy, as it presents the final value for each calendar day of the year. Entering at 11 March (completo), which corresponds to noon on 12 March, one finds a mean motion of argument of 1s 13;9° which, added to the root, gives 5s 18;5 as the mean argument.

The mean centre, 8s 26;30,43, and the mean argument, 5s 18;5, are the values used to operate with the double-argument equation table for Venus of the *Tabule magne*. In the corresponding area of the table the steps are respectively 6° for the mean centre (step_cent), read horizontally, and 3° for the mean argument (step_arg), read vertically. In other words, one has to interpolate between the columns under the headings 8s 24;0° and 9s 0;0° for the mean centre and be-

²⁰ Erfurt, Universitätsbibliothek, CA 4° 349 and CA 4° 366.

²¹ For a comparison and description of the two procedures, see Husson 2012.

tween the lines labelled 5s 18;0° and 5s 21;0° for the mean argument. We have represented a simplified version of the situation in Table 3 (without the vertical tabular differences that are given in the manuscript, added in black ink). The simple interpolation procedure is based on the three values printed in bold in Table 3. Following the description of the canons, we name these three values from their respective positions in the table: *top_right*, *top_left* and *bottom_right* values. In addition to these three values one needs to compute or read the vertical difference (*diff_arg*) between 32;25 and 27;39, that is 4;46, and the horizontal difference (*diff_cent*) 32;25 and 32;21, that is 0;4. One needs also to compute the excess of the mean argument over the value of the heading by which one entered the table (*res_arg*), that is in our case, 5s 18;5 minus 5s 18;0, equal to 0;5, as well as the excess of the mean centre over the value in the heading of the table (*res_cent*), that is our case 8s 26;30,43 minus 8s 24;0, equal to 2;30,43. The simple interpolation procedure can be expressed by the following algebraic expression

$$eq = top_left + \frac{diff_cent \times res_cent}{step_cent} + \frac{diff_arg \times res_arg}{step_arg}$$

Table 3: Reading situation of Venus equation in the *Tabule magne* for 12 (incomplete) March 1459. In the column on the left, values of the mean argument (signs and degrees); in the top row, values of the mean centre.

		8, 24	9, 0
5, 18		32;25	32;21
5, 21		27;39	27;29

This algebraic formula involves executing divisions and multiplications as well as managing the positive and negative values of the differences. Rules for these steps are explained in detail in the procedural texts (canons), which are not included in the Anger manuscript, however. Each of these operations can be executed in different ways, especially the multiplication and division, for instance relying or not relying on the proportion table like the one found in our manuscript, transforming the numbers into decimal numbers or not, or using truncation or rounding differ-

ently in different steps.²² We have performed these computations with a truncated precision to the second. Other choices, especially using a proportion table or not, will give different results. We have not explored this layer of complexity here. In the case at hand and under these conditions the simple interpolation gives a total value for the equation of 1s 02;24,54 and then a true position for Venus of 29;51,37.

Table 4: Solar and Venus positions computed with the *Tabule magne*. Note that the number format (visible for the solar positions only) uses signs of 30°, which is consistent with the usage in the *Tabule magne*.

<i>Tabule magne</i>		
	Sun	Venus
9 March 1459	11s 26;43,42	29;26,23
10 March 1459	11s 27;42,19	29;30,38
11 March 1459	11s 28;41,32	29;37,19
12 March 1459	11s 29;40,43	29;46,05
13 March 1459	0s 0;39,51	29;45,47
14 March 1459	0s 1;38,59	29;45,29

Examining the positions produced for five successive days, one notices that the Sun of the *Theorice novelle* and of the *Tabule magne* have fairly similar behaviours when compared to the Sun of the *Parisian Alfonsine Tables*. The most intriguing series of discrepancies again appears in the case of Venus. With the simple interpolation, Venus reaches the stationary point some time between the noons of 12 and 13 March, after which the planet begins its retrogradation. The behaviour is a few days in advance compared to that of the *Parisian Alfonsine Tables* Venus but the series of values represents a motion consistent with theory.

4 Conclusion

By re-enacting a series of computations using astronomical tables and instruments available in one single historically bound codex, an obvious conclusion follows: fifteenth-century astronomers did not depend on the theoretical plane-

²² For a study of multiplication procedures in the context of Sanskrit mathematical sources, see the contribution by Agathe Keller in this volume.

tary models and certain traditional motional and structural parameters alone. The situation typically was much more complex. As soon as we consider computation as a practice performed with manuscripts, this insight becomes unavoidable. One realises that practical astronomers were confronted with a series of choices when performing their computations – choices that depended on the content available in a given manuscript and that often profoundly influenced the result and meaning of the computation.

The manuscript we have examined, Erfurt, Angermuseum, 3134, provides us with an illuminating example. At a first level, the physical examination of the document shows that the astronomers who assembled the manuscript deliberately chose to entangle two different works, the *Theorice novelle* and the *Tabule magne*, into one complex computational tool. This is the first level of choice and agency we have examined. The two works are complementary in many ways. The *Theorice novelle* are used as a means to adapt the *Tabule magne* to Erfurt rather than Paris. This is also achieved by not including in their copy of the *Tabule magne* the specific root tables which would link them to Paris. The *Theorice novelle* can serve to quickly find an approximate position while avoiding any arithmetic beyond addition and subtraction; interpolations are performed ‘visually’. The *Tabule magne* offers more precise results than the *Theorice novelle* and a considerable reduction of computational work, which also reduces the risk of mistakes as compared to the usual procedure with the *Parisian Alfonsine Tables*. Moreover, including two different tools to find planetary positions in one codex offers the possibility of cross checking and comparing the results obtained by each of them. While the *Tabule magne* with their double argument tables, completely bypass and transform the understanding of the respective role of the eccentric and epicycle, the *Theorice novelle* proposes an ingenious graphical-mechanical device to separately analyse the computational influence of each of these two components.

The fact that the manuscript affords various different procedures is the second level of agency that was analysed. Our guiding question here was: how could a fifteenth-century astronomer have proceeded to get planetary positions from the tools available in this one manuscript? What we have numerically explored, represents only a small portion of these possibilities. For instance, one could use the *Tabule magne* mean motion tables with the volvelle of the *Theorice novelle*. We have explored neither the effect of alternative interpolation procedures, nor different ways to compute division and multiplication when computing interpolation. Even by limiting ourselves to this rather small set of computational choices, the range of discrepancies between the results and, most of all, their drastic effect on the very nature of the predicted astronomical

phenomena is sufficiently clear. It is important to note that these differences appear even if the computational procedures give overall consistent results, usually diverging only within a few arc minutes, in rare cases up to one degree. Fifteenth-century astronomers, when adequately trained, were prepared to handle these discrepancies. They needed continuously to make choices resulting in discrepancies at this order of magnitude, for instance when doing an addition of numbers given with different precision, or deciding where to truncate the result from a division. Instruction texts of different kinds often contain warnings or advice on the importance of these choices. These practices, however, are mostly uncharted by modern scholarship and can only be analysed from the consideration of computations as performance with manuscripts. This highlights the extent to which performing and interpreting such computations depended as much on the document as on the astronomer's expertise.

Undoubtedly, adding more toolbox manuscripts to the analysis, considering more computation scenarios and computing more positions can only increase and never decrease the diversity of results and its potential astronomical and mathematical meaning for historical actors.

On both levels, the material, visual, and intellectual plasticity of the codex had a central role in allowing astronomers to compose their toolbox. In doing so they entangled tools they had recently composed with others established in their tradition for more than a hundred years, associating tables, texts and graphical elements that could then be combined in many different procedures. This custom-made capacity of the codex then afforded astronomers the opportunity to tailor their toolbox to their needs and to balance the mathematical and astronomical strengths and weaknesses of the different astronomical works they combined.

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Manuscripts

Erfurt,

Angermuseum,

3134

Universitätsbibliothek,

CA 2° 37

CA 2° 237

CA 2° 384

CA 2° 395

CA 4° 349

CA 4° 360

CA 4° 362

CA 4° 366

Paris,

Bibliothèque nationale de France,

Latin 7276A

References

- Benjamin, Francis S. and Gerald J. Toomer (eds) (1971), *Campanus of Novara and Medieval Planetary Theory: Theorica planetarum* (The University of Wisconsin Publications in Medieval Science, 16), Madison: The University of Wisconsin Press.
- Chabás, José and Bernard Goldstein (2003), *The Alfonsine Tables of Toledo* (Archimedes: New Studies in the History and Philosophy of Science and Technology, 8), Dordrecht: Kluwer Academic Publishers.
- Hauber, Anton (1916), *Planetenkinderbilder und Sternbilder: Zur Geschichte des menschlichen Glaubens und Irrsins* (Studien zur deutschen Kunstgeschichte, 194), Strasbourg: Heitz.
- Husson, Matthieu (2012), ‘Ways to Read a Table: Reading and Interpolation Algorithm in Some Early Fourteenth-Century Double-Argument Tables’, *Journal for the History of Astronomy*, 43/3: 299–319.
- Husson, Matthieu (2021a), ‘The Art of Astrological Computations: Conrad Heingarter and the Manuscript Paris, BnF latin 7295A’, in Jörg B. Quenzer (ed.), *Exploring Written Artefacts*:

- Objects, Methods and Concepts*, vol. 1 (Studies in Manuscript Cultures, 25), Berlin: De Gruyter, 513–529.
- Husson, Matthieu (2021b), ‘Computing with Manuscripts: Time between Mean and True Syzygies in John of Lignères’ *Tabule magne*’, in Matthieu Husson, Clemency Montelle and Benno van Dalen (eds), *Editing and Analysing Numerical Tables: Towards a Digital Information System for the History of Astral Sciences* (Ptolemaeus Arabus et Latinus – Studies, 2), Turnhout: Brepols, 425–468.
- Kremer, Richard L. (2022), ‘Exploring a Late-Fifteenth-Century Astrologer’s Toolbox: British Library Add MS 34603’, in Richard Kremer, Matthieu Husson and José Chabás (eds), *Alfonsine Astronomy: The Written Record*, Turnhout: Brepols, 107–141.
- Kremer, Richard L. and Jerzy Dobrzycki (1998), ‘Alfonsine Meridians: Tradition Versus Experience in Astronomical Practice c. 1500’, *Journal for the History of Astronomy*, 29/2: 187–199.
- Kremer, Richard L., Matthieu Husson and José Chabás (eds) (2022), *Alfonsine Astronomy: The Written Record*, Turnhout: Brepols.
- North, John D. (1977), ‘The Alfonsine Tables in England’, in Yasukatsu Maeyama and Walter G. Sater (eds), *Prismata: Naturwissenschaftsgeschichtliche Studien. Festschrift für Willy Hartner*, Wiesbaden: Steiner, 269–301.
- Pedersen, Olaf (2011), *A Survey of the Almagest: With Annotation and New Commentary by Alexander Jones* (Sources and Studies in the History of Mathematics and Physical Sciences), New York, NY: Springer.
- Pouille, Emmanuel (1980), *Equatoires et horlogerie planétaire du XIIIe au XVIe siècle: Les instruments de la théorie des planètes selon Ptolémée*, 2 vols (Centre de Recherches d’Histoire et de Philologie de la IV Section de l’École Pratique des Hautes Études, 5: Hautes études médiévales et modernes, 42; Collection des travaux de l’Académie Internationale d’Histoire des Sciences, 27), Genève: Droz.
- Pouille, Emmanuel (ed., trans.) (1984), *Les Tables Alfonsines: Avec les Canons de Jean de Saxe* (Sources d’Histoire Médiévale, 17), Paris: Édition du CNRS.
- Tur, Alexandre (2018), *Hora introitus solis in Arietem: Les prédictions astrologiques annuelles latines dans l’Europe du XVe siècle (1405–1484)*, PhD thesis, Université d’Orléans.
- Van Brummelen, Glen (1994), ‘Lunar and Planetary Interpolation in Ptolemy’s *Almagest*’, *Journal for the History of Astronomy*, 25/4: 297–310.

Jochen H. Vennebusch

The ‘Orchestration’ of Manuscripts: Ottonian Gospel Books from Bamberg Cathedral and Their Liturgical Use

Abstract: Bamberg Cathedral, the main church of the diocese founded in 1007 by King Henry II (r. 1002–1024), had one of the most impressive church treasures of the Ottonian period. It was not only endowed with precious liturgical vessels, but also with numerous Gospels books and Gospel lectionaries. Some of these codices were written in the early Middle Ages, well before the foundation of the diocese, whereas other manuscripts were produced around the same time, possibly even specifically for the cathedral and for its consecration. Among the latter are the manuscripts from the scriptorium of Reichenau Abbey. This article addresses the question as to whether the visual organisation of the Gospel books and Gospel lectionaries allows conclusions to be drawn about their use for the reading of the pericopes from the Gospels. In this context, both the primary adaptations already made in the scriptorium by means of signs or special script colours as well as the secondary adaptations like markings are examined more closely in order to work out whether a deliberate orchestration of the manuscripts for special occasions can be discerned.

1 Introduction

Apart from the Palatine Chapel in Aachen and Magdeburg Cathedral, no other church in Western Europe appears to be associated with the Ottonian emperors as closely as Bamberg Cathedral is. King Henry II (r. 1002–1024) founded the diocese of Bamberg in 1007 as part of his efforts to christianise the Slavs along the River Main. The chronicler Thietmar of Merseburg described the circumstances of this foundation at a synod held in Frankfurt:

Rex a puero quendam suimet civitatem Bavanberg nomine, in orientali Francia sitam, unice dilectam pre caeteris excoluit [...]. Postquam autem ad regni curam divina miseratione promovetur, semper tacita mente ibidem episcopatum construere gestit.

The King has loved his city of Bamberg in Eastern Franconia in a special way ever since his childhood and has favoured it more than others [...]. He planned permanently in private to set up a diocese there ever since God's mercy entrusted him with the care of the kingdom.¹

The construction of a splendid cathedral in Bamberg actually began in 1002 before the diocese was founded. When this building was consecrated on Henry's birthday in 1012, the church was endowed with a precious treasure including liturgical manuscripts such as Gospel books, Gospel lectionaries and sacramentaries, which were all necessary for the Divine Service. Thietmar mentions that the king assembled all these objects, which were needed to celebrate the liturgy, in Bamberg ('Omnia autem, quae ad divinum pertinuit ministerium, paulatim congregans').² Some of these manuscripts were commissioned and produced for this church, but others seem to have come from questionable sources. The chronicle of the monastery of Petershausen reports that Henry's men stole or extorted liturgical books from other churches:

Sed cum iam dictus rex Heinricus undecumque ex aliis ecclesiis queque necessaria erant at ditandum et ornandum locum quem construxerat studiosissime congregaret, multa loca rogando spoliavit, quousque locum suum ultra modum ditavit.

But since the aforementioned King Henry collected everywhere everything necessary for the enrichment and embellishment of the foundation he had set up from other churches with the greatest enthusiasm, he plundered many places until he had enriched his foundation to an extraordinary degree.³

It is very likely that Henry donated other liturgical books in addition to the stolen and extorted books from his own treasure to ensure his salvation and his own and his predecessors' *memoria*. It has often been explained that the redeeming agency of religious donations in the Middle Ages was particularly effective when these took the form of objects that were used in the liturgy: when a chalice or manuscript with its donor's depictions or inscriptions was permanently before the celebrant's eyes, the latter was reminded to intercede on behalf of the donor during the prayers and particularly during the *canon missae* when the donation was in very close proximity to the Blessed Sacrament.⁴ The Lord and the venerated saints to whom the objects were dedicated were believed to be aware of the donation in any case, but it was nonetheless reassuring

1 Trillmich 1962, 274 IV,30.

2 Trillmich 1962, 274 IV,30.

3 Feger 1978, 90 II,3. The English translation is my own.

4 Michalsky 2009, 391; Reudenbach 2012, 79–83; Berndt 2013.

to know that they were constantly reminded to be gracious and guide the donor to the Kingdom of Heaven. A medieval inventory of the cathedral treasure written by custos Udalrich in 1127 lists an enormous number of liturgical vessels along with twelve books that were decorated with gold and gems ('XII Libri auro et gemmis ornati').⁵ We do not know whether they were donated or depredated, but in any case, this treasure must have been one of the most precious collections of liturgical objects in the entire Ottonian empire.

In this study, we will focus on the various Gospel books and Gospel lectionaries from Bamberg Cathedral and the numerous traces of their liturgical use. These codices contain the four Gospels, i.e. four different accounts of the life of Jesus Christ, whom Christians believe to be the Son of God as well as the incarnate Word of God, according to Matthew, Mark, Luke and John. Short passages (pericopes) from the Holy Scriptures have been proclaimed and the deeds and speeches of Jesus Christ have been reported during the Divine Service since the earliest Christian times.⁶ Justin the Martyr (c. 100–165) explains the following in his *Apologia prima*, for example:

Ac solis, ut dicitur, die omnium sive urbes sive agros incolentium in eumdem locum fit conventus, et commentaria apostolorum aut scripta prophetarum leguntur, quoad licet ad tempus.

And on Sunday, as they call this day, an assembly of all who may live in the cities or in the countryside takes place, and the comments of the Apostles or the scriptures of the Prophets are proclaimed as long as time allows.⁷

This source suggests that the Gospels were proclaimed during the liturgy as early as the second century. In the first three centuries, no set rules existed on the choice of pericopes to be used and the passages were sequentially proclaimed in *lectio continua* style: the principal of the assembly stopped his proclamation at a certain point and continued it from that point onwards during the next service, perhaps, as Justin's remark might suggest, for as long as time allowed.⁸ In later times, the pericopes were chosen according to the occasion that was to be celebrated liturgically.⁹ This reading system was developed further in the middle of the seventh century, when the first traces of the *Capitulare evangeliorum* appeared, a list that compiles all the days of the liturgical calendar along

⁵ Cf. Bischoff 1967, 17–18 (no. 6).

⁶ Meyer 1989, 77.

⁷ Migne 1857, col. 430. The English translation is my own.

⁸ Klauser 1935, xi; Jungmann 1952, 510.

⁹ Vennebusch 2022 with further literature.

with the *capitulum* (pericope) corresponding to each feast or occasion.¹⁰ Even if the pericopes that had to be proclaimed were codified exactly, it was still quite difficult to find the particular passage because of the huge corpus of texts included in the list.

As mentioned above, the medieval inventory of the treasure in Bamberg Cathedral refers to ‘twelve books adorned with gold and precious stones’ (‘XII Libri auro et gemmis ornati’), and presumably several Gospel books and Gospel lectionaries were among them that were either produced for this church or ‘transferred’ to it from other churches. The question here is whether there are any traces of their ‘orchestration’. This rather unusual musicological trope is intended to describe the embedding and cues of various Gospel codices in the liturgical year. The Divine Service can therefore be regarded as a series of *micro-rituals* held throughout the liturgical year with a single score, the different manuscripts being distributed over the whole period of the *macro-ritual* of the church year. In order to develop a sense of how a manuscript could be customised for the place of its liturgical use, we will first take a look at the *Drogo Gospels*, a Carolingian Gospel book from the middle of the ninth century, which was made for liturgical use at Metz Cathedral. Then the Ottonian Gospel codices from Bamberg Cathedral will briefly be introduced before reflecting on the medieval liturgical use of the Gospel books and possible evidence of the ‘orchestration’ and co-ordination of the manuscripts.

2 Customising a Gospel book in the Middle Ages

Before introducing the *Drogo Gospels* (Paris, Bibliothèque nationale de France, Latin 9388), I shall briefly define the different ways of customising a manuscript (besides the inclusion of dedication miniatures). This phenomenon is closely linked to the *visual organisation* of Gospel books. The visual organisation subsumes the *mise-en-page* of the text and all the visual devices that structure the codex. Since they are multiple-text manuscripts (MTMs) that contain many different texts and paratexts all belonging to the corpus of a medieval Gospel book, this set of texts had to be arranged for the original purpose of the codex: the liturgical proclamation of particular pericopes on particular occasions throughout the liturgical year.¹¹ This was achieved by using different colours for the

¹⁰ Klauser 1935.

¹¹ Friedrich and Schwarke 2016, 15–16.

different structuring units (headings, *incipit* and *explicit* lines, and initial pages), by using different types and sizes of scripts for the particular kinds of texts and paratexts (Gospels, prefaces and indices), by using numerical indices and even miniatures. While these ways of customising a manuscript are normally original and can be traced back to the scribes in the scriptoria, there are later supplements such as notes, neumes and recitation marks that helped the deacon who had to proclaim the Gospel to find the right text and gave him an impression of how to recite it.¹² Furthermore, dedication miniatures often demonstrate that a manuscript was produced to be dedicated to a particular saint and made for a particular church and even a particular altar (Fig. 1).¹³ In summary, then, two different types and ways of adapting a Gospel book can be observed, which will be referred to as primary and secondary adaptation in the following. In the context discussed here, primary adaptation refers to the 'original' elements of visual organisation already written down or incorporated in the scriptorium. In contrast, secondary adaptation refers to making additions like neumes, signs or notes at a later date, usually at the place of use or destination of the codex.

The *Drogo Gospels*, a Carolingian Gospel book written between 845 and 855 in Metz, is an example of a manuscript with impressive traces of primary adaptation.¹⁴ Because this Gospel book has very similar ornamentation and artistic embellishment to the famous *Drogo Sacramentary* (Paris, Bibliothèque nationale de France, Latin 9428), which can be traced back to Bishop Drogo of Metz (801–855/856), the Gospel book is also assumed to have been commissioned by him. As we shall see later, while some Gospel books were probably adapted after their production at the place where they were used for liturgical purposes, the general visual organisation of the *Drogo Gospels* reflects specific liturgical requirements and indicates where the manuscript was (intended to be) used.

¹² Kathryn M. Rudy systemises different ways of customising a medieval manuscript with regard to late medieval prayer books and books of hours. She especially focuses on the later additions and augmentations. Cf. Rudy 2016.

¹³ On the dedication miniatures, see Prochno 1929.

¹⁴ Koehler 1960, vol. 3, 134–142; Jakobi-Mirwald 1998, 53–58; Laffitte and Denoël 2007, 200–203.



Fig. 1: The donor Hillinus presents his Gospels to St Peter as patron saint of Cologne Cathedral, Reichenau, between 1010 and 1020; Cod. 12, fol. 16'. © Erzbischöfliche Diözesan- und Dombibliothek Köln.

This codex is especially famous for its initials, which are part of an aesthetically sophisticated, double-page opening sequence to each of the Gospel texts: on each verso page, the symbol attributed to the respective evangelist forms the first letter of the Gospel with its body.¹⁵ The following text on the double page is written in a golden *capitalis monumentalis* (Roman square capitals) modulating to a golden uncial script in the first line after turning to the next page. The text continues in a dark brown Carolingian minuscule script, golden uncial letters indicating the beginning of a new sentence. While these initials have been analysed extensively, hardly any other details about this luxury manuscript have been studied so far. The opening sequences of the Gospels are not the only instances in which the strictly homogenous *mise-en-page* has been interrupted. A total of eight initials are inserted in the Gospels, all of which are followed by a passage written in gold ink rather than in brown. Unlike the beginnings of the three other Gospels, the Gospel of St John also opens with a long passage in golden uncial script. Four of the initials are splendid figurations adorned with vines and tendrils that span approximately seven lines. The spaces within the letters are filled with narrative scenes. In the upper register of the initial letter on fol. 19^r (a 'C'), the Virgin Mary is shown under a curtain that looks like a canopy, whereas in the lower register, Joseph, who is asleep on a chair, is receiving a revelation from an angel in his dream (Fig. 2). In contrast to the brown ink used for the main part of the text, fourteen lines following the initial are written in a golden uncial script. Furthermore, one can observe passages in a golden uncial script on fol. 19^v after an initial letter ('C') in which the Virgin Mary is depicted with Jesus in a cradle, on fol. 102^r after an initial letter ('H') in which Elizabeth is shown in childbed in the upper register, and the circumcision of John the Baptist is shown in the lower register and on fol. 103^r after an initial letter ('F') in which we see the Virgin Mary and Joseph looking for shelter in Bethlehem. In addition, there are four bigger ornamental initials dominated by green and golden colours (a 'V' on fol. 41^r, an 'I' on fol. 53^r, a 'P' on fol. 104^r and an 'E' on fol. 104^v) (Fig. 3). The text that follows is written in gold ink and an uncial script in all these cases. Additionally, the beginning of the Gospel according to John is an exceptional case: after the splendid zoomorphic initial letter, the first words of the Gospel are written in a golden *capitalis monumentalis* again (fols 150^v–151^r). After turning the page, we see another passage written in a golden uncial script (fols 151^v–152^r).

¹⁵ Gutbrod 1965, 100–103.

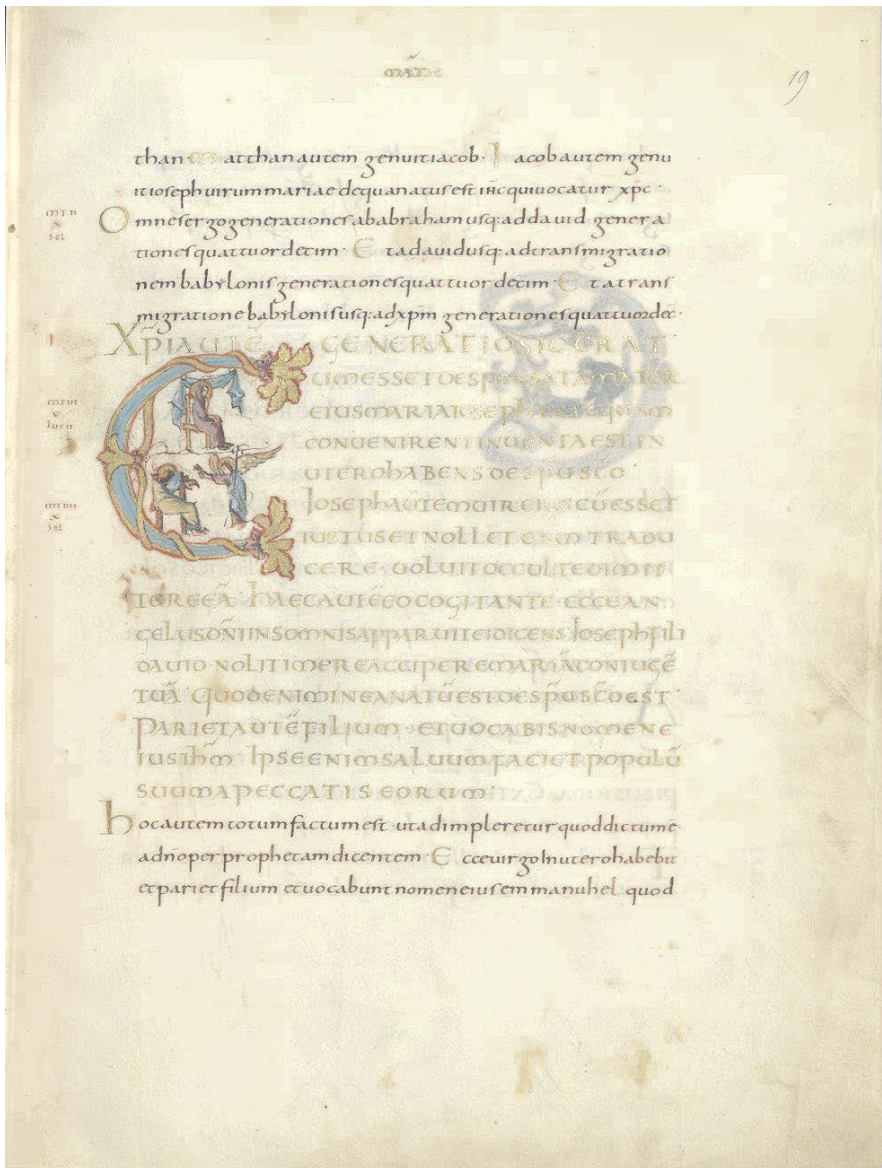


Fig. 2: Beginning of the pericope read at the Christmas Vigil, Metz, between 845 and 855. Paris, Bibliothèque nationale de France, Latin 9388, fol. 19^r. © Bibliothèque nationale de France.

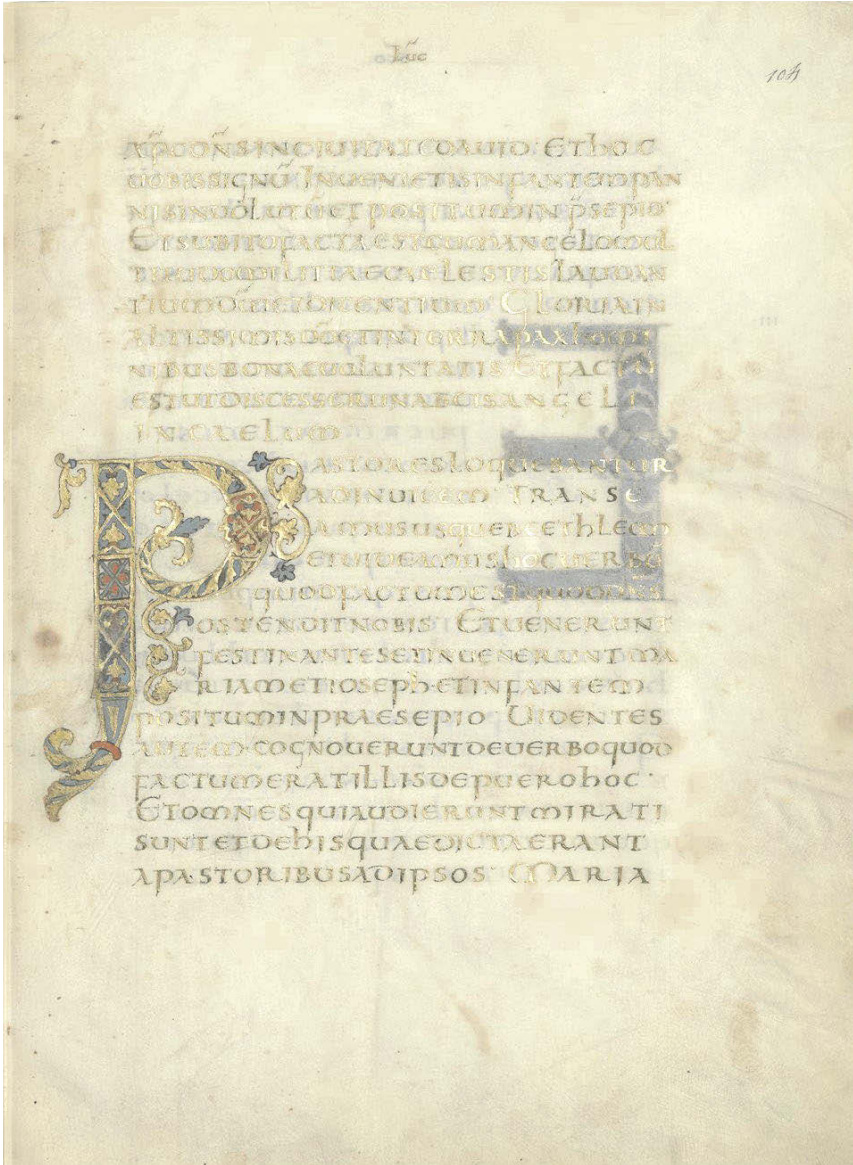


Fig. 3: Beginning of the pericope read at the morning Mass on Christmas Day, Metz, between 845 and 855. Paris, Bibliothèque nationale de France, Latin 9388, fol. 104^r. © Bibliothèque nationale de France.

The index of the *Capitulare evangeliorum* contains some important clues about the reason for this exceptional visual organisation. Almost all the days of the liturgical calendar and their related pericopes are listed in this index. A quick perusal of the list reveals that most of the pericopes initiated by these decorated initials and written in full in gold uncial script were read during the Christmas period. One initial indicates the pericope recited on the feast of St Steven (fol. 53^v), who is the patron saint of Metz Cathedral where this Gospel book was originally preserved. The last richly illuminated initial marks the beginning of the pericope that was proclaimed on the feast of St Peter and St Paul (fol. 41^r). Given these findings, it is possible to conclude that this kind of *mise-en-page* is a reference to the place where the codex was once used since pericopes relating to the relics of Peter and Paul, which were venerated in the cathedral, and relating to the patron saint of Metz Cathedral are emphasised pictorially and graphically. Furthermore, the visual organisation may indicate that this precious book with its very heavy binding was only used on feasts whose pericopes are distinguished by richly decorated initials and the golden colour of the ink. Unlike the feasts mentioned above, the pericopes proclaimed at Easter, the most important feast in Roman Christianity, did not receive any particular accentuation in the manuscript (fol. 188^r). The visual distinctions provided by the splendid initials and gold script may have served as effective navigational aids, helping users to identify both the beginning and the end of the pericopes. We should keep in mind, however, that Metz Cathedral, where the *Drogo Gospels* were used, was illuminated by candles during Mass, especially during the Christmas Vigil, so it is questionable whether the text written in golden ink could have been read at all in the flickering light. It is also possible that the pericopes were recited by heart and the shimmering characters in the open book were subsequently presented to the faithful. This emphasis may also stress that the Word of God, Jesus Christ, whose incarnation is commemorated liturgically at Christmas, is codified in the *Drogo Gospels*.¹⁶ Although some medieval Gospel books from Metz Cathedral have survived the centuries, no manuscript has come to light yet in which a complementary set of pericopes is accentuated, unfortunately – like those proclaimed at Easter or Pentecost, for instance. Therefore it is not possible to conclude that an ‘orchestration’ of Gospel books existed in Metz. Let us now turn to Bamberg Cathedral in order to analyse the ensemble of Gospel codices there and their possible coordination.

¹⁶ Vennebusch 2017.

3 The Gospel manuscripts of Bamberg Cathedral and their liturgical use

When Henry II died in 1024, his favourite church (where he was buried with his wife Kunigunde) possessed several Gospel codices. Unfortunately, the written sources – such as the aforementioned inventory of the treasure or a list with missing pieces from the treasure from the second quarter of the twelfth century – do not provide any detailed information, but just say 'Libri auro et gemmis ornati' ('Books adorned with gold and gems'),¹⁷ so we do not know whether these codices were Gospel books, Gospel lectionaries, sacramentaries, graduals or antiphonaries because they could all have been lavishly decorated with precious stones, gold and gems, as some of the Bamberg manuscripts still are today. If we now consider the extant manuscripts that are known to have been in Bamberg Cathedral around 1030, we will find eight Gospel codices and two Gospel lectionaries. Both types of books contain the four canonical accounts of the life, death and resurrection of Jesus Christ. But while the Gospel book includes the four Gospels in their entirety, the Gospel lectionary only contains the pericopes read during the Divine Service, the Mass, arranged not in the order in which they appear in the respective gospels, but mostly in the sequence in which they are read during the liturgical year.¹⁸

Around 1030, Bamberg Cathedral owned at least three Carolingian Gospel books: one codex written probably in southern Germany and dated to the first quarter of the ninth century (Bamberg, Staatsbibliothek Bamberg, Msc.Bibl.92) and two manuscripts from the second quarter of the ninth century, one written in Lorsch (Bamberg, Staatsbibliothek Bamberg, Msc.Bibl.93), the other in Mainz (Munich, Bayerische Staatsbibliothek, Clm 4451).¹⁹ The Ottonian Gospel books include a manuscript that was probably written in Corvey in the late tenth or early eleventh century (Bamberg, Staatsbibliothek Bamberg, Msc.Bibl.96).²⁰ Since this Gospel book is richly endowed with glosses from the Church Fathers, the Gospels themselves have virtually been marginalised. We can therefore assume that this manuscript was not primarily used for liturgical purposes, but possibly consulted for exegetical studies. Consequently, we cannot take this

¹⁷ Cf. Bischoff 1967, 19–20 (no. 7).

¹⁸ Palazzo 1998, 91–97.

¹⁹ Suckale-Redlefsen 2004, 47 (Msc.Bibl.92) and 51–52 (Msc.Bibl.93); Bierbrauer 1990, vol. 1, 115–117 (Clm 4451).

²⁰ Suckale-Redlefsen 2004, 145–146 (Msc.Bibl.96).

codex into consideration when analysing the manuscripts used liturgically. In addition, there are three Gospel books produced at the Benedictine Reichenau Abbey among the cathedral's treasure. One of them is the famous *Gospels of Otto III*, dated to around the year 1000 (Munich, Bayerische Staatsbibliothek, Clm 4453). The second one, Munich, Bayerische Staatsbibliothek, Clm 4454, dates to around 1010 and the third one is a manuscript produced around the year 1025 (Erlangen, Universitätsbibliothek Erlangen-Nürnberg, MS 12).²¹ Finally, we also find a Gospel book from Cologne, which was made in the second quarter of the eleventh century (Bamberg, Staatsbibliothek Bamberg, Msc.Bibl.94).²² Two Gospel lectionaries were incorporated into this ensemble as well: the first one, the famous *Pericopes of Henry II* (Munich, Bayerische Staatsbibliothek, Clm 4452), was produced on the island of Reichenau between 1007 and 1012 and the second one (Bamberg, Staatsbibliothek Bamberg, Msc.Bibl.95) was written in the Bavarian monastery of Seon shortly before the year 1012.²³ In the early eleventh century, the treasure of Bamberg Cathedral appears to have contained the truly astonishing number of ten Gospel books and Gospel lectionaries.

This begs the question of whether there is any evidence in the manuscripts of them being coordinated. In other words, is it possible to conclude that there was a particular distribution of the codices in their ritual use over the liturgical year by analysing the customisations in the visual organisation of the Gospel books (both the primary and the secondary adaptations)? And given that five Gospel codices were presumably produced once the diocese had been established and the construction of Bamberg Cathedral had already begun, are there any references to the place where the commissioned codices were to have been used in the liturgy? Since the Divine Service only includes one proclamation of a single Gospel pericope read from one codex, it is unlikely that all these Gospel codices were used in a single Mass. It is possible, however, that the other Gospel books that were not used that day were arranged on an altar or were on display elsewhere. There is pictorial evidence of baroque arrangements of the cathedral treasure during solemn services. A pen drawing by Joseph Clemens Madler from 1779 preserved at Bamberg State Library (Staatsbibliothek Bamberg) shows manuscripts with precious bindings behind the altar of Henry II and Kunigun-

²¹ Klemm 2004, vol. 1, 194–200 (Clm 4453) and 200–203 (Clm 4454); Berschin and Kuder 2015, 103 (Clm 4453) and 109 (Clm 4454); Keunecke 1993, 46 (no. 12) (MS 12).

²² Suckale-Redlefsen 2004, 137–142 (Msc.Bibl.94).

²³ Klemm 2004, vol. 1, 203–208 (Clm 4452); Berschin and Kuder 2015, 107 (Clm 4452); Suckale-Redlefsen 2004, 108–111 (Msc.Bibl.95).

de, who had been canonised by then.²⁴ This festive depiction of liturgical vessels, reliquaries and codices is not primarily a ritual performance at all, however, but rather a luxurious backdrop for the High Mass celebrated at the altar, which is surrounded by the items of treasure. Even if the arrangement depicted is an early medieval practice, the *Goldene Tafel*, which is the main altarpiece of the abbey church of St Michaelis in Lüneburg and was produced around 1420, documents that Gospels with splendid bindings were also incorporated into this kind of accumulated treasure ensemble in the Middle Ages.²⁵

In the case of Bamberg Cathedral, there are no lists that specify a particular manuscript had to be used on a particular day of the liturgical year. The liturgical embedding of the codices cannot be traced back to any other written sources either. Nor do the cathedral's various Gospel books themselves possess any entries that might give us some explicit hints as to their use during the Divine Service. Written sources such as lists of pericopes recorded in codices actually existed in medieval times. One of them was noted down on the pastedown on the front cover of the *Gundis Lectionary* (St Gall, Stiftsbibliothek St. Gallen, Cod. Sang. 54) produced at St Gall around the year 900 and very probably donated by a woman called Gundis, as the textile fragment that was pasted underneath the list indicates (Fig. 4).²⁶ Under the headline 'In hoc libro legendum est' (literally, 'From this book must be read'), the list contains all the occasions on which this codex was supposed to be used in the liturgy. While the texts in the lectionary are written in a Carolingian minuscule script, the script used for this entry is a Rotunda, which was used in the high Middle Ages. Thus we can conclude that this short list is a supplement that was added a long time after the manuscript was originally produced. It therefore appears that only a few pericopes were read out of this precious manuscript at the time the short list was written. This is all the more remarkable since the manuscript, being a Gospel lectionary, only contains the isolated sections that were proclaimed during the liturgical year. The entry proves that the *Gundis Lectionary* was actually used in the liturgy – at least in the high Middle Ages. This evidence is significant because it is often doubted that precious Gospel books were used at all for the proclamation of the Gospel in the liturgy, as there are rarely traces of codices having been adapted for prac-

²⁴ Cf. Dressler 1995, 108.

²⁵ On the *Goldene Tafel* from Lüneburg see Wolf 2002, 220–226; Köllermann and Unsinn 2021; see on the Gospel books displayed in the *Goldene Tafel* Stuttgartmann 1937, 39–62; Brandt and Eggebrecht 1993, 304–308 [Ulrich Kuder]; Marth 1994, 24–27.

²⁶ Von Euw 2008, 152–154. Many thanks to Philipp Lenz (Abbey Library of St Gall) for this valuable contribution.

tical handling by adding primary or secondary adaptations like neumes, signs or notes, which all facilitate the use of the manuscript, for example.²⁷

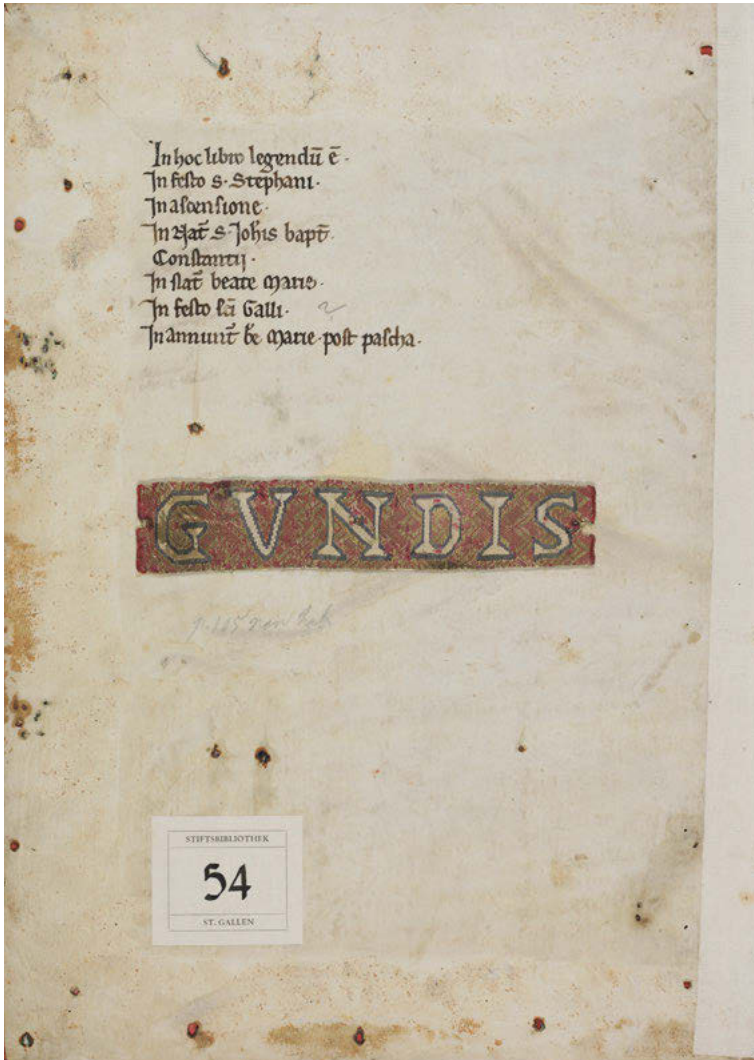


Fig. 4: Inner front cover with high medieval list of pericopes, St Gall, c. 900. St Gall, Stiftsbibliothek St. Gallen, Cod. Sang. 54. © Stiftsbibliothek St. Gallen.

²⁷ Mayr-Harting 1991, 191–193.

With regard to Byzantine Gospel books from the seventh and eighth century, Gerard Rouwhorst remarked: 'The main problem is that the Greek biblical manuscripts that date from this period do not contain any paratextual information concerning the liturgical functions these manuscripts might have fulfilled'.²⁸ Consequently, the liturgical use of these codices has often been negated completely, some scholars arguing that the codices were exclusively used as a ritual and material substitute for Jesus Christ in the liturgy that was incensed, kissed and put on the altar like on a throne.²⁹ After analysing written sources for the Byzantine reading practice of the Gospel pericopes in the liturgy, Rouwhorst counters that *lectio continua* was the dominant way of proclaiming these passages in Eastern Christianity. Therefore this practice of reading the Gospels 'made liturgical instructions superfluous',³⁰ as can also be assumed for Latin Late Antiquity and the early Middle Ages. Thus the lack of paratextual instructions is not a clue about the non-liturgical embedding of the codices, but can be interpreted as a sign of a past reading practice and a hint of the liturgical use of the codices for the proclamation of the Gospel.

In the case of the *Gundis Lectionary*, it is also significant that the woven textile strip bearing the name 'Gundis', which is probably contemporary to the codex, was cut out and attached to the pastedown in the front cover of the lectionary in later times, suggesting that the donor was meant to be remembered and explicitly made present during the liturgy even centuries after donating the manuscript. The list of the feast days on which this book was supposed to be used is therefore in close proximity to the textile bearing Gundis's name, which reminds the reader (the deacon or the celebrant of the Mass) to pray for her. The Gospel codices of Bamberg Cathedral may also have been used in accordance with the medieval teaching of *memoria*. In the Middle Ages, liturgical vessels and codices were donated in order to save the donor's soul after their death and benefices were installed to celebrate Masses for the redemption of the donor. Since it was believed that donated chalices, patens, altars and manuscripts especially unfolded their redeeming agency when they were used in the liturgy, it is likely that the use of precious manuscripts such as the *Gundis Lectionary* was not an exception, but rather the rule, at least on a few choice occasions during the liturgical year.³¹ The ritual use of the manuscripts, particularly the donated ones, therefore ensured the commemoration of the donors and brought them very close to the sacred space.

28 Rouwhorst 2013, 156.

29 Gussone 1995.

30 Rouwhorst 2013, 168.

31 Reudenbach 2012, 79–83.

4 The customisation of the Bamberg Gospel codices and their material traces

Although there is no written information on the use of the different Gospel books of Bamberg Cathedral, it may still be possible to reconstruct the liturgical use of the Gospel books and their ‘orchestration’ and coordination from their visual organisation and possible customisation (primary and secondary adaptation). Since some of the manuscripts from Bamberg Cathedral predate the church’s foundation in 1002 and its consecration in 1012 by up to 200 years, not all of them can display original traces of visual organisation that reflect the liturgical requirements of the Ottonian cathedral and its sacred topography, such as the various altars dedicated to saints that were particularly venerated in this church. The older manuscripts seem to have been acquired for the recently built church, while others are likely to have been commissioned and may therefore show traces of primary adaptation or a reference to the intended place of use. When looking at possible ways of highlighting a pericope beyond the indices like the *breviaria/capitula* and the Eusebian *sectiones*, which are part of the regular indexing systems of a medieval Gospel book, one therefore has to differentiate between the original, contemporary structuring devices beyond them (primary adaptations) and later additions and supplements (secondary adaptations).³² As for the former, medieval scribes regularly used different kinds of scripts, colours and sizes to organise the contents of manuscripts visually. In any given scriptorium, scribes created a panoply of stylistic and graphic devices to highlight pericopes and indicate the hierarchical relationships between texts.

In general, finding the right pericope for a particular occasion in a medieval Gospel book is far from straightforward. The manuscripts regularly include a list called the *Capitulare evangeliorum*. Usually located at the end of the codex, this lists the feast days with their corresponding pericopes from one of the four Gospels. Very often the name of the feast or the day of the ecclesiastical calendar is mentioned first, frequently followed by the Roman church where the Papal Stational Liturgy was celebrated that day.³³ Then the particular Gospel and the section in which the pericope is found is mentioned along with the latter’s opening and – after an *usque* (‘up to’) – its closing words.³⁴ Mentioning the first and

³² For more information on the *breviaria/capitula* of the Gospel books from the scriptorium at Reichenau Abbey, see Vennebusch 2022.

³³ Regarding the Stational Liturgy in Rome in the early Middle Ages, see Baldovin 1987.

³⁴ On the *Capitulare evangeliorum*, see Klauser 1935.

last words of the pericope was necessary as the pericopes usually are not congruent with the Eusebian *sectiones*, a division of the Gospels into a different number of sections for each Gospel that goes back to Eusebius of Caesarea (260/264–339/340), to which the *Capitulare evangeliorum* refers. Since this indexing system is not easy to handle, the scribes sometimes added further structuring elements as well: they used various marks, sometimes even rubricated ones, such as little crosses in order to indicate the beginning of the pericope and little *F*, *FIN* or *FINIS* marks in order to indicate the end of it (Fig. 5). In most cases, these marks can be traced back to a specific scriptorium, but some signs were squeezed in between characters, so it is likely they were added later.³⁵ Written by the scribes who produced the original manuscripts, these marks may or may not be signs of primary adaptation for their use at a particular place as it is possible the scribes copied the marks from the codex they were using as a model. While the integration of the signs indicating the beginning or end of the pericope can either be a primary or secondary adaptation, the illumination and miniatures are nearly always original structuring elements of a Gospel book.³⁶ In contrast, neumes above the lines of the text, words of the initial formula such as 'In illo tempore' ('At that time') with which the pericope to be recited begins in the margins, scrawls indicating the beginning or end of a pericope, and recitation marks all appear to be later additions in the vast majority of cases.

As far as the Gospel books of Bamberg Cathedral are concerned, evidently, only those among the manuscripts at Bamberg Cathedral that were produced around or after the construction and dedication of the cathedral can show original traces of customisation for liturgical use at Bamberg. So only those codices that contain signs added in the scriptorium may have been intended for their orchestration or coordination from the outset. Thus, the ninth- and tenth-century Gospel books may have been adapted for ritual use in Bamberg later and for their incorporation in the ensemble of manuscripts there. While it is impossible to fully reconstruct the score of the liturgical manuscripts of Bamberg Cathedral, some traces can be found of the embedding of particular Gospel books and Gospel lectionaries in the various Masses that were celebrated in this church. The absence of any evidence does not imply the evidence of absence, however: if there are neither primary adaptations in the form of highlighted

³⁵ In some cases, the entries could be classified as contemporary devices used by the scribe or as later supplements, judging by the colour of the ink, but accurate results can only be provided with the help of X-ray spectroscopy.

³⁶ I have investigated how far the particular pictorial elements contribute to making the manuscripts accessible by using the example of the Gospel books from Reichenau Abbey.

passages in the Gospels nor secondary adaptations of the sections, such as recitation marks or neumes, it does not follow that a pericope was not proclaimed or that a Gospel book was not used. If there are any later accentuations or supplements, however, the particular codex was presumably used or was at least intended to be. One example of the customisation and arrangement of a Gospel book is found in Msc.Bibl.93, a Carolingian manuscript that was written in Lorsch in the second quarter of the ninth century. On the whole, this manuscript was produced very carefully, but there are no miniatures of the evangelists in it or any other illustrations or elaborate canon tables. It is only the four *incipit* and initial pages that show a certain accentuation of the beginning of each Gospel by way of a Capitalis script. There are at least 169 highlighted pericopes in this particular manuscript, however. One can often find small rubricated crosses in the margins indicating the beginning of a pericope, and the end of almost every section is marked by a rubricated *F*, a *FIN* or a *FINIS* (Fig. 5). While most of these marks were incorporated into the text during the process of writing, a number of them must have been added later as some *FINIS* marks have virtually been squeezed in between two words. If we compare the 169 accentuated pericopes in the codex with the edition of a *Capitulare evangeliorum* compiled by Theodor Klauser and listing up 297 pericopes, more than half of the sections contain signs that were added to prepare the manuscript for the ritual proclamation of the Gospels. The highlighted pericopes mark the sections to be read on the most important feast days, like Easter, Pentecost and Christmas, but there are also a considerable number of marks for the Masses celebrated during Lent and on minor feast days. Since this manuscript, which is plain in appearance compared with the famous Ottonian Gospel books, long predates the foundation of Bamberg Cathedral, however, it is almost impossible to deduce the liturgical use of this codex in Bamberg. The later supplements like the squeezed-in notations may have been inserted at the scriptorium as secondary adaptations, in the vicinity of the church where the manuscript was used at first or even in the scriptorium of Bamberg Cathedral. Further research needs to be done in order to classify the different marks and establish whether they are primary or secondary adaptations. Considering the modest appearance of this Gospel book and the existing marks in the work, it is likely that the codex was used in Bamberg Cathedral on days that were not the most important ones in the liturgical calendar. If that was the case, the canons may have used this manuscript for the occasions that called for the reading of the pericopes that had already been highlighted in the codex anyway.

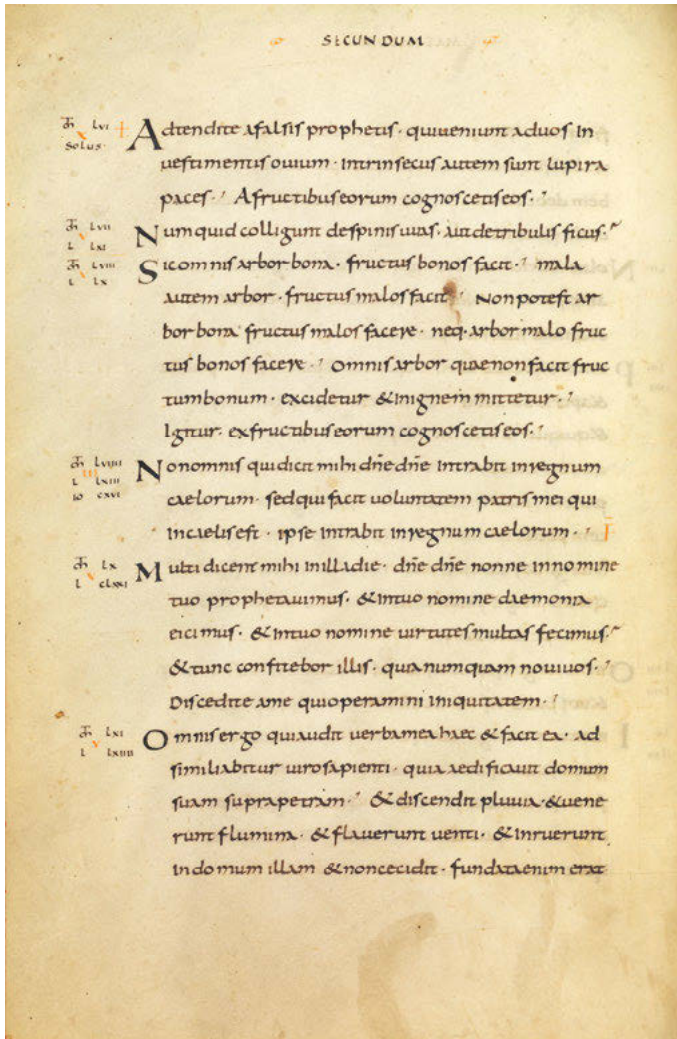


Fig. 5: Beginning (+) and end (F) of the pericope read on the fourth Sunday after the feast of the Apostles Peter and Paul, Lorsch, second quarter of the ninth century; Msc. Bibl. 93, fol. 19^r. Foto: Gerald Raab. CC BY-SA 4.0 (courtesy of Staatsbibliothek Bamberg).

In contrast to the Gospel book from Lorsch, the other Carolingian manuscript written in Mainz in the second quarter of the ninth century (Clm 4451) contains splendid canon tables, colourful miniatures of the Four Evangelists and elaborate initial pages for the Gospels. Since the codex has a precious binding that

includes carved ivory plaques, it is likely that the manuscript was a gift from Henry II. There is a striking way of marking the beginning and end of pericopes in this codex: by using signs that look like crosses or wild scrawls in the margins of some of the folios. Having been scratched into the plain white parchment with a stylus, these marks probably represent devices added later to arrange the codex for liturgical use. Again, it is unclear where these indicators were scratched in the book – at the former place of use or in Bamberg. Unfortunately, a look at the pericopes highlighted in this Gospel book cannot provide any further clues to the embedding of the codex within the ‘orchestra’ of manuscripts at Bamberg Cathedral because the highlighted pericopes belong to major feasts (Epiphany and Easter) and three feasts commemorating saints (Innocent Children, Simon and Jude, and John the Apostle). Since the feast of Simon and Jude is the only one not highlighted in another codex, this Gospel book may have been used on that day unless these signs are remnants of the liturgical use in the church to which this codex originally belonged.

Msc.Bibl.94, the Ottonian Gospel book written and illuminated in Cologne around 1030, is a lavishly illuminated manuscript with resplendent initial pages and a carefully executed visual organisation; every paragraph initial indicating the beginning of a Eusebian section is written in a golden majuscule script, for instance. In addition, recitation marks were added to several pericopes in this Gospel book as well as the particular formula for the beginning of their liturgical proclamation. The pericopes thus highlighted in this codex are those read on the most important feast days, such as Christmas, Ascension and Easter. In the *Breviarium Eberhardi Cantoris*, a *Liber ordinarius* from the middle of the twelfth century that codifies the characteristics of the liturgy at Bamberg Cathedral, Eberhard, a cantor of Bamberg Cathedral, describes a rite after the communion during the Mass at Christmas Eve: ‘sacerdos ascendat chorum precedentibus candelis et turibulo et legat ewang. *Liber generationis*’ (‘a priest walks up the sanctuary while candles and a censer are carried before him, and he proclaims the Gospel *Liber Generationis*’).³⁷ Of all the extant Gospel books from Bamberg Cathedral, the codex from Cologne is the only one featuring accentuation of this pericope (Fig. 6). While we cannot deduce that this was the only Gospel book used for the proclamation of this passage, it is likely that it was once embedded in the Christmas liturgy. Although this pericope was also read during the liturgy of hours on minor feast days, the accentuation of the passages to be read on important occasions speaks in favour of this.

³⁷ Farrenkopf 1969, 36, n. h. The English translation is my own.



Fig. 6: Beginning of the pericope read at the Christmas Vigil, Cologne, second quarter of the eleventh century; Msc. Bibl. 94, fols 17^v–18^r. Foto: Gerald Raab. CC BY-SA 4.0 (courtesy of Staatsbibliothek Bamberg).

As the accentuation of pericopes suggests, a survey of the Gospel codices of Bamberg Cathedral shows that further manuscripts were likewise produced or later adapted to be used on particular feast days (Table 1). While the pericopes for the major feast days are highlighted in several of the manuscripts, others such as the passage for the feast of the Pentecost Vigil are only emphasised in one codex. It is therefore possible that this Gospel book was, indeed, used for the proclamation of this passage at Bamberg Cathedral. This conclusion is tentative at best, however. If we turn to the three manuscripts produced at Reichenau Abbey, though, all of which are known to have been donated to Bamberg Cathedral by Henry II, but were not – as the *Gospels of Otto III* (Clm 4453) suggest – commissioned for this church, the impression changes. The two Gospel books and the lectionary include two codices with accentuated pericopes for a particular feast. The Reichenau manuscripts seem to have been coordinated in a sophisticated way, rather like music in a score. This is particularly noticeable as the older *Gospels of Otto III* (Clm 4453) written for Henry's predecessor shows evidence of both primary and secondary adaptation: rubricated crosses that mark the beginning of some reading sections are evidently part of the original production process, while other pericopes were marked by small crosses in dark brown ink (this was probably done later). Only the

pericopes for the Vigil and the High Mass on Epiphany are highlighted in the manuscript. Their beginnings were singled out in different ways: with a small brown cross in the margin (fol. 29^v), bigger paragraph initials in gold ink (fols 29^v–31^r) and a small golden cross drawn within a golden paragraph initial (fol. 27^v), all of which are presumably primary adaptations. The precious Gospel book Clm 4454 dated to c. 1010, by contrast, only contains original marks like rubricated or golden paragraph initials of the Eusebian sections, which are clearly distinguished from the dark brown ink used for the text. The pericopes for the most important feasts of Christianity are highlighted here; the pericope of the High Mass on Christmas Day is endowed with no less than seventeen golden initials, for example, and each sentence of this passage begins with a golden capital letter (fols 195^v–196^r) (Fig. 7). Some commemorative days of the saints possess several rubricated paragraph initials, like the feast of St John the Baptist (fol. 129^v) or the Dormition of the Virgin Mary (fol. 130^v). These characteristics of visual organisation are found throughout the codex and are not just limited to specific quires.³⁸

Table 1: Synopsis of highlighted pericopes in the medieval Gospels books and Gospel lectionaries from Bamberg Cathedral.

	Clm 4451	Clm 4452	Clm 4453	Clm 4454	MS 12	Msc. Bibl.92	Msc. Bibl.93	Msc. Bibl.94	Msc. Bibl.95
Vigil Christmas		x	(x)	x			x		x
1. Christmas		x					x		x
2. Christmas				x		x	x		x
3. Christmas		x		x	x			x	x
Vigil Epiphany			x			x			
Epiphany	x	x	x				x		x
Candlemas		x				x		x	
1. Easter				x	x	x	x	x	x
2. Easter	x	x		x	x	(x)	x	x	x
Ascension		x						x	x
Vigil Pentecost							x		
Pentecost		x					x	x	x
Assumption		x		x		x		x	
Annunciation			x		x		x		

³⁸ Cf. Klemm 2004, vol. 1, 200.

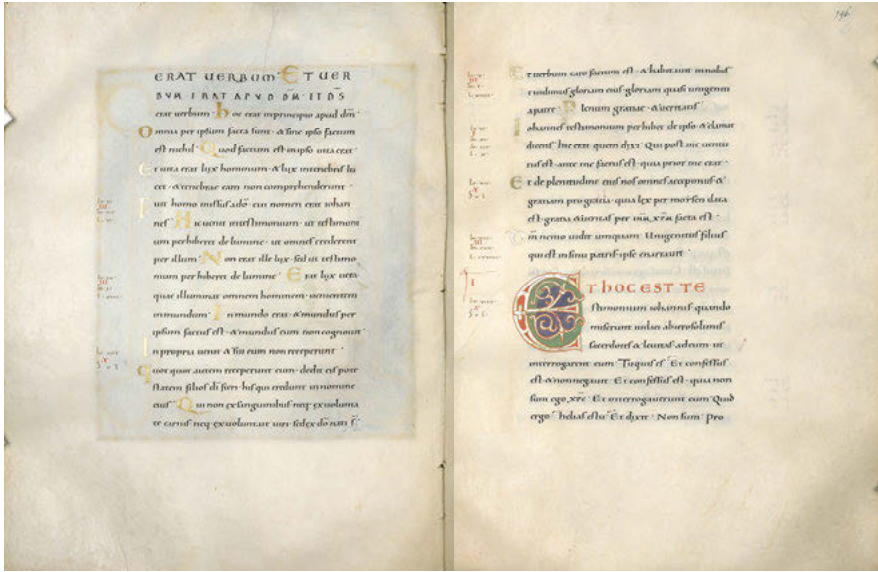


Fig. 7: Pericope read at Mass on Christmas Day, Reichenau, c. 1010; Clm 4454, fols 195^v–196^r. CC BY-SA 4.0 (courtesy of Bayerische Staatsbibliothek).

The famous *Pericopes of Henry II* (Clm 4452) contains several narrative miniatures depicting episodes from the life of Jesus Christ. Each of these scenes accompanies the pericope that was read on important feast days related to Jesus Christ, beginning with Christmas and ending with Pentecost. These miniatures occur in the cycle of the liturgical year and follow the *Temporale* after Christmas and Epiphany, which have fixed calendar dates. The *Temporale* codifies the movable Christian feasts (Maundy Thursday, Easter, Assumption and Pentecost). Three further miniatures illustrate key events in the life of the saints (John the Baptist, Peter and Paul, and the Virgin Mary) and appear in the order given by the *Sanctorale*, which codifies feast days with fixed dates. One of these shows the Dormition of the Virgin Mary, which is based on the apocryphal texts of the *Transitus Mariae*, while the other two depict events that are described in the New Testament. There are two more narrative miniatures as well. The first one, showing the vocation of Zacchaeus the tax collector and the banquet in his house, follows the pericope for the dedication of the church (fol. 200^r), and the second one, on the Resurrection of the Dead and the Last Judgement, uses a double page to illustrate the passage for the Requiem (fols 201^v–202^r). Since these occasions are not associated with any specific dates or periods in the year, they do not belong to the *Temporale* or to the *Sanctorale*. The conception of this

manuscript as a Gospel lectionary provided another way of highlighting pericopes for especially important feasts. Instead of containing the whole text of the four Gospels, the *Pericopes of Henry II* only contains 194 pericopes, which had to be proclaimed in the particular Masses during the liturgical year.³⁹ Various pericopes were endowed with lavishly decorated initial pages, and sometimes even with title or *incipit* pages. The structure of this codex facilitated a particular mode of incorporating the miniatures: the first part of the Gospel lectionary with the *Temporale* and the fixed feasts relating to Jesus Christ exhibits a pictorial cycle that follows the chronology of the life of Jesus. The question of whether the distribution of miniatures can be attributed to the liturgy and to the pericopes that were – or were originally intended to be – proclaimed from this manuscript cannot be answered with any certainty. In fact, it is not even clear whether this codex was used in the liturgy at all, as there are neither obvious signs of use nor any recitation marks or later accentuations or supplements. Thus, the miniatures could also have served as an aid to finding the corresponding pericopes for the most significant occasions and feasts in the church year.

By comparing the highlighted pericopes of the major feast days in the *Pericopes of Henry II* with those in the other two manuscripts from Reichenau Abbey, however, we can see that the former supplements the latter manuscripts well. In particular, the passages for the first High Mass on Christmas Day (*In gallicantu*) and the pericopes for the feasts of Candlemas, Ascension and Pentecost, which are especially emphasised by full-page and double-page miniatures in the lectionary (Fig. 8), are not highlighted at all in the two Gospel books. It is therefore conceivable that this manuscript was used on these days and was possibly carried through the church, displaying the colourful miniatures to the congregation in order to indicate the meaning and biblical background of the particular occasions. Henry II may have commissioned these Gospel codices (C1m 4452–C1m 4454) as supplements to the older manuscript (C1m 4453), which was probably commissioned by or for his predecessor. The endowment of Bamberg Cathedral with two precious new manuscripts, both written in the scriptorium of Reichenau Abbey and closely connected stylistically, also suggests that the visual organisation of these codices was coordinated and harmonised intentionally.

39 Cf. the list of pericopes provided by Leidinger 1914, 6–11.



Fig. 8: Beginning of the pericope read at Mass on the feast of the Candlemas, Reichenau, between 1007 and 1012; Clm 4452, fols 35^v–36^r. CC BY-SA 4.0 (courtesy of Bayerische Staatsbibliothek).

Returning to the whole ensemble of Gospel codices at Bamberg Cathedral, an analysis of the highlighting of the pericopes proclaimed on commemorative saints' days shows that these passages are not usually highlighted in particular Gospel books. The most important feasts are highlighted in different manuscripts, however. This again indicates that the various Gospel lectionaries and Gospel books may have been used on different occasions and therefore customised in specific ways. Once again, the three codices from Reichenau Abbey seem to be particularly well harmonised in this respect. Regarding the Carolingian Gospel codices written before Bamberg Cathedral was planned or constructed (Clm 4451, Msc.Bibl.92 and Msc.Bibl.93), further investigations could answer the question of whether the accentuations they contain are primary adaptations from the ninth century or secondary ones that may have been incorporated in Bamberg. In addition to the feast days of the saints, the *Lorsch Gospels* (Msc.Bibl.93) contains numerous highlighted pericopes for the Masses held on weekdays (*feria*). We can therefore assume that it was intended for use on more ordinary days, while the particularly precious codices only left the treasury on the major feasts.

When investigating the extent to which the Gospel books were customised for their intended place of use, we need to consider the sacred topography of Bamberg Cathedral, which describes the spatial and ritual setting in which specific saints were venerated. Some relevant information may be gleaned from the *Capitulare evangeliorum*. This list codifies the pericopes that were to be recited during the Masses in the course of the liturgical year, including the feast days of the saints. Although the liturgy of the most important feasts and the commemoration of the majority of the saints were prescribed by the Roman model of the *Capitulare evangeliorum*, the veneration of the saints differs slightly from one church to another. Some saints were only venerated in a few dioceses or churches as their importance was limited to a small region. The high altar of a church was frequently dedicated to a patron saint, whose relics were deposited within the altar in most cases, an act that gave the altar particular dignity. The specific ‘personnel of the saints’ of a church was also reflected by the *Capitulare evangeliorum*, as it contains augmentations according to local conventions or rites. In the case of Bamberg Cathedral, contemporary sources report the patronage of specific altars within the Ottonian cathedral.⁴⁰ The high altar in the western sanctuary was dedicated to the Holy Trinity, the Holy Cross, Peter and Paul, all the Apostles and to Kilian and his companions, for example. The high altar in the eastern sanctuary was dedicated to Mary, Michael, the Heavenly Hosts and George. The altar of the Holy Cross in the main aisle of the cathedral was additionally dedicated to Stephen, the protomartyr. Apart from the Franco-German saint Kilian and his unnamed companions, there are no saints of particular local importance here. Looking at the other altars, we can find common Roman saints such as Gregory, Sylvester, Lawrence, Vitus and Hippolytus, but there is one altar in the eastern part of Bamberg Cathedral that mainly ‘gathers’ local saints from Bohemia, such as Adalbert of Prague and Wenceslas, as well as saints from Regensburg, such as Emmeram, Erhard and Rupert, the first bishop of Salzburg. While the Roman saints are regularly included in the *Capitulare evangeliorum* of the Gospel books of Bamberg Cathedral, there are no instructions there regarding the pericopes for the feast days of the local saints. Looking at the pericopes assigned to these saints in the respective Gospel books, we cannot trace any augmentations or supplements indicating the beginning or end of a pericope either. In sum, then, any reference to the particular sacred topography of Bamberg Cathedral appears to be absent in the Gospel books and their visual organisation. The Gospel lectionary written at the Abbey of Seon (Msc.Bibl.95), however, does provide some evidence of customisation to ac-

⁴⁰ Baumgärtel-Fleischmann 1987, 11–13; Kroos 1976.

commodate local traditions. Unusually for a lectionary containing just the pericopes to be proclaimed during Mass, it also includes a *Capitulare evangelionum* (fols 2^r–3^v) with the index of the *Sanctorale* listing the first words of each passage that had to be read on the feast days of the saints. Unlike the other Gospel books and lectionaries from Bamberg Cathedral, this manuscript records the feast days for saints such as Lambertus, Willibald, Wunibald, Walburga and Bonifatius, while the patron saints of the church, Peter and George, are missing.⁴¹ The mentioning of Willibald, Wunibald and Walburga suggests that the manuscript was originally intended to be used in the diocese of Eichstätt, where these saints are buried and venerated, or it belonged to a church in that diocese and was transferred to Bamberg later (perhaps at the behest of Henry II) without erasing the entries on the locally venerated saints at the place of its subsequent use.

5 Conclusion

In this study, we have investigated evidence of the use of Gospel codices in the liturgy and the material traces of their incorporation in the Mass. These traces in the particular manuscripts suggest that the nine Gospel books and Gospel lectionaries from Bamberg Cathedral might have been subtly coordinated or 'orchestrated' by means of their visual organisation. On the one hand, there are primary adaptations to arrange a manuscript like (narrative) miniatures, using different types, colours and sizes of scripts that might accentuate particular pericopes. On the other hand, one can find secondary adaptations like signs and glosses scratched with a stylus or written in brown ink to indicate the beginning or end of a passage (crosses and *F*, *FIN* and *FINIS* notations), plus neumes and recitation marks. Since these signs can often be spotted in the Carolingian Gospel books, we should bear in mind that it is still unclear whether these traces of customisation were added in a scriptorium or elsewhere later on. An exact classification of the particular traces of customisation is impossible with the naked eye (except for the miniatures and scripts executed in the scriptoria). Non-destructive material analysis may eventually provide further insights on the accentuation of pericopes and the integration of the manuscripts in the Roman Mass. Therefore, in the absence of a medieval register codifying the coordination of the manuscripts, any deduction regarding an extensive 'orchestration' of all nine Gospel codices of Bamberg Cathedral must remain tentative.

⁴¹ Suckale-Redlefsen 2004, 110.

In the case of the three Reichenau Gospel codices, at least, the results of the material investigation might provide some clarity. Since Clm 4452 and Clm 4454 in particular are closely related stylistically, it seems likely that they were written in close temporal proximity or even simultaneously. The visual organisation of the codices and the accentuation of the pericopes can be traced back to the scriptorium as primary adaptations. In addition, the Gospel codices and the Gospel lectionary produced at Reichenau Abbey do not possess any secondary adaptations such as recitation marks or neumes. Perhaps the existing arrangement was either sufficient for the liturgical use of the manuscripts or the Gospel codices were considered too precious to be adapted by making additions and subsequent customisations.

Acknowledgements

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⁴² See Vennebusch 2023.

Manuscripts

Bamberg,

Staatsbibliothek Bamberg,

Msc.Bibl.92

Msc.Bibl.93

Msc.Bibl.94

Msc.Bibl.95

Msc.Bibl.96

Cologne,

Erzbischöfliche Diözesan- und Dombibliothek,

Cod. 12

Erlangen,

Universitätsbibliothek Erlangen-Nürnberg,

MS 12

Munich,

Bayerische Staatsbibliothek,

Clm 4451

Clm 4452 [= the *Pericopes of Henry II*]

Clm 4453 [= *Gospels of Otto III*]

Clm 4454

Paris,

Bibliothèque nationale de France,

Latin 9388 [= the *Drogo Gospels*]

Latin 9428 [= the *Drogo Sacramentary*]

St Gall,

Stiftsbibliothek St. Gallen,

Cod. Sang. 54 [= the *Gundis Lectionary*]

References

- Baldovin, John F. (1987), *The Urban Character of Christian Worship: The Origins, Development, and Meaning of Stational Liturgy* (Orientalia Christiana analecta, 228), Rome: Pontificio Institutum Studiorum Orientalium.
- Baumgärtel-Fleischmann, Renate (1987), *Die Altäre des Bamberger Domes von 1012 bis zur Gegenwart* (Veröffentlichungen des Diözesanmuseums Bamberg, 4), Bamberg: Bayerische Verlagsanstalt.

- Berndt, Rainer (2013), “‘Tuet dies zu meinem Gedächtnis’: Die Eucharistie als Grundlage christlicher “memoria” in Kirche und Theologie des Mittelalters’, in Rainer Berndt (ed.), *Wider das Vergessen und für das Seelenheil: Memoria und Totengedenken im Mittelalter* (Erudiri Sapientia, 9), Münster: Aschendorff, 21–39.
- Berschin, Walter and Ulrich Kuder (2015), *Reichenauer Buchmalerei 850–1070*, Wiesbaden: Reichert.
- Bierbrauer, Katharina (1990), *Die vorkarolingischen und karolingischen Handschriften der Bayerischen Staatsbibliothek*, 2 vols (Katalog der illuminierten Handschriften der Bayerischen Staatsbibliothek in München, 1), Wiesbaden: Reichert.
- Bischoff, Bernhard (ed.) (1967), *Mittelalterliche Schatzverzeichnisse*, vol. 1: *Von der Zeit Karls des Großen bis zur Mitte des 13. Jahrhunderts* (Veröffentlichungen des Zentralinstituts für Kunstgeschichte in München, 4), Munich: Prestel.
- Brandt, Michael and Arne Eggebrecht (eds) (1993), *Bernward von Hildesheim und das Zeitalter der Ottonen*, vol. 2, Mainz: Philipp von Zabern.
- Dressler, Fridolin (1995), ‘Die Prachthandschriften aus dem Bamberger Domschatz in der Bayerischen Staatsbibliothek: Nachrichten und Dokumente zu ihrer Geschichte bis 1803’, *Beicht des Historischen Vereins Bamberg für die Pflege der Geschichte des ehemaligen Fürstbistums*, 131: 67–127.
- Farrenkopf, Edmund Karl (ed.) (1969), *Breviarium Eberhardi Cantoris: Die mittelalterliche Gottesdienstordnung des Domes zu Bamberg* (Liturgiewissenschaftliche Quellen und Forschungen, 50), Münster: Aschendorff.
- Feger, Otto (ed.) (1978), *Die Chronik des Klosters Petershausen* (Schwäbische Chroniken der Stauferzeit, 3), 2nd edn, Sigmaringen: Thorbecke [1st edn: 1956].
- Friedrich, Michael and Cosima Schwarke (2016), ‘Introduction: Manuscripts as Evolving Entities’, in Michael Friedrich and Cosima Schwarke (eds), *One-Volume Libraries: Composite and Multiple-Text Manuscripts* (Studies in Manuscript Cultures, 9), Berlin: De Gruyter, 1–26.
- Gussone, Nikolaus (1995), ‘Der Codex auf dem Thron: Zur Ehrung des Evangelienbuches in Liturgie und Zeremoniell’, in Hanns Peter Neuheuser (ed.), *Wort und Buch in der Liturgie: Interdisziplinäre Beiträge zur Wirkmächtigkeit des Wortes und Zeichenhaftigkeit des Buches*, St Ottilien: EOS, 191–231.
- Gutbrod, Jürgen (1965), *Die Initiale in Handschriften des achten bis dreizehnten Jahrhunderts*, Stuttgart: Kohlhammer.
- Jakobi-Mirwald, Christine (1998), *Text – Buchstabe – Bild: Studien zur historisierten Initiale im 8. und 9. Jahrhundert*, Berlin: Reimer.
- Jungmann, Josef Andreas (1952), *Missarum Sollemnia: Eine genetische Erklärung der römischen Messe*, vol. 1: *Messe im Wandel der Jahrhunderte: Messe und kirchliche Gemeinschaft. Vormesse*, 3rd edn, Vienna: Herder [1st edn: 1948].
- Keunecke, Hans-Otto (ed.) (1993), *Cimelia Erlangensia: Aus den Schätzen der Universitätsbibliothek. Ausstellung im 250. Jahr der Friedrich-Alexander-Universität, 7. Mai–4. Juni 1993* (Schriften der Universitätsbibliothek Erlangen-Nürnberg, 24), Erlangen: Universitätsbibliothek Erlangen-Nürnberg.
- Klauser, Theodor (1935), *Das römische Capitulare Evangeliorum: Texte und Untersuchungen zu seiner ältesten Geschichte*, vol. 1: *Typen* (Liturgiegeschichtliche Quellen und Forschungen, 28), Münster: Aschendorff.
- Klemm, Elisabeth (2004), *Die ottonischen und frühromanischen Handschriften der Bayerischen Staatsbibliothek*, 2 vols (Katalog der illuminierten Handschriften der Bayerischen Staatsbibliothek in München, 2), Wiesbaden: Reichert.

- Koehler, Wilhelm (ed.) (1960), *Die karolingischen Miniaturen*, vol. 3/1: *Die Gruppe des Wiener Krönungs-Evangeliars*, vol. 3/2: *Metzer Handschriften*, Berlin: Deutscher Verlag für Kunstwissenschaft.
- Köllermann, Antje-Fee and Christine Unsinn (eds) (2021), *Die Goldene Tafel aus Lüneburg: Akten des wissenschaftlichen Kolloquiums / Ergebnisband des Forschungsprojektes* (Niederdeutsche Beiträge zur Kunstgeschichte. Neue Folge, 5/6), Petersberg: Imhof.
- Kroos, Renate (1976), 'Liturgische Quellen zum Bamberger Dom', *Zeitschrift für Kunstgeschichte*, 39: 105–146.
- Laffitte, Marie-Pierre and Charlotte Denoël (eds) (2007), *Trésors carolingiens: Livres manuscrits de Charlemagne à Charles le Chauve*, Paris: Bibliothèque nationale de France.
- Leidinger, Georg (ed.) (1914), *Das Perikopenbuch Kaiser Heinrichs II. (cod. lat. 4452)* (Miniaturen aus Handschriften der Kgl. Hof- und Staatsbibliothek in München, 5), Munich: Riehn & Tietze.
- Marth, Regine (1994), *Der Schatz der Goldenen Tafel* (Museum Kestnerianum, 2), Hannover: Museum August Kestner.
- Mayr-Harting, Henry (1991), *Ottomische Buchmalerei: Liturgische Kunst im Reich der Kaiser, Bischöfe und Äbte*, tr. Rainer Zerbst, Stuttgart: Belser.
- Meyer, Hans Bernhard (1989), *Eucharistie: Geschichte, Theologie, Pastoral* (Gottesdienst der Kirche: Handbuch der Liturgiewissenschaft, 4), Regensburg: Pustet.
- Michalsky, Tanja (2009), 'Memoria: Formen und Funktionen der gemeinschaftlichen Erinnerung', in Susanne Wittekind (ed.), *Geschichte der bildenden Kunst in Deutschland*, vol. 2: *Romanik*, Munich: Prestel, 389–395.
- Migne, Jean-Paul (ed.) (1857), *S. P. N. Justini Philosophi et Martyris opera quae exstant omnia*, vol. 1 (Patrologiae cursus completus: Patrologia Graeca, 6), Paris: s.n.
- Palazzo, Éric (1998), *A History of Liturgical Books: From the Beginning to the Thirteenth Century*, tr. Madeleine Beaumont, Collegeville, MN: The Liturgical Press.
- Prochno, Joachim (1929), *Das Schreiber- und Dedikationsbild in der deutschen Buchmalerei*, vol. 1: *Bis zum Ende des 11. Jahrhunderts (800–1100)*, Leipzig: B. G. Teubner.
- Reudenbach, Bruno (2012), 'Zwischen Kultsorge und individueller Programmatik: Liturgische Bücher als künstlerische Aufgabe', in Monika E. Müller and Christian Heitzmann (eds), *Einen Platz im Himmel erwerben: Bücher und Bilder im Dienste mittelalterlicher Jenseitsfürsorge* (Wolfenbütteler Hefte, 32), Wiesbaden: Harrassowitz, 55–89.
- Rouwhorst, Gerard (2013), 'The Liturgical Reading of the Bible in Early Eastern Christianity: The Protohistory of the Byzantine Lectionary', in Klaas Spronk, Gerard Rouwhorst and Stefan Royé (eds), *Challenges and Perspectives. Collected papers resulting from the expert meeting of the Catalogue of Byzantine Manuscripts Programme held at the PThU in Kampen, the Netherlands on 6th–7th November 2009* (Catalogue of Byzantine Manuscripts in their Liturgical Context: Subsidia, 1), Turnhout: Brepols, 155–171.
- Rudy, Kathryn M. (2016), *Piety in Pieces: How Medieval Readers Customized Their Manuscripts*, Cambridge: Open Book Publishers.
- Stuttman, Ferdinand (1937), *Der Reliquienschatz der goldenen Tafel des St. Michaelisklosters in Lüneburg*, Berlin: Deutscher Verlag für Kunstwissenschaft.
- Suckale-Redlefsen, Gude (2004), *Die Handschriften des 8. bis 11. Jahrhunderts der Staatsbibliothek Bamberg*, 2 vols (Katalog der illuminierten Handschriften der Staatsbibliothek Bamberg, 1), Wiesbaden: Harrassowitz.
- Trillmich, Werner (ed.) (1962), *Thietmari Merseburgensis Episcopi Chronicon: Thietmar von Merseburg, Chronik* (Ausgewählte Quellen zur Deutschen Geschichte des Mittelalters, 9), reprint, Darmstadt: Wissenschaftliche Buchgesellschaft [1st edn: 1957].

- Vennebusch, Jochen Hermann (2017), 'Das "Licht der Welt" in einem Manuskript' / "'The Light of the World" in the Form of a Manuscript', *Manuskript des Monats / Manuscript of the Month*, 2015–2017: 90–93 <<https://www.csmc.uni-hamburg.de/publications/mom-1/mom-2015-2017.pdf>> (accessed on 17 February 2023).
- Vennebusch, Jochen Hermann (2022), 'Observations on breviaria / capitula in Reichenau Gospel Books', in Bruno Reudenbach (ed.), *Indices – Tables of Contents – Registers = manuscript cultures*, 18: 5–24.
- Vennebusch, Jochen Hermann (2023), *Die Reichenauer Evangelienbücher: Anlagekonzepte, liturgische Lesennutzung und ihr visualisiertes Offenbarungsverständnis* (Forschungen zu Kunst, Geschichte und Literatur des Mittelalters, 8), Cologne: Böhlau.
- Von Euw, Anton (2008), *Die St. Galler Buchkunst vom 8. bis zum Ende des 11. Jahrhunderts* (Monasterium Sancti Galli, 3), St Gall: Verlag am Klosterhof.
- Wolf, Norbert (2002), *Deutsche Schnitzretabel des 14. Jahrhunderts*, Berlin: Deutscher Verlag für Kunstwissenschaft.

Karin Becker

Reading the Psalms: The Relationship between Visual Organisation and Ritual in Medieval Latin Psalter Manuscripts

Abstract: Medieval Latin psalter manuscripts are closely linked to religious practices such as the Divine Office and private devotional practices. The core of these ritual practices were the biblical psalms contained in these manuscripts. However, the use of psalter manuscripts presents some challenges to the owners: access to certain psalms or groups of psalms was particularly important, for example, but, unlike modern books, medieval psalter manuscripts usually do not contain page numbers or running titles that would make it easier for the users to find their way through the manuscript. Nevertheless, a closer look reveals other aids that make it possible to find certain sections or highlight individual psalms. This article examines the correlation between the visual organisation and the (potential) use of these manuscripts in the Divine Office.

1 Introduction

During the Middle Ages, psalter manuscripts played an important role in various areas of daily life. For one thing, they were used in monastic learning; to be *psalteratus*, i.e. to know the psalter by heart, was, as Carol Gibson-Wood among others states, ‘synonymous with knowing how to read Latin’.¹ It was not only in the context of monastic learning that psalms were of great importance, but in Christian liturgy – the Divine Office – and in private devotional practices, too. The Divine Office, nowadays largely known as the Liturgy of the Hours, is a Christian practice that, as Jonathan Black puts it, ‘served as the liturgical fulfilment of the scriptural precepts exhorting the faithful to pray at all times’.² As a result, eight services structured the course of the day and night. The celebration of each of the ‘hours’ – as the services of the Office were called – took place at a

¹ Gibson-Wood 1987, 11. See also Brown 2006, 16; Gross-Diaz 2012, 443; Rankin 2017, 277–279, for example. On the different roles of psalms in daily life, see Gross-Diaz 2012, 441–442.

² Black 2001, 45. The scriptural precepts are found in Luke 18:1, 1 Thess. 5:17, Eph. 6:18 and Heb. 13:15.

set time of the day. The respective hours were called Matins, Lauds, Prime, Terce, Sext, None, Vespers and Compline. Each of these services had at its core the reciting of psalms; over the course of a week, the complete biblical Book of Psalms had to be recited, which consists of 150 psalms.³ Apart from the psalms, other elements, such as canticles – songs or hymns whose texts come from other books of the Bible – and scriptural lessons were integral parts of the Divine Office.⁴ In the Latin Church, the two predominant *cursi* were the secular (or non-monastic) and the monastic; they are similar on the surface, but differ in some respects, such as the distribution of psalms over the week. The secular *cursus* ends with Matins on Saturdays, for example, during which Psalms 97 to 108 were recited. In contrast, the monastic *cursus*, which is based on the distribution of psalms in the *Rule of Saint Benedict* (sixth century), requests monks to recite Psalms 101 to 108 in Matins on Saturdays.⁵

There are numerous manuscripts that only contain the Book of Psalms, but not the other books of the Bible.⁶ One such type of medieval psalter manuscript is the ‘biblical psalter’, in which the Book of Psalms is sometimes presented in more than one language or with glosses; these manuscripts were primarily intended for study, not for prayer.⁷ This paper focuses on a different type of psalter manuscript, however, namely the liturgical psalter. The term ‘liturgical’ already indicates that this type of manuscript is closely connected to Christian worship, and this also includes manuscripts made for private devotional practices. Apart from the 150 psalms, liturgical psalters include textual material that

3 See, for instance, Harper 1991, esp. 74–75; Billett 2014, 13–23, esp. 14 here.

4 Additional materials are described in depth in Harper 1991, 75–86. See also Hughes 2004, 231–236; Dyer 2012, 664–670. Two tables outline the details of Matins on Sundays in the secular and monastic *cursus* in Billett 2014, 21–22. See also Harper 1991, 93–96; Hughes 2004, 53–68, esp. 55.

5 Detailed tables showing the distribution of psalms in the secular and monastic office can be found in Sandler 1999, 17–18, and Billett 2014, 16–19, for instance. For a detailed differentiation of the monastic and secular *cursus*, see Billett 2014, 13–77. See also Harper 1991, 73–108; Black 2001, 51–61; Hughes 2004, 50–80.

6 Lucy Freeman Sandler points out that ‘as early as the sixth century the 150 biblical psalms were extracted from the Old Testament to constitute a separate text’; Sandler 1999, 16. See also Gross-Diaz 2012, 441. There are three substantial Latin versions of the Book of Psalms: the *Gallicanum*, the *Romanum* and the *Hebraicum*. On this matter, see, for instance, Leroquais 1940, xiv–xl, esp. xxvii–xxxvi; Gross-Diaz 2012, 427–430; Rankin 2017, 279–281. See also Kahsnitz 1979, 93–109, esp. 93–94; Hughes 2004, 225; van der Horst 1996, 36–37.

7 See Kahsnitz 1979, 115; van der Horst 1996, 37; Sandler 1999, 16, for instance. Victor Leroquais gives several examples of such biblical psalters. He argues that some manuscripts were, in fact, used liturgically. See Leroquais 1940, xliv–li.

was needed for the Divine Office; the psalms can be followed, for example, by chants, collects (short prayers) or the litany of saints.⁸ Liturgical psalters are also usually preceded by calendars and can include prefatory miniature cycles, richly ornamented initials or lavish marginal illustrations, just like psalters in general.⁹

As indicated above, psalter manuscripts do not normally contain all the texts needed for the Divine Office; additional manuscripts were needed in order to pray the different hours. An antiphon (a short text) was sung before and after most psalms, for example.¹⁰ Antiphons were seldom included in psalter manuscripts, but were sometimes added by a later scribe who wrote them down in the margins. To perform the Divine Office, an additional manuscript was therefore required that gathered these chants: the ‘antiphonary’. Other books were also needed, such as a lectionary containing the biblical readings that were also part of the hours. These two examples alone show that several essential elements for the Divine Office generally are not part of psalter manuscripts. Many of the manuscripts discussed below were written at a time when two more user-friendly types of books already existed: firstly, efforts to combine the elements of the Divine Office in a single manuscript led to the development of the breviary, a type of liturgical book for the clergy,¹¹ and secondly, the book of hours became widespread from the middle of the thirteenth century, which was a comparable private devotional book for use by the laity.¹² Despite the development and increasing popularity of these two types of books, psalter manuscripts continued to be produced in large numbers throughout the thirteenth and fourteenth centuries.

Psalter manuscripts contain at least 150 texts – the psalms – and a few other texts such as the canticles were usually added as well. Due to the amount of

8 See, for instance, Harper 1991, 312; Sandler 1999, 18–19; Gross-Diaz 2012, 440–441. Sandler mentions a third type of psalter – the ferial psalter – that has an even closer relation to ritual use. In addition to the materials contained in liturgical psalters, these also include ‘invitatories, antiphons and versicles that are chanted in conjunction with the recitation of psalms’; Sandler 1999, 19. The terminology has not been used consistently in research. According to Andrew Hughes, for example, the terms ‘ferial psalter’, ‘liturgical psalter’ and ‘choir psalter’ should be used synonymously; see Hughes 2004, 226.

9 ‘The psalter was one of the most frequently illuminated medieval texts’; Sandler 1999, 19. See Kahsnitz 1979, 141; van der Horst 1996, 55.

10 The materials needed for the Divine Office are discussed in Harper 1991, 75–86, for instance.

11 For a detailed study of a fifteenth-century breviary, see the article by Eva Ferro in this volume.

12 On the development and contents of books of hours, see, for instance, the short overview in Calkins 1983, esp. 243–250. See also Duffy 2008.

content in them, these manuscripts are often considerably more than a hundred pages long – the Luttrell Psalter has 309 folios, for example. It is therefore worth considering how potential readers were supposed to navigate through the manuscripts and access specific texts. Like any other medieval codex, a psalter manuscript is a three-dimensional object. It is therefore necessary to consider not only the arrangement of the content on a page, but how the pages are arranged in the codex. Codicological properties, layout and the pictorial design of the three-dimensional object can be summarised by the term ‘manuscript architecture’.¹³ A single-text manuscript that was intended to be read continuously from beginning to end may not have needed an elaborate manuscript architecture that helped its readers navigate through the manuscript. But a psalter manuscript’s architecture is particularly important to consider with respect to the potential use of these books in the Divine Office, as the 150 psalms were ‘seldom read in a continuous sequence’,¹⁴ as Michelle Brown rightly points out. Take Psalms 1 to 3 and 6 to 14, for example, which were recited consecutively on Sundays in the secular cursus, while Psalms 4 and 5 were left out.¹⁵ This intermittent reading of the psalms, distributed over the eight daily hours on the seven days of the week, was rarely reflected in the way they were written down – which was strictly in numerical order. Thus, there would have been a need to access certain psalms directly for the Divine Office. This is precisely where the architecture of psalter manuscripts is important, as it could provide an elaborate system to make certain psalms easily accessible. As Lucy Freeman Sandler aptly sums up, ‘[i]n a practical sense decoration served as text articulation, facilitating the finding of the beginning of the text subdivisions’.¹⁶ In the following, different visual characteristics of psalter manuscripts will be discussed that (in theory) enhanced their usability in the Divine Office – regardless of whether the manuscripts were ultimately used or not.

13 The term ‘manuscript architecture’ was established at the SFB 950 collaborative research centre, ‘Manuscript Cultures in Asia, Africa and Europe’, at the University of Hamburg. See the short discussion in Tumanov 2017, 28 on this expression.

14 Brown 2006, 16.

15 Different numbering systems are used for the psalms. In this study, the numbering follows the Septuagint (and thus also the Vulgate). The numbering systems are discussed in Harper 1991, 67–68.

16 Sandler 1999, 20.

2 Dividing the Book of Psalms and structuring the psalter

Psalter manuscripts display an inner structure, if only because the Book of Psalms is not a coherent text, but rather a collection of individual psalms. Accordingly, the minimum level of structuring the text is the separation of 150 psalms. This is expressed by the use of coloured initials in the manuscripts.¹⁷ Additional modes of division which can be found in extant psalter manuscripts group together varying numbers of psalms for purely organisational reasons or according to different usages. One of these modes is a formal division into three equal parts with fifty psalms each.¹⁸ A second mode is found in liturgical psalters that are, as Sandler puts it, ‘structured to facilitate the recitation of psalms in Christian worship’.¹⁹ In this context, the Book of Psalms was usually divided into eight sections according to the secular cursus. The first seven sections were recited at Matins on each successive day of the week (beginning with Psalms 1, 26, 38, 52, 68, 80 and 97), although individual psalms in these groups were recited at other hours instead. The eighth section, in contrast, comprises all the psalms sung at Vespers in the course of a week (starting with Psalm 109) without any further subdivision according to different days of the week. Numerous psalters combine the formal division into three and the liturgical division into eight parts. Since Psalm 1 marks a division in both systems, the manuscripts thus show a ten-part division.

In his study on the Werden Psalter (Berlin, Staatsbibliothek zu Berlin – Preußischer Kulturbesitz, Ms. theol. Lat. fol. 358), Rainer Kahsnitz remarks that the ‘liturgical purpose naturally had an influence on the content, the internal structure and the features [or decoration] of psalter manuscripts’.²⁰ Medieval Latin psalter manuscripts could be ‘individually adapted to the current needs of a

17 Sandler notes that verses usually begin with an initial, too. She points out that psalm initials were treated ‘more elaborately than line initials’ from early on (by the seventh century); Sandler 1999, 20. On the matter of psalm initials, see also Hughes 2004, 226–227.

18 On different divisions, see, for instance, Leroquais 1940, xc–xcix; Kahsnitz 1979, 117–141, esp. 117–118; Calkins 1983, 208; van der Horst 1996, 38–39; Hughes 2004, 225. There are also other ways of dividing the Book of Psalms than those discussed in this article.

19 Sandler 1999, 16.

20 Kahsnitz 1979, 115. Translated by the author; original quotation: ‘Die liturgische Zweckbestimmung hat naturgemäß auf den Inhalt, die innere Gliederung und die Ausstattung der Psalterhandschriften eingewirkt’.

particular church, allowing for local details of the Calendar or local practice',²¹ for example. Despite their individual character, some features recur frequently. They pertain to the internal structure of the manuscripts and should be considered as aids to access specific psalms and navigate through the book as a whole.

Rubricated headings, *tituli* or numbers cannot be considered standard features in medieval Latin psalter manuscripts. Nonetheless, these manuscripts can display an elaborate decoration system that subdivides the Book of Psalms into smaller sections. With regard to the liturgical eightfold division, Sandler points out that '[t]he beginning of each of these sections was articulated visually, generally by enlarged [...] initials'.²² This is also true for other systems of dividing the psalms. Initials marking these divisions can be ornamental or historiated; some fill entire pages like miniatures. They are, therefore, easy to distinguish from ordinary psalm initials.²³ One example can be found in the Hamburg Psalter (Hamburg, Staats- und Universitätsbibliothek, Cod. in scrin. 85). The manuscript dates to 1220 and was presumably produced in Thuringia or Saxony.²⁴ The psalms are divided into ten sections, the beginnings of which are highlighted visually by a full-page initial. Page 70 contains the beginning of the second division, which comprises the psalms sung during Matins on Mondays in the non-monastic cursus, namely Psalms 26–37 (Fig. 1).

The division begins with a full-page initial of the letter *D*, the first letter of Psalm 26. It stands out from the rectangular golden background in a green-and-red frame. The first verse is continued on the next page with the rest of the first word, *dominus*, written in alternating red and blue letters. A distinction is made between the formal three- and the liturgical eightfold division in the ten initials designed in such a prominent manner. Psalms 1, 51 and 101 are not only preceded by such an initial on the reverse of the respective leaves, but by a miniature on the corresponding obverse as well. It is not uncommon for psalter manuscripts to also include miniature cycles in general and miniatures that precede specific sections in addition to the enlarged initials.²⁵

21 Harper 1991, 58.

22 Sandler 1999, 16. See also van der Horst 1996, 38. Sandler notes that in early times, psalm initials were treated in a similar way to line initials; first changes occur by the seventh century and 'by the twelfth century they might be the work of different individuals'; Sandler 1999, 20.

23 There are additional possibilities to subdivide the text visually, such as the use of a majuscule script for the first words or images. See, for instance, Kahsnitz 1979, 119; van der Horst 1996, 38.

24 Brandis 1972, 138–140.

25 See Sandler 1999, 16. In the case of the Hamburg Psalter, the miniatures directly preceding the three psalms (i.e. Psalms 1, 50 and 100) show the Crucifixion (page 29), Resurrection (page 117) and Christ in Majesty (page 209). They complement the miniature cycle on pages 14–28. However, they



Fig. 1: Full-page initial *D* to Psalm 26. Hamburg Psalter, Germany (Thuringia or Saxony), 1220, Hamburg, Staats- und Universitätsbibliothek, Cod. in scrin. 85, p. 70; courtesy of the Staats- und Universitätsbibliothek Hamburg.

are not in the right order with regard to the chronology of the narrative. On page 29, for instance, Psalm 1 is preceded by the depiction of the Crucifixion. The Crucifixion follows two miniatures showing the Burial of Christ (page 26) and the Ascension (page 28). It has been pointed out in another context that scenes of the Incarnation and Childhood were often grouped together in the miniature cycle preceding the psalms, while the dramatic or triumphant stages of Christ's salvific work were shown at the main divisions of the Book of Psalms. See Büttner 1992, 19.

Similar, albeit more subtle, ways of structuring the book can be observed in London, British Library, Add MS 42130. The so-called Luttrell Psalter, named after its first owner, Sir Geoffrey Luttrell, was produced between 1330 and 1345.²⁶ In this manuscript, a distinction is made between ordinary psalm initials and those marking the beginning of one of the ten divisions. While ordinary psalm initials generally extend over two lines, the first letter of those psalms that mark the beginning of a new division takes up four lines (Fig. 2). Psalm 1 is an exception to this: in the Luttrell Psalter, as in many other manuscripts, the first initial occupies a special position.²⁷ It can be considerably larger and often shows David as the author of the Book of Psalms. Distinguishing between simple psalm initials and those at the beginning of a new division is thus relatively easy in the Luttrell Psalter. Upon closer inspection, however, the manuscript reveals an even more complex disposition: only two of the ten initials do not extend over four lines, namely those found in Psalms 51 and 101, which are only three lines high (Fig. 3). In this respect, it is possible to distinguish between the formal division into three parts and the liturgical eightfold division solely on the basis of the size of the initials. This sort of hierarchy established within the tenfold division appears to have gone unnoticed – or it has not been pointed out explicitly, at least.²⁸ In this case, the hierarchy of the two modes of division appears to be reversed compared to the Hamburg Psalter, the Luttrell Psalter's visual organisation elevating the eight-part liturgical division above the formal three-part one. While the division into ten sections is often found in English psalter manuscripts from the thirteenth and fourteenth centuries, a differentiation or hierarchisation between the initials of the threefold and eightfold division was no longer common at this time.²⁹ The visual organisation with the subtle distinction between formal and liturgical divisions in the Luttrell Psalter is remarkable in this respect.

26 On the Luttrell Psalter, see Michelle Brown's substantial commentary in the facsimile, Brown 2006. For a detailed record of the manuscript, see British Library, *Digitised Manuscripts*, 'Add MS 42130'.

27 See, for instance, Brown 2006, 31.

28 Brown states that '[t]en major (usually 4-line) historiated initials' are at the beginning of the divisions, but she did not explicitly link the two exceptions to the threefold division; Brown 2006, 31. Hughes argues that the exact size of initials 'may vary within the same source, and there seems to be no significance to these minor differences'; Hughes 2004, 227. He considers it 'likely that scribes forgot what sizes and schemes were in use'; Hughes 2004, 227. Varying sizes of initials can, indeed, be observed frequently. In some cases, however, as in the Luttrell Psalter, the difference in size appears to be part of a well-thought-out system.

29 Regarding English psalter manuscripts, Günther Haseloff notes that a uniform decoration of the tenfold division predominates towards 1200, while there was a greater emphasis on Psalms 1, 51 and 101 in the first half of the twelfth century; see Haseloff 1938, 9. See also Kahsnitz 1979, 122.



Fig. 2: Christ points to his eye in the four-line initial *D* to Psalm 26. Luttrell Psalter, England (Lincolnshire), c. 1330–1345, London, British Library, Add MS 42130, fol. 51^r; courtesy of the British Library Board.



Fig. 3: A man kneels in prayer before the Lord in the three-line initial *D* to Psalm 101, whose head appears in the cloud. Luttrell Psalter, England (Lincolnshire), c. 1330–1345, London, British Library, Add MS 42130, fol. 177r; courtesy of the British Library Board.

It is not only the initials marking the beginning of individual psalms and psalter divisions that serve practical purposes among the many decorative elements in psalter manuscripts. Apart from miniatures such as those of the Hamburg Psalter, frames were sometimes incorporated into the manuscripts to highlight specific pages even further. Depending on the degree of decoration, these frames can be very distinctive or practically invisible. London, British Library, Arundel MS 155, which dates back to the beginning of the eleventh century, features prominent golden initials for Psalms 1, 51 and 101 that take up about half a page (Fig. 4).³⁰ The first words of the respective psalms are written in green and red ink and supplement the golden initial. An elaborate frame drawn around each of the three initial pages highlights them further. Other pages in London, British Library, Arundel MS 155 do not show any marginal decoration,³¹ and it is precisely for this reason that the three decorative pages stand out even more – it is almost impossible to miss the beginning of the three divisions when leafing through the book. Unquestionably, in those psalter manuscripts that include lavish marginal decoration, frames are less eye-catching and therefore less effective as a codex-structuring element. In manuscripts that have a very similar frame on every page, these can hardly be used as a highlighting tool.³²

30 Fols 12^r, 53^r and 93^r respectively. For a detailed record of the manuscript, see British Library, *Digitised Manuscripts*, ‘Arundel MS 155’.

31 According to the online catalogue entry from the British Library, a single marginal drawing on fol. 88^v was added at a later date.

32 This is the case with the psalter manuscript Paris, Bibliothèque nationale de France, Latin 10435 from the end of the thirteenth century, for example. For a detailed record of the manuscript, see BnF, *Archives et manuscrits*, ‘Latin 10435’.

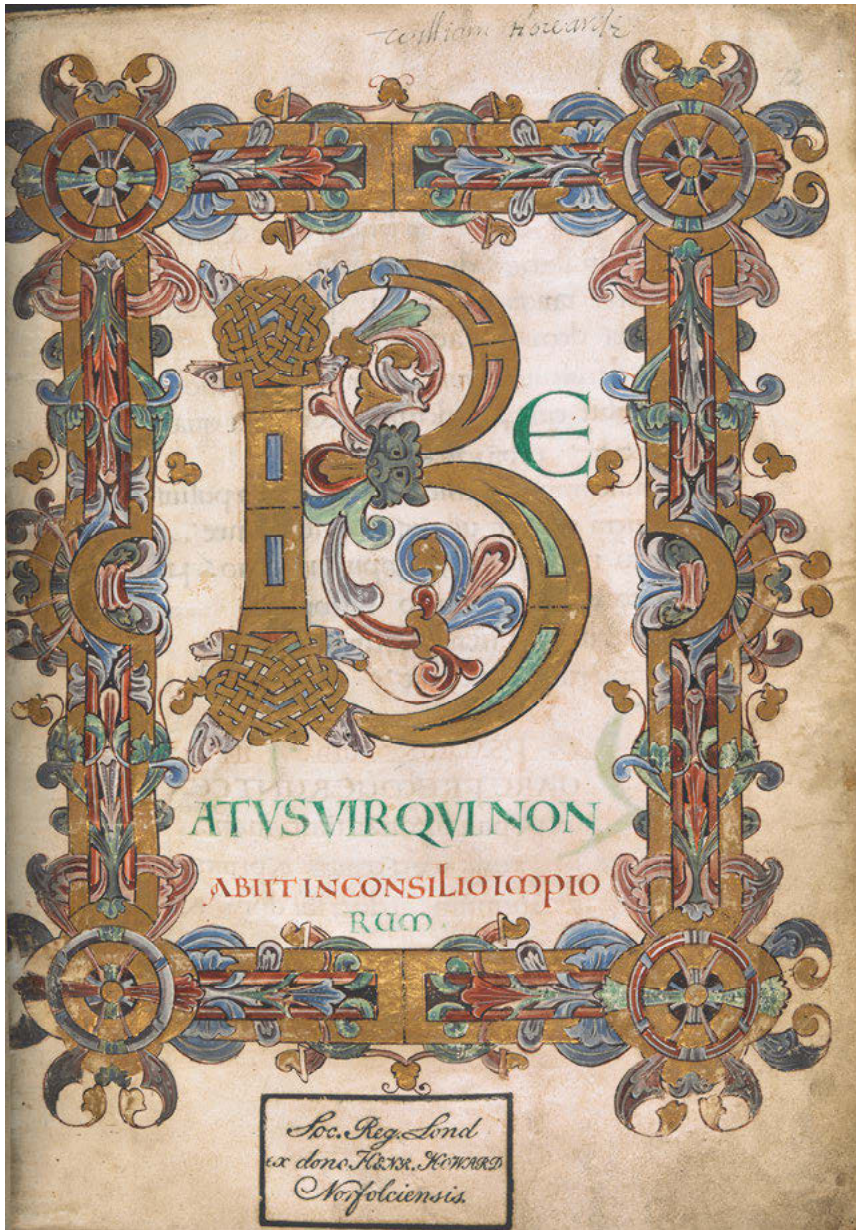


Fig. 4: Full-page initial *B* to Psalm 1 in gold followed by the opening words of the psalm written with green and red ink; full border in gold and colour. England (Canterbury), first half of the eleventh century with mid-twelfth-century modifications, London, British Library, Arundel MS 155, fol. 12^r; courtesy of the British Library Board.

Once one recognises how frames can be of practical use, subtler, yet similar patterns can be observed in other manuscripts. Again, the Luttrell Psalter may serve as an example. The degree of decoration varies enormously in this manuscript, with pages that are barely ornamented and others that are lavishly decorated. Many of the pages are decorated with partial borders that include floral ornaments in the inner, outer and upper margins (Fig. 5). They are often enriched by small animals, fantastic beasts and human figures. The lower margins were often used for figurative scenes, some of which develop into narratives spanning more than a page. The rich marginal illustrations conceal the structuring function of the frames, which is only revealed upon closer inspection. If a new psalter division starts on a page, rectangular bars constitute the frame (Figs 2 and 3). In the facsimile edition published by The Folio Society, some of the frames – the ones on fols 97^v, 98^v and 149^r, for instance – are described as being ‘more extensive, elaborate and rectilinear than usual’.³³ The commentary attests a ‘[f]ull foliate bar border’³⁴ for the frame on fol. 121^v (Psalm 68). While there are also partial rectangular borders, especially on the pages containing psalm initials (such as fol. 110^v), those that mark the beginning of a new division tend to be made of thicker rectangular bars that are joined at the corners to form right angles. This makes the frames appear heavier and the overall look of the page seems more orderly.³⁵ Arguably, this is a weaker case than London, British Library, Arundel MS 155. Nonetheless, the frames fulfil a structuring function that can only be discovered by a very attentive reader who is familiar with the psalter.

³³ Brown 2006, 41–42.

³⁴ Brown 2006, 42.

³⁵ Variances occur regarding the manifestation of the rectangular frames around the pages that mark a new division. The frame on fol. 97^v (Psalm 51) is an exception; this consists of a single thick bar to the left of the text block, which does not form the right angles just described. From Psalm 80 onwards, the frame bar at the bottom of the pages on which a new division begins is about twice as wide. Unlike the initials, this cannot be linked to a distinction between the formal and liturgical division of the Book of Psalms. An additional frame that is very similar can be found on fol. 215^r, where Psalm 118:33 begins with a two-line initial.



Fig. 5: Partial border and various marginal grotesques such as a human hybrid and a fool with the bladder balloon in the outer margin. Luttrell Psalter, England (Lincolnshire), c. 1330–1345, London, British Library, Add MS 42130, fol. 167r; courtesy of the British Library Board.

3 Distinguishing the psalms from other texts

Initials and frames can thus help users of the manuscript to navigate through it and access specific psalms, and in this respect, they enhance its usability. At the same time, the visual organisation can also complicate the reader's use of the codex in certain instances such as the transition between different texts. Since liturgical psalter manuscripts include more than just the Book of Psalms, it is not only the elements that structure the text itself that should be examined, but also those that separate different texts from one another. Typically, the first canticle directly follows the psalms, but without further distinction, it is not always obvious where the Book of Psalms ends and the first canticle begins. The Luttrell Psalter provides another example here, as the Song of Isaiah (Isa. 12:1–6) directly follows after Psalm 150 on fol. 259^v (Fig. 6). The change in text is not apparent without reading it: there is neither a textual indication (apart from an eighteenth- or nineteenth-century addition in the margin), nor a page break or a striking initial that can be distinguished from ordinary psalm initials.

Formulas like *incipit* (lat. 'it begins') or *explicit* (lat. 'it ends'), which are familiar from other medieval manuscripts such as Gospel books, were not used frequently in psalter manuscripts.³⁶ Rubricated *tituli* are a primary written indication of which text a reader has in front of them. These denote individual psalms – sometimes with a number added – but they can also indicate canticles. While many psalter manuscripts do not include rubricated headings, other (additional) means were used to distinguish between different texts. A change in text can be reflected by the use of initials, for instance. One particularly interesting case is the York Psalter (London, British Library, Add MS 54179), which dates to 1260.³⁷ In this manuscript, the Book of Psalms is subdivided into ten sections, the beginning of each of which is marked by a large historiated initial (Fig. 7). As the first part of the manuscript has been lost and the text commences with the remainder of Psalm 14:5 (fol. 7^r), the exact appearance of the first initial is unknown.

³⁶ There are exceptions, such as the Psalter of Charles the Bald (Paris, Bibliothèque nationale de France, Latin 1152). An incipit page (fol. 4^v) precedes the initial page (fol. 5^r) and together they form an elaborately decorated opening with golden letters on a red or purple background with an elaborate gold frame. For a detailed record of the manuscript, see BnF, *Archives et manuscrits*, 'Latin 1152'.

³⁷ A detailed record of the manuscript is available at British Library, *Digitised Manuscripts*, 'Add MS 54179'.

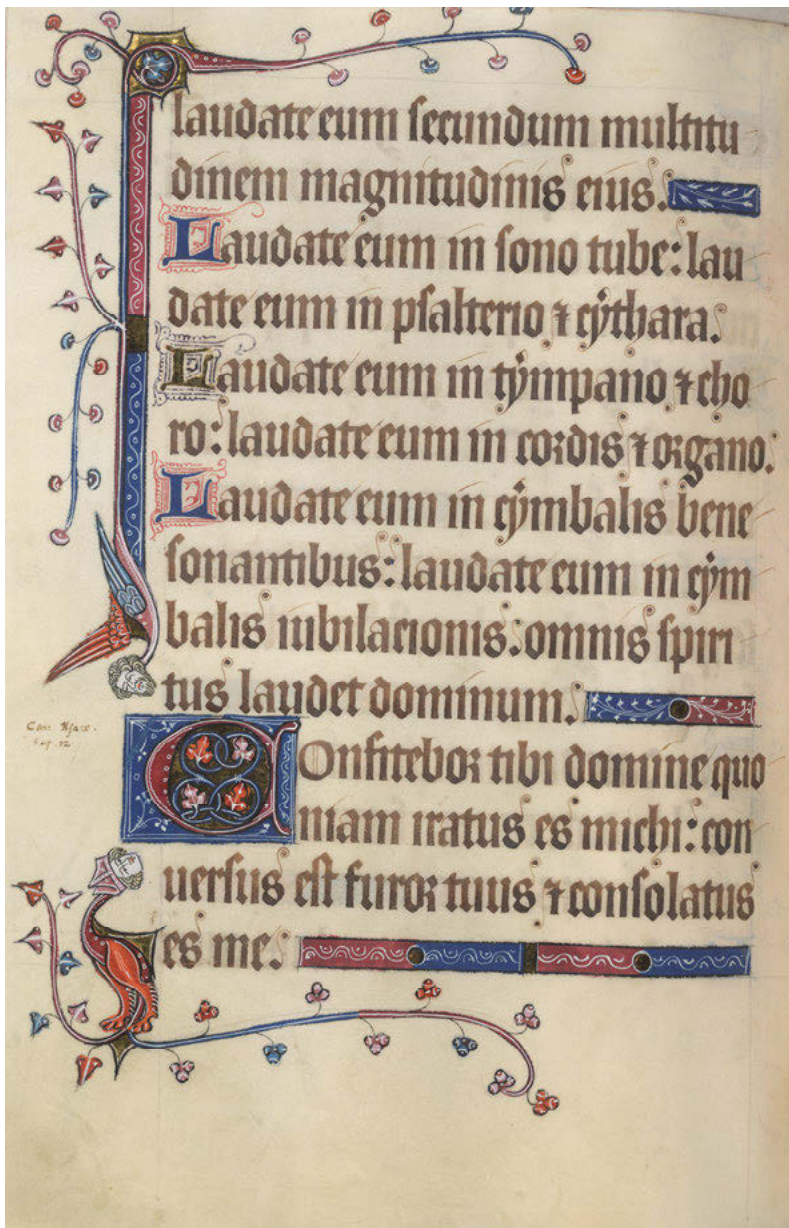


Fig. 6: Beginning of the first canticle, the Song of Isaiah (Isa. 12:1–6) as noted by a later hand in the margin with a two-line initial *C* following Psalm 150. Luttrell Psalter, England (Lincolnshire), c. 1330–1345, London, British Library, Add MS 42130, fol. 259^v; courtesy of the British Library Board.

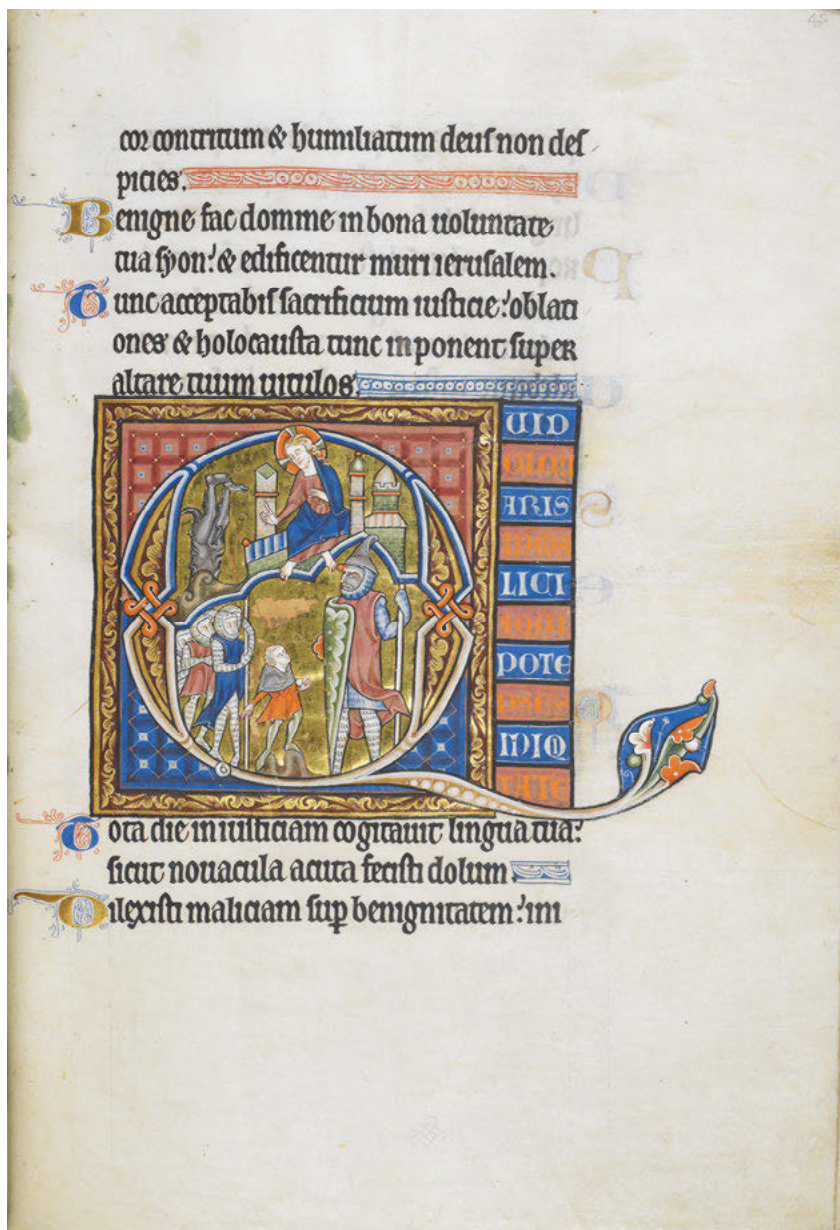


Fig. 7: The Temptation of Christ (upper register) and David against Goliath (lower register) in the half-page initial Q to Psalm 51. York Psalter, England, c. 1260, London, British Library, Add MS 54179, fol. 45^r; courtesy of the British Library Board.



Fig. 8: Half-page foliation initial C at the beginning of the first canticle. York Psalter, England, c. 1260, London, British Library, Add MS 54179, fol. 144^r; courtesy of the British Library Board.

On fol. 144^r, an additional initial of the same size clearly highlights the beginning of the first canticle (Fig. 8); the canticles have thus been treated similarly to a psalter division. However, the illustrator did distinguish between psalter divisions and canticles: while the remaining nine division initials are all historiated, the tenth initial is described as ‘a larger decorated initial in colours, with elaborate foliage and on a gold ground’³⁸ without any figurative elements. While it clearly marks the beginning of the canticles, a visual distinction between the psalter divisions and canticles is established (perhaps even a hierarchy).

4 Initials and frames – effective finding and reading aids?

Numerous manuscripts include such structuring aids, in particular the distinction between initials that mark different parts of the text. In the context of (potential) use in the Divine Office, it is important to think about the usefulness of these structuring aids. Initials at the beginning of the divisions make specific sections easily accessible, which is especially true for those cases where ordinary psalm initials and division initials are noticeably different. Nevertheless, the liturgical eightfold division does simplify the actual use of the psalms in the Divine Office. Each of the first seven sections contains the psalms sung at Matins on a specific day, but as Andrew Hughes says, ‘some are “removed” for use at other hours. Standard throughout the ages has been the position of Ps. 94, *Venite exsultemus*, used as the invitatory psalm at the beginning of Matins’.³⁹ Taking the example of Psalm 94, this means that in the recitation of psalms at Matins on Fridays, Psalm 93 was followed by Psalm 95, Psalm 94 being used outside the sequence in the psalter as an introduction to prayer. It becomes apparent that the division of the text into eight liturgical groups is only helpful to a certain extent; in general, the psalms that are ‘removed’ for use at other hours are not ‘removed’ from the written text, nor is there a visual indication that the psalms are not to be recited in numerical order. Given the large initials and sometimes the frames, it seems fairly easy to locate the beginning of a specific division. In contrast, individual psalms in the eight groups are not usually given any special markings, which is why it is more difficult to access them directly. Psalm 126, for example, is usually marked by a simple psalm initial,

³⁸ British Library, *Digitised Manuscripts*, ‘Add MS 54179’.

³⁹ Hughes 2004, 51. See also Harper 1991, 70; Gross-Diaz 2012, 437; Billett 2014, 15.

although it is the first psalm to be recited at Vespers on Wednesdays and easy access to the psalm would therefore presumably be necessary.

Eamon Duffy rightfully points out that psalter manuscripts ‘presented unique problems of navigation for the lay (and indeed clerical) user’.⁴⁰ Finding a particular psalm within a division proves to be rather difficult without reading the text (and knowing it by heart, given that not all psalter manuscripts are numbered). In this respect, psalter manuscripts seem to lack some practical indications – at least from a modern perspective. Additions made after their original production can be found in a greater number of psalter manuscripts. In particular, these include numbering of the psalms. This can be observed in the Luttrell Psalter, for instance: a later hand added a small Arabic number next to every psalm.⁴¹ Apparently, the presentation of psalms in numerical order, but without numbering each psalm, was deemed to be inadequate by a later user of the manuscript. Further additions may assign divisions to specific hours – or individual psalms to them, particularly in the eighth section. In the early fourteenth-century Ramsey Psalter (St. Paul im Lavanttal, Stiftsbibliothek, Cod. 58/1), German rubrics indicate the groups of psalms recited at Matins and Vespers on the respective days of the week.⁴² Next to Psalm 143 (fol. 147^r), for instance, one can read ‘Vesper am Sambstag’, Psalm 143 being the first psalm to be recited at Vespers on Saturday, as indicated by the rubrics. These rubrics enabled a contemporary reader to find the beginning of the subsections within the eighth section. Thus, they made the manuscript more usable and linked different sections verbally to a specific use, namely the secular cursus.⁴³

While large initials and frames can generally be considered effective finding aids, they are only of limited use with regard to the respective manuscript as a whole since they only allow easy access to a very limited number of psalms. Other requirements in the context of the Divine Office or even private devotional practices are given little or no consideration in the visual organisation. As Duffy

40 Duffy 2008, 93.

41 The numbers date back to the eighteenth and nineteenth centuries. As Brown points out, the numbering is in accordance with St Jerome’s Vulgate; see Brown 2006, 31. Numbering can also be applied to the divisions rather than single psalms. This is the case in Oxford, Bodleian Library, MS. Rawl. G. 185, for example on fols 20^r and 43^v. Some pages of the manuscript are available online at the Digital Bodleian.

42 See Sandler 1999, 110–111. All the German rubrics are listed there; they also indicate the parts of Psalm 118 that were recited daily at Sext and None. For changes that did not require rebinding, such as adding texts in the margins, see Rudy 2016, 62–99.

43 As Sandler points out, the rubrics also ‘reveal a shift in the use of the Ramsey psalter’; Sandler 1999, 111.

aply puts it, ‘the layout of medieval Psalters [...] militated against easy reference to individual Psalms other than those which headed the traditional eight-fold or tenfold division of the Psalter’.⁴⁴ This also seems to be evident in the many different addenda and notes in the margins, some of which were inserted shortly after the manuscripts were written.

5 The *Gloria patri* as part of the layout

As mentioned before, the Divine Office was not only built on the recitation of psalms, but also included other elements, such as canticles or scriptural lessons. A doxology was repeated after each psalm. The term describes ‘a form of praise to God’, and as John Harper points out, what is known as the lesser doxology, i.e. *Gloria patri*, was ‘recited at the end of most psalms, canticles, and hymns, and near the beginning of most Offices’.⁴⁵ Although the *Gloria patri* was occasionally inserted towards the end of psalter manuscripts, it has a more prominent place in some of them. This is the case in three psalter manuscripts held by the British Library, for instance: London, British Library, Arundel MS 305 (second half of the thirteenth century), Burney MS 345 (third quarter of the thirteenth century) and Royal MS 2 B III (first quarter of the thirteenth century).⁴⁶ While they all originate from northern or central France, Ghent or Bruges, other examples show that the inclusion of the *Gloria patri* is not an exclusive feature of manuscripts produced in this geographic area. Interestingly, the doxology in these three examples has not been included after every single psalm as one might expect with regard to its use during the Divine Office. Rather, its position in the manuscripts seems quite random at first glance. The three manuscripts present the lesser doxology in a relatively similar way, including it once, or more than once, albeit in varying stages of completeness. Based on the material objects, it can be concluded that the lesser doxology was only added where it was ‘convenient’ in terms of the visual organisation, as in London, British Library, Arundel MS 305.

Large initials have been drawn at the beginning of the divisions in all three manuscripts. In the case of London, British Library, Arundel MS 305,

⁴⁴ Duffy 2008, 93.

⁴⁵ Harper 1991, 297. See also Harper 1991, 300; Hughes 2004, 24.

⁴⁶ For detailed records of the three manuscripts, see British Library, *Catalogue of Illuminated Manuscripts*, ‘Detailed Record for Arundel 305’, ‘Detailed Record for Burney 345’ and ‘Detailed Record for Royal 2 B III’.

there are ten large initials that extend over six or seven lines (Fig. 9). The *Gloria patri* is included in two places, namely on fol. 104^r, directly following Psalm 67, and on fol. 177^v, directly following Psalm 108. In both cases, there is no visual distinction between the psalm text and doxology, i.e. no indication that the following lines are not another verse of the psalm itself. On fol. 104^r, the text of Psalm 67 leaves three lines of the page blank (Fig. 10). Since those initials that are at the beginning of a division take up six or seven lines, the initial of Psalm 68 could not have been placed in the remaining space on fol. 104^r. Rather than simply leaving these three lines blank and placing the large initial for Psalm 68 on the next page, as was the case in other manuscripts,⁴⁷ the doxology was used to fill the page.

Depending on how much space was left at the bottom of the page, the doxology was either included in its entirety or in parts in abbreviated or unabbreviated writing. In London, British Library, Arundel MS 305, the decision to fill the blank lines with the *Gloria patri* appears to have been an aesthetic one: the doxology was not added after every psalm, nor was it put at the end of every section of the psalter. In fact, this only happened in the two cases where the last psalm of one division ended with an unfavourable number of lines left on the page. Although the *Gloria patri* is part of the Divine Office, the lack of consistency in presenting the formula in the three manuscripts and the fact that it is not a compulsory element of psalter manuscripts indicates that there was no practical need to include the doxology in this type of manuscript. Instead, the text seems to have been used to meet the requirements of the layout.⁴⁸ Nonetheless, the lesser doxology is a text that is closely linked to and, indeed, essential for the Divine Office, thus linking the manuscript to the ritual.

⁴⁷ This is the case in London, British Library, Add MS 54179, for instance, which was produced c. 1260. Three lines on fol. 45^v have been left blank; Psalm 52 is marked by a large initial on the following recto page.

⁴⁸ Further systematic research is necessary to obtain more reliable figures on the actual frequency and possible geographical limitations of this phenomenon.



Fig. 9: Six-line foliage initial S to Psalm 68 in gold and colours with an incorporated animal and extensions into the margins. Spycer Psalter, France (north or central), second half of the thirteenth century, London, British Library, Arundel MS 305, fol. 104^v; courtesy of the British Library Board.

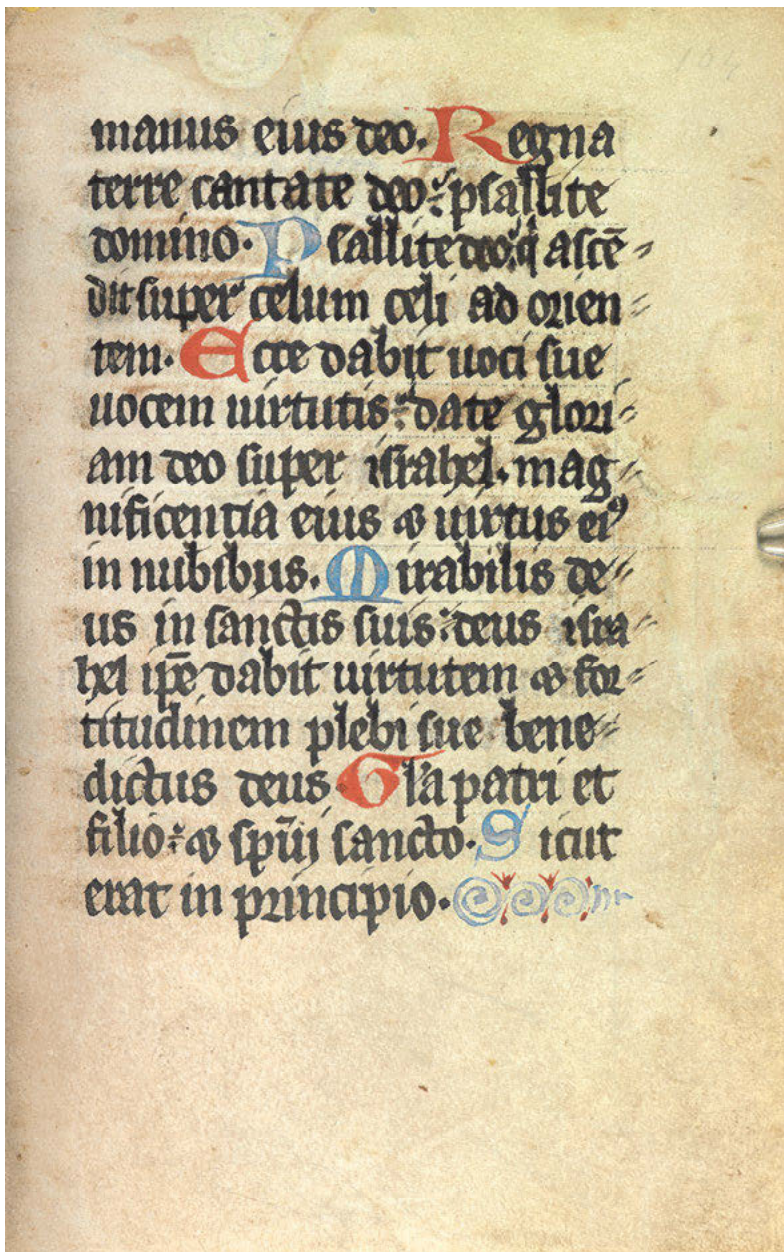


Fig. 10: The lesser doxology (*Gloria patri*) directly follows Psalm 67 in the last three lines. Spicer Psalter, France (north or central), second half of the thirteenth century, London, British Library, Arundel MS 305, fol. 104^r; courtesy of the British Library Board.

6 Conclusion: rituals in manuscripts and manuscripts in rituals

While non-monastic clergy or laypeople could find the beginning of the divisions recited in the secular cursus by using the visual organisation of their manuscripts, they were confronted with three issues. Firstly, although the majority of the psalms were recited in numerical order, some of them were used at other hours and were not actually repeated as part of their respective sections. However, this is not reflected in the visual organisation of psalter manuscripts. On the contrary, the ‘removed’ psalms have been written down in numerical order along with the others and usually lack any visual hints as to their use at different hours. Secondly, the eighth section comprises all Vespers psalms in both the monastic and non-monastic cursus. Consequently, it is divided into seven groups that correspond to the seven days of the week. Again, this is not usually reflected in the original visual organisation of psalter manuscripts. Thirdly, even though the distribution of psalms differs in the non-monastic and monastic cursus, liturgical psalter manuscripts were generally subdivided according to the non-monastic cursus, even if the manuscript was produced for a monastic user.

The first two problems were addressed and resolved to some extent by more recent, post-production additions in the margins, the most frequent being numbering of the psalms. In some cases, later additions also indicate a shift in use. Apart from the problems mentioned above, the reader had to be highly familiar with the manuscript in order to truly recognise and appreciate the intricacies of its visual organisation. Furthermore, it was essential for the reader to have at least some basic knowledge of the ritual practice. While the visual organisation of a psalter manuscript does structure the codex and does offer a potential reader easy access to certain psalms, the purposes for certain features of the visual organisation remain unclear without an understanding of the related practices. The division into the eight liturgically used groups of psalms, for example, is only understandable to readers if they can link them to the Divine Office and thus understand their origin.

Overall, the visual organisation of a manuscript can have an impact on the reading process, making different psalter manuscripts useful for certain purposes, but not for others. The visual division into liturgical sections makes direct reference to the secular Divine Office, enabling a reader to find the opening psalms of the seven sections to be prayed at Matins throughout the week as well as the group of Vespers psalms. The texts included in addi-

tion to the Book of Psalms, such as the canticles, were relevant for the Divine Office and also for private devotional practices, for example. However, it can be difficult to find them quickly, as they were not always highlighted visually. Regardless of the recurring structuring and textual elements in them, which are closely linked to the Divine Office, it is unclear how or to what extent psalter manuscripts were actually used. This is even more the case for psalter manuscripts owned by laypeople. Although it can be assumed that laypeople took part in the celebration of individual hours, especially Matins and Vespers, the exact use of the manuscripts is not documented.⁴⁹ It is therefore impossible to say what requirements there actually were on the users' side regarding manuscript architecture and whether (or how) the manuscripts were incorporated into ritual practices. However, various parts and characteristics of the Divine Office have become physically manifest in the manuscripts (e.g. the eightfold division) and are standard features of the visual organisation of medieval Latin psalter manuscripts.

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⁴⁹ The most likely use of the manuscripts, according to Duffy, was for laypeople to read along with the psalms as they were recited in their parish church, for example; see Duffy 2008, 94.

Manuscripts

Berlin,
Staatsbibliothek zu Berlin – Preußischer Kulturbesitz,
Ms. theol. Lat. fol. 358

Hamburg,
Staats- und Universitätsbibliothek,
Cod. in scrin. 85

London,
British Library,
Add MS 42130
Add MS 54179
Arundel MS 155
Arundel MS 305
Burney MS 345
Royal MS 2 B III

Oxford,
Bodleian Library,
MS. Rawl. G. 185

Paris,
Bibliothèque nationale de France,
Latin 1152
Latin 10435

St. Paul im Lavanttal,
Stiftsbibliothek,
Cod. 58/1

References

- Billett, Jesse D. (2014), *The Divine Office in Anglo-Saxon England 597–c. 1000* (Henry Bradshaw Society, Subsidia, 7), London: The Boydell Press.
- Black, Jonathan (2001), 'The Divine Office and Private Devotion in the Latin West', in Thomas J. Heffernan and E. Ann Matter (eds), *The Liturgy of the Medieval Church*, Kalamazoo, MI: Medieval Institute Publications, 45–71.
- BnF, *Archives et manuscrits*, 'Latin 1152' <<https://archivesetmanuscrits.bnf.fr/ark:/12148/cc84406>> (accessed on 5 February 2023).
- BnF, *Archives et manuscrits*, 'Latin 10435' <<https://archivesetmanuscrits.bnf.fr/ark:/12148/cc72156s>> (accessed on 5 February 2023).

- Brandis, Tilo (1972), *Die Codices in scrinio der Staats- und Universitätsbibliothek Hamburg 1–110* (Katalog der Handschriften der Staats- und Universitätsbibliothek Hamburg, 7), Hamburg: Hauswedell.
- British Library, *Catalogue of Illuminated Manuscripts*, 'Detailed Record for Arundel 305', last revised on 2 December 2005 <<https://www.bl.uk/catalogues/illuminatedmanuscripts/record.asp?MSID=1788&CollID=20&NStart=305>> (accessed on 5 February 2023).
- British Library, *Catalogue of Illuminated Manuscripts*, 'Detailed Record for Burney 345', last revised on 3 April 2014 <<https://www.bl.uk/catalogues/illuminatedmanuscripts/record.asp?MSID=8002&CollID=18&NStart=345>> (accessed on 5 February 2023).
- British Library, *Catalogue of Illuminated Manuscripts*, 'Detailed Record for Royal 2 B III' <<https://www.bl.uk/catalogues/illuminatedmanuscripts/record.asp?MSID=7949&CollID=16&NStart=20203>> (accessed on 5 February 2023).
- British Library, *Digitised Manuscripts*, 'Add MS 42130' <https://www.bl.uk/manuscripts/FullDisplay.aspx?index=0&ref=Add_MS_42130> (accessed on 5 February 2023).
- British Library, *Digitised Manuscripts*, 'Add MS 54179' <https://www.bl.uk/manuscripts/FullDisplay.aspx?ref=Add_MS_54179> (accessed on 5 February 2023).
- British Library, *Digitised Manuscripts*, 'Arundel MS 155' <https://www.bl.uk/manuscripts/FullDisplay.aspx?ref=Arundel_MS_155&index=0> (accessed on 5 February 2023).
- Brown, Michelle P. (2006), *The Luttrell Psalter: A Facsimile. Commentary by Michelle P. Brown*, London: The Folio Society / British Library.
- Büttner, Frank O. (1992), 'Die Illumination mittelalterlicher Andachtsbücher', in Hans-Peter Geh and Gerhard Römer (eds), *Mittelalterliche Andachtsbücher. Psalterien, Stundenbücher, Gebetbücher. Zeugen europäischer Frömmigkeit*, Karlsruhe: s.n., 11–54.
- Calkins, Robert G. (1983), *Illuminated Books of the Middle Ages*, London: Thames and Hudson.
- Duffy, Eamon (2008), 'The Psalms and Lay Devotion in the Late Middle Ages', *The Bodleian Library Record*, 21/1: 93–105.
- Dyer, Joseph (2012), 'The Bible in the Medieval Liturgy, c. 600–1300', in Marsden and Matter 2012, 659–679.
- Gibson-Wood, Carol (1987), 'The Utrecht Psalter and the Art of Memory', *RACAR: Revue d'art canadienne / Canadian Art Review*, 14/1–2: 9–15, 33–35.
- Gross-Diaz, Teresa (2012), 'The Latin Psalter', in Marsden and Matter 2012, 427–445.
- Harper, John (1991), *The Forms and Orders of Western Liturgy from the Tenth to the Eighteenth Century: A Historical Introduction and Guide for Students and Musicians*, Oxford: Clarendon Press.
- Haseloff, Günther (1938), *Die Psalterillustration im 13. Jahrhundert: Studien zur Geschichte der Buchmalerei in England, Frankreich und den Niederlanden*, s.l.: s.n.
- Hughes, Andrew (2004), *Medieval Manuscripts for Mass and Office: A Guide to Their Organization and Terminology*, paperback edn, Toronto: University of Toronto Press [1st edn: 1982].
- Kahsnitz, Rainer (1979), *Der Werdener Psalter in Berlin Ms. theol. lat. fol. 358: Eine Untersuchung zu Problemen mittelalterlicher Psalterillustration* (Beiträge zu den Bau- und Kunstdenkmalern im Rheinland, 24), Düsseldorf: Schwann.
- Leroquais, Victor (1940), *Les Psautiers manuscrits latins des bibliothèques publiques de France*, vol. 1, Mâcon: Protat.
- Marsden, Richard and E. Ann Matter (eds) (2012), *The New Cambridge History of the Bible*, vol. 2: *From 600 to 1450*, Cambridge: Cambridge University Press.

- Rankin, Susan (2017), 'Singing the Psalter in the Early Middle Ages', in Daniel J. DiCenso and Rebecca Maloy (eds), *Chant, Liturgy, and the Inheritance of Rome: Essays in Honour of Joseph Dyer*, London: The Boydell Press, 271–289.
- Rudy, Kathryn M. (2016), *Piety in Pieces: How Medieval Readers Customized Their Manuscripts*, Cambridge: Open Book Publishers.
- Sandler, Lucy Freeman (1999), *Der Ramsey-Psalter: Vollständige Faksimile-Ausgabe von Codex 58/1 der Stiftsbibliothek St. Paul im Lavanttal (fols. 2–5, 11–174) und Ms. M.302 der Pierpont Morgan Library, New York (fols. 1–5 = 6–10 der Originalhandschrift)*, vol. 2: *Commentary/Kommentar*, tr. Frankie and Hans-Joachim Kann (Codices Selecti, Commentarium, 103*), Graz: Akademische Druck- und Verlagsanstalt.
- Tumanov, Rostislav (2017), *Das Kopenhagener Stundenbuch: Bildprogramm und Layout im Kontext spätmittelalterlicher Lektüre- und Andachtspraktiken* (Sensus: Studien zur mittelalterlichen Kunst, 9), Cologne: Böhlau.
- van der Horst, Koert (1996), 'The Utrecht Psalter: Picturing the Psalms of David', in Koert van der Horst, William Noel and Wilhelmina C. M. Wüstefeld (eds), *The Utrecht Psalter in Medieval Art: Picturing the Psalms of David*, 't Goy: HES Publishers BV, 22–84.

Silpsupa Jaengsaewang

The Use of *Anisong* Manuscripts at Funerals in Northern Thailand and Laos

Abstract: The *anisong* manuscripts in this case study specify the rewards gained by people taking part in different funeral procedures and reflect various stages of the physical decay of corpses. The manuscripts were read aloud by monks who held sermons to affirm karmic rewards. Monks and novices were more familiar with Buddhist textual sources than laypeople and played a significant role in the production of *anisong* manuscripts. Many of the manuscripts in the examined corpus reveal textual revisions and (non-)textual paracontent associated with the interaction of the preaching monks and their sermon audiences. Since the funeral procedures were rituals performed again and again, the manuscripts were not just circulated but regrouped as necessary, and were also recopied, thereby serving as master versions from which to produce further exemplars.

1 Introduction

The Thai word *anisong* is derived from the Pali term *ānisaṃsa*, which literally means ‘rewards’, ‘benefits’, ‘advantages’ or ‘results of positive deeds’, and represents a textual genre of South-East Asia. Essentially, an *anisong* is a kind of Buddhist sermon declaring the benefits derived from meritorious acts. These benefits help improve the donor’s karma, but they can also be transferred to other people. Another term referring to *anisong* sermons or texts is the word *salòng* or *sòng*, derived from the Khmer word *chlòng*. While they are known as *salòng* sermons, or *thet salòng* (ເທດສະຫຼວງ), to people in Laos, they are referred to as *anisong* sermons, or *thet anisong* (ເທດສະນິອານິສງສີ), in northern Thailand (in what was formerly Lan Na). The titles of *anisong* texts in Lao manuscripts are mostly preceded by the term *salòng* or *sòng*, as in *Salòng cedi sai* (‘Rewards deriving from building sand stupas’), *Sòng fang tham* (‘Rewards deriving from listening to the Dhamma’) or *Salòng khamphi* (‘Rewards deriving from copying religious books’). *Sòng* or *salòng* (*chlòng* ឆ្លង, សອງ/ສະຫຼວງ), corresponding to *chalòng* (ฉลอง, ‘to celebrate’) in Thai, is a derivative of the Khmer verb *chlòng*, which has various meanings: ‘to cross’, ‘to inaugurate’, ‘to dedicate’, ‘to celebrate’ and ‘to spread’. The contexts of *thet salòng* or *salòng* sermons are appar-

ently associated with ‘dedication’ and ‘celebration’, as the sermons are performed to mark the completion of ‘merit-making’, serving the function of acknowledging, celebrating, valuing and admiring the meritorious deeds accomplished by the donors. As Patrice Ladwig writes, ‘The public act of lauding [oneself] is called *salong* in Laos (“to celebrate the outcome of the meritorious deed”) and the donors have variously been described as having prestige or being worthy of veneration’.¹

The sermon is held in public, thus it is ‘witnessed’ by all the participants at the funeral. The preaching monk acknowledges the merit and delivers the sermons to explain or ‘affirm’ the great rewards generated by the individual’s positive deeds. In Buddhism, such rewards are a result of the person’s generosity. The acquisition of rewards is celebrated afterwards. In exchange for their meritorious acts, *anisong* sermons are held to proclaim a person’s benevolent virtue and to promise generous donors commensurate gifts. Terminologically speaking, in northern Thailand, *anisong* signifies ‘the announcement of rewards’, while in Laos, the term *salòng* or *sòng* signifies ‘the announcement of completion’. Volker Grabowsky explains it as follows:

In the Buddhist context *Anisong* or *Salòng* [texts] (Lao, from Khmer: *chlan* (ផ្កា)), ‘to dedicate’, ‘to celebrate’ – often contracted to *Sòng* – are used for homiletic purposes, such as performing sermons and preaching. Those texts, generally rather short (rarely containing more than twenty folios), describe the rewards in terms of merit, or literally the ‘advantage’ which a believer may expect from a particular religious deed.²

In the Buddhist social context, where the meritorious outcomes of praiseworthy activities are hardly quantifiable, such concrete manifestations – with particular reference to the Buddha, who announced or clarified these meritorious incentives – matter to people. The liturgical culture of delivering *anisong/salòng* sermons assuring virtuous individuals of their forthcoming bliss has been practised and passed down for centuries. Thanks to the ‘three characteristics’ (Pali: *tilakkhaṇa*)³ of Theravāda Buddhist doctrine, which relate to death and include transiency (Pali: *aniccā*), *anisong* manuscripts used particularly in the context of funerals or memorials outnumber those pertaining to other kinds of life-transition rituals.

¹ Ladwig 2008, 91. I have lightly edited this quote.

² Grabowsky 2017, 416.

³ The three characteristics are *aniccā* (‘impermanence’, ‘transiency’), *dukkhā* (‘state of suffering’ or ‘being oppressed’) and *anattatā* (‘soullessness’, ‘state of not being oneself’). See Payutto 2015, 89.

In the corpus of 705 manuscripts⁴ used for our research project ‘Anisong (Ānisaṃsa) Manuscripts from Luang Prabang (Laos) in a Comparative Perspective’, based at the Centre for the Study of Manuscript Cultures (CSMC),⁵ twenty-three manuscripts dating between 1838 and 2004 CE contain *anisong* texts used for preaching at funerals. These include nineteen fascicles (Thai: *phuk*) made of palm leaves and four volumes (Thai: *lem*) made of mulberry paper. The manuscripts are from Laos and northern Thailand. The two neighbouring regions have been closely connected by language, culture and political relations for a long time.

2 Funerals in Thai and Lao Buddhist culture

Buddhism elaborates cosmologies concerning death and the afterlife, and Buddhist monks are considered mediums or experts who allow the secular and sacred realms⁶ to connect with each other. According to the *tilakkhaṇa*, or three characteristics, death is the ultimate goal, which all living beings are destined

4 See Jaengsawang 2022, 391–478. The manuscripts have been sourced from eight collections and databases. These are the (1) Preservation of Northern Thai Manuscripts Project (PNTMP), (2) Digital Library of Northern Thai Manuscripts (DLNTM), (3) Dokumentarische Erfassung literarischer Materialien in den Nordprovinzen Thailands (DELMN), (4) Phayap University Archives (PUA), (5) a non-microfilmed collection (i.e. the collection of manuscripts at Wat Phra Koet and Wat Monthian that have not yet been digitised), the (6) Digital Library of Lao Manuscripts (DLLM), (7) Buddhist Archive of Photography (BAP) and (8) Volker Grabowsky’s Collection from Luang Namtha (CVG). *Anisong* manuscripts in the Preservation of Northern Thai Manuscripts Project (PNTMP), Digital Library of Northern Thai Manuscripts (DLNTM), Dokumentarische Erfassung literarischer Materialien in den Nordprovinzen Thailands (DELMN) and Digital Library of Lao Manuscripts (DLLM) can all be accessed online at <https://crossasia.org/>. *Anisong* manuscripts in the Buddhist Archive of Photography (BAP) can be accessed upon direct request to <https://www.buddhist-archive.org/>. *Anisong* manuscripts in the Phayap University Archives (PUA), the non-microfilmed collection and Volker Grabowsky’s Collection from Luang Namtha, however, are not available online.

5 It is sub-project A08, affiliated with the DFG Sonderforschungsbereich 950 (SFB 950, 2016–2019).

6 Patrice Ladwig has defined this ‘inter-realm communication’ in his studies on two ethnic Lao rituals of transferring objects to the dead, with reference to ontology and materiality: Bun Khao Salak (the festival of rice baskets drawn by lot) and Bun Hüan Pha (dedicating items provided in a human-sized artificial house to the dead). He studied the belief of Lao people in transferring things to their late family members at the two festivals. There are slightly different beliefs among the ethnic Lao. Some people believe that items offered to monks can actually reach the dead in the other sphere, whereas others, especially more orthodox Lao people, have a more rational point of view, believing that only dedicational merit can cross the border between the living world and that of the dead. See Ladwig 2012a.

to achieve. Mindfulness (Pali: *sati-sampajañña*) is emphasised in Buddhism as a means to gain self-control, realise what wholesome or unwholesome actions one has caused and confront the notion that death will eventually approach. Thanks to mindfulness, human beings can live their lives carefully, avoid risks that could potentially lead to their untimely death and spend their time on more meaningful things. Before the Buddha's complete extinction (*nirvāna*), he left one final maxim concerning mindfulness in relation to the world: 'Behold, O monks, this is my last advice to you. All component things in the world are changeable. They are not lasting. Work hard to gain your own salvation'.⁷ This final maxim emphasises the changeability of everything – a quality we should be aware of. It characterises transience as being realised mindfully so that we spend our time looking for our own way of reaching *nibbāna* or enlightenment. The general purpose of organising funerals is to commemorate those whose lives have ended and to encourage the living to recognise and accept the uncertainty of life by referring to the dead as an example.⁸ The deceased may well have been praised as venerated or high-ranking figures, such as noblemen, scholars, wealthy men or senior monks, but they all inevitably reached the eventual and 'unchangeable' end of their mortal journey.

In Laos and northern Thailand, funerals are held indoors, at the house of the deceased or at a temple. A group of four monks⁹ is invited to chant the *Abhidhamma chet khamphi* ('Seven Books of the Abhidhamma'),¹⁰ the *Mayala* (the story of the Venerable Monk Malaya, who travelled to heaven and hell and met the future Buddha Metteyya),¹¹ an *anisong* sermon, as well as the *Namo tassa*,

7 Quoted from the '(Part Two) 31. The Buddha's Last Words', part of an abridged retelling of the story of Buddha Gotama, entitled *Life of the Buddha*, for secondary-school pupils and general readers, on the website Buddhist Studies: Buddha Dharma Education Association & BuddhaNet <http://www.buddhanet.net/e-learning/buddhism/lifebuddha/2_31bud.htm> (accessed on 13 February 2023).

8 Thammaporn 2016, 42.

9 In general, at least four monks are invited to attend a funeral and preach until the day of the cremation. The number of monks is more flexible on the occasions of the seventh day, the fiftieth day and the hundredth day of commemorating the deceased, and is decided by the funeral organisers.

10 Justin McDaniel argues that the title *Seven Books of the Abhidhamma* is misleading, because the text does not contain the entire seven volumes of the *Abhidhamma*. Rather, it is a commentary on it (McDaniel 2008, 233).

11 In Ladwig's view, 'Although the Lao and Thai versions of Phra Malai – a text also recited at funerals – are based on the figure of Māleyyadevatthera, they seem to have merged to a certain degree with the figure of Moggallāna due to their similar themes. The accounts of Phra Malai

Itipiso, and *Pha hung* chants – or as many of these as time allows – before the cremation. Ashes and bones are then collected to be enshrined. Participating in a funeral is the last opportunity to give one’s condolences to the living relatives. Funerals are hosted by the deceased’s family members and relatives, some of whom – particularly the males – are specially ordained as novices or monks in a short-term ordination procedure known as *buat na fai* (lit. ‘cremation-faced ordination’). *Buat na fai* is carried out specifically on the morning of the cremation. Depending on their availability, the ordained males may temporarily retain their status as monks until the evening or the third, seventh or fifteenth day after the cremation to show their gratitude to the deceased relative.¹² The merit derived from *buat na fai* is dedicated (Thai: *song sakan*) to the deceased person, or *peta*,¹³ who is believed to gain this merit offered by humans.

3 Commissions of *anisong* manuscripts used at funerals

On the basis of evidence found in their colophons, as in other cases of religious book dedications, the *anisong* manuscripts were produced and donated to monasteries so they would be preserved until the era of the future Buddha.¹⁴ The merit derived from copying religious manuscripts and donating them to monas-

are more widely known than those of Moggallāna, but I think they should be discussed together and seen as a unit’. Ladwig 2012b, 128.

¹² Phra A-thikanratana Ratano 2018, 1.

¹³ Ladwig writes, ‘The word *peta* in Pāli usually signifies “hungry ghost”, but its uses in early Theravāda Buddhism are far from clear. The term can denote ancestor (from Sanskrit *pitṛ*), but also hungry ghost. Further discussions of this will exemplify that this double meaning is also on some level alive in the Lao expression. Historically speaking, the offering to *peta* is linked to the Brahmanic ritual practice of *śrāddha*, in which the ghost as a liminal being is transformed into an ancestor’. Ladwig 2012b, 126.

¹⁴ According to Daniel M. Veidlinger, ‘In Lan Na, those responsible for the production of manuscripts were quite conscious of their importance for storing texts. As we will see, many of the manuscripts possess colophons stating explicitly that they were made in order to preserve the teachings of the Buddha for 5,000 years’ (Veidlinger 2007, 6). This is based on the belief in Buddha Metteyya, the fifth Buddha, who will arrive after the current five-thousand-year era, during which the religion will gradually disappear: ‘In the future the religion will decay as people lose their insight into the meaning of the teachings, neglect their practice, and eventually lose the texts themselves. Thus the three divisions will fade from the world in the reverse order that they develop in people of faith, and Buddhism will be no more’. Veidlinger 2007, 59.

teries can also be dedicated to the donor, not just the deceased. Since monks were responsible for giving sermons at funerals and were able to access religious sources relatively easily, monks and novices were the main sponsors and scribes of such manuscripts (see Subsection 4.2), whereas those manuscripts written by laypeople were used as master copies rather than as presentation copies for ritual use¹⁵ (see Subsection 5.1). According to the colophons I have examined, not a single manuscript was produced for a specific funeral or after a person had passed away. As funerals were generally held within ten days of a person’s death, family members tended to spend more time dealing with funeral arrangements than commissioning a manuscript. After the donations, *anisong* manuscripts were stored in monastic libraries and used only sporadically. A number of these manuscripts were stored for long periods without being used at all, and consequently many leaves have pale, mirror-image imprints of the ink on adjacent leaves that look like a faint second layer of writing (Fig. 1). This implies that the leaves had been gathered and kept in a tightly bound fascicle for some time after they had been inscribed and dedicated to a monastery; the manuscripts were written in advance and stored for later use on specific occasions.



Fig. 1: Traces of writing from adjacent leaves imprinted on the surface, reading *Sông anisong bun thi dai than pai ha phu tai* (‘Rewards deriving from dedicating merit to the dead’). DLLM, 06011406006-04.

15 BAP, BAD-13-2-034 (2004 CE), BAD-13-2-037 (2004 CE).

Besides enumerating rewards deriving from participation in funerals, the manuscripts also contain clues about traditional funerals. They partly serve as manuals demonstrating how to properly perform a funeral. The titles of various *anisong* texts on funerals refer to cemetery rituals that reflect the tradition of destroying corpses by burning them in a fire; these include *Anisong phao phi*,¹⁶ *Sòng phao phi*,¹⁷ *Anisong chapanakit*¹⁸ and *Salòng pong sop lü phao phi*,¹⁹ all of which essentially mean ‘rewards deriving from the cremation of corpses’.²⁰

Anisong sermons at funerals basically remind the audience how transient life is; they comfort their sadness and assure them of the dedicated merit supporting the spirit in its otherworldly existence. On the one hand, the participants feel considerable grief; on the other, they are rewarded for producing merit for the deceased via the so-called *Song sakan* ritual activity (สังสการ), as expressed by such titles as *Anisong than [pai] ha khon tai*,²¹ *Anisong song sakan*²² and *Sòng anisong bun thi dai than pai ha phu tai*,²³ each of which refers to the merit earned by the dead and the funeral participants. In order to teach laypeople to be conscious of and compassionate about life changes, some texts describe the physical decay occurring after death. The following example from *Anisong sarira* (‘Rewards deriving from participation in funerals’) narrates the story of ten cattle boys who burned the corpse of a dead bird and earned heavenly merit from it:

ในโลกนี้มันไม่เที่ยง บ่เป็นแก่นเป็นสาร บ่ใช้ตนใช้ตัวของตัว มาตราว่าผม ขน ทั้งเนื้อหนัง ตับ ปอด ไล่ ฟ่องทั้งมวลก็ใช้ของตัว ก็ยอมเป็นสากาณะแก่แร้งกา แก่มด แก่ปลวก ก็อนิจจาทุกตัวสัตว์ทั้งหญิงชายก็เหมือนกัน เมื่อเป็นตัว มาตราว่าผม ขน ทั้งเนื้อหนัง ตับ ปอด ไล่ ฟ่องทั้งมวล บ่ใช้ของตัว ก็ยอมเป็นสากา(ธา)ณะแก่แร้งสารพัด [...] ขาวของทั้งมวลก็หวงแหน อันนั้นของกู อันนี้ของเอ็ง ครั้นว่าตายกระทำกริยาอันตายนั้น มาตราหมากคำ ๑ ก็บ่ได้แล ตัวเราตัวท่านทั้งหลายก็เหมือนกันแล แต่เมื่อยังเป็นตัวคือว่าบ่ทันตายนั้น ขนก็รัก ปีกก็รัก (กระ) ดูกก็รัก

Things in the world are impermanent; they are not of any substance and will not exist forever; the hair, skin, flesh, liver, lungs and intestines [of the dead] do not belong [to them], but [will] be left to the vultures, crows, ants and termites. No matter whether they are male or female, they are equally [destined to die]. As long as they are alive, their hair, skin,

16 PNTMP, พร 0106004-01.

17 BAP, BAD-13-1-0157.

18 Non-microfilmed collection, PNTMP, นน 11-06-003-01.

19 BAP, BAD-13-2-034.

20 Jaengsawang 2022, 255.

21 PNTMP, ชม 0106001-05.

22 PNTMP, นน 0620021-00.

23 DLLM, 06011406006-04.

flesh, liver, lungs and intestines do not belong [to them]; they [will] be left to the vultures. [...] All belongings are highly cherished; this is mine and that is yours. When death comes, not even a piece of betel can be taken along [with you]. We are no different than birds; as long as we are alive, we love our hair, wings and bones.²⁴

However, judging by the different handwriting styles it contains, the manuscript entitled *Anisong phao phi bò hai* was obviously written by two different scribes (Fig. 2).²⁵ The manuscript comprises eleven folios; it is kept at Wat Phrabat Ming Müang, Phrae province, and may have resulted from a scribal class in which a group of monks and novices shared palm leaves for scribal training.²⁶



Fig. 2: Handwriting by two different scribes. *Anisong phao phi bò hai* ('Rewards deriving from participation in funerals'). PNTMP, พร 0406012-03.

Besides manuscripts intended to increase the number of religious texts that existed and to provide training for scribes, some manuscripts were created to convert texts written in less familiar scripts and languages into more familiar ones in order to facilitate monastic usage. The following colophon mentions the manuscript's primary rationale: the abbot had assigned a monk to inscribe an *anisong* text on a palm-leaf manuscript in order to educate laypeople on *karma*. The text was transcribed and translated from Central Thai:

พระพุทธศักราช ๒๕๒๓ ปีสันวนอก เดือน ๔ ขึ้น ๗ ค่ำ วันพฤหัสบดี ยามเที่ยง หมายถึงเช้าเจ้าทั้ง ๒ คือ ๑ สาธุใหญ่สมมติ เจ้าอธิการวัดใหม่ มีศรัทธาออกใบลาน ๒ ได้มอบให้เจ้าภิกขุพันธ์บุญเทพอักษร เป็นศรัทธาอดทนเขียนแปลออกเป็นตัวอักษรธรรม เพื่อเทศนาให้ประชาชนผู้ได้เข้าใจดีเป็นความลาวเรานั้น ให้แจ้งรู้บาป

²⁴ PNTMP, พร 0406012-01, fol. 2^v. The manuscript is dated 1911 CE. All translations of manuscript passages into English are my own.

²⁵ PNTMP, พร 0406012-03.

²⁶ Justin McDaniel compares the shared use of palm leaves in a scribal class to the training of medical students and car mechanics: 'since palm leaf is relatively difficult to prepare for inscribing, it would have been more efficient to train many students on one manuscript, like many automobile repair students train on one engine or many medical students observe a surgery on a single body'. McDaniel 2008, 144.

บุญคุณโทษหนักเบา นั้น มูลเดิมตั้งเป็นตัวอักษรไทย คำความไทย ย่านผู้ฟังนั้นผู้
 เข้าใจดี ฉะนั้นจึงได้เขียนแปลออกเป็นอักษรธรรมเทศนาให้ประชาชนผู้ได้เข้าใจดีนั้น
 ขอบุญกุศลจงคำชูแก่ตัวข้าพเจ้าทั้ง ๒ ได้ตั้งคำมักและความปรารถนานั้นทุกประ
 การเทอญ นิพพาน ปจฺจโย โหนตุ อนาคต กาเล สาธุๆ

In BE 2523 [i.e. 1980 CE], a *san wòk* year, on the seventh waxing-moon day of the fourth [lunar] month, on Thursday²⁷ at noon, (1) Sathu Nyai Somdi, an abbot of Vat Mai, provided palm leaves so that (2) Phikkhu [i.e. monk] Phan Phon Phi Bun Theppaaksòn could translate [the original text] and carefully inscribe [the new text] in Tham script in Lao for homiletic use by laypeople [to allow] Lao audiences to comprehend good and bad karma. The original version was written in the Thai language in Thai script. [We, the commissioners,] were worried that [the original version] prevented Lao people from understanding [its content]. As a result, [we] reproduced it in Tham script for liturgical use. May [the merit of the manuscript's production] support both of us and fulfil all our wishes. *Nibbāna paccayo hontu anāgate kāle sādhu sādhu* (May this be a cause for reaching *nibbāna* in the future).²⁸

Another example is a palm-leaf manuscript entitled *Sami tham ngan sop uthit hai kae phariya thi dap khan pai* ('Rewards for a husband who has held a funeral dedicated to his late wife') (1945 CE). According to its colophon, the manuscript specifically records a sermon text read out at the funeral of a master monk's ex-wife and originally written in Central Thai script. The manuscript was transcribed into Dhamma Lan Na script to facilitate its circulation and is kept at the monastic library at Wat Ban Ūam in Lampang province. See the following colophon:

เทศนาในงานสามีทำศพอุทิศหื้อภริยาพระอาจารย์วงศ์เจ้าสามกักรามวัดบ้านเอี่ยม
 โดยยกออกจากอักษรไทยหื้อเป็นภาษาไทยลาวเหนือเหมือนกัน สร้างไว้สำหรับหื้อ
 พระไตรปิฎกวัดบ้านเอี่ยมเมื่อพระพุทธศักราช ๒๔๘๘ ตัว ปีกาเจ้า เดือน ๑๐ ขึ้น ๓
 ค่ำ วันพุธ (พฤษหส์บดิ) มีผู้ต้องการยืมเอาไปทางใด ขอเอามาไว้วัดบ้านเอี่ยมตั้งเก่า
 สัมมาที่ใด สัมไปทีนั้น อย่าไปลืมนื้อ

[The text was recited] as a sermon at a woman's funeral, hosted by her husband, namely the funeral of the ex-wife of master monk Wong from Wat Ban Ūam. The manuscript was transliterated from the original text, written in Central Thai script, into Lao Nua [i.e. Northern Thai] script to provide the monastic library at Wat Ban Ūam [with a copy] in BE 2488 (1945 CE), a *ka rao* year, on the third waxing-moon day of the tenth [lunar] month,

²⁷ This day corresponds to Thursday, 12 March 1981 CE.

²⁸ *Sòng anisong bun thi dai than pai ha phu tai* ('Rewards deriving from dedicating merit to the dead'). DLLM, 06011406006-04, fol. 10^r.

on a Thursday.²⁹ The borrower should return the manuscript to Wat Ban Ûam; please return things to their proper locations. Do not forget [to do so].³⁰

The core reason for commissioning the manuscripts was related to the religious belief in sustaining Buddhism by copying religious texts to be stored at monastic libraries. Despite funerals being a life-transition ritual to commemorate the deceased, the funeral participants also earn merit or *puñña* by contributing to the *anisong* manuscripts in which the liturgical *anisong* texts were recorded to help the preaching monks. The manuscripts are accordingly the result of the belief in merit being generated by arranging funerals.

4 Manuscript uses at funerals

4.1 Objects and rituals

The manuscripts forming the corpus of this study are made of palm leaves and mulberry paper. They have different layouts and different kinds of visual organisation. The nineteen palm-leaf manuscripts clearly outnumber those made of mulberry paper, of which there are only four. The latter are multiple-text manuscripts (MTMs) that include *anisong* texts used for the funeral liturgy, whereas the nineteen palm-leaf manuscripts are single-text manuscripts (STMs) and composite manuscripts (COMs), except for the manuscript coded BAP, BAD-13-1-0157 (1944 CE), an MTM that includes four other *anisong* texts used on different religious occasions.³¹ There are two different manuscript units in Northern Thai and Lao manuscript culture: fascicles (Thai: *phuk*) and bundles (Thai: *mat*).

In terms of the number of texts, one or more texts in the same production unit (same time, same production agents) can be written in one or more fascicles, depending on their length. No matter how many fascicles contain the given texts, a single production unit including one text is regarded as a single-text

²⁹ This date corresponds to Thursday, 12 July 1945 CE.

³⁰ *Sami tham ngan sop uthit hai kae phariya thi dap khan pai* ('Rewards for a husband who has held a funeral dedicated to his deceased wife'). PNTMP, ๘๗ 0420097-02, fol. 17^v).

³¹ This particular manuscript contains five texts: *Sòng dōk mai thup thian* ('Rewards deriving from the donation of flowers, incense sticks and candles'), *Sòng haksā sin* ('Rewards deriving from precept observance'), *Sòng fang tham* ('Rewards deriving from listening to the Dhamma'), *Sòng phao phi* ('Rewards deriving from participating in funerals') and *Sòng maha wetsandòn chadok* ('Rewards deriving from listening to Vessantara Jātaka').

manuscript, while a unit including several different texts is considered a multiple-text manuscript.

A unit consisting of several folios combined in a single binding, with one or two strings through one or two holes in the folios, is called a *phuk* ('fascicle'), no matter how many texts it contains. Several fascicles can be combined to make a larger unit – a bundle (*mat*). A bundle can include one or more fascicles. In terms of this classification scheme, a fascicle is defined as a sub-unit of a bundle.

The codicological units of *anisong* manuscripts are based on these parameters and defined as follows. Single-text manuscripts are codicological units that each include a single text, no matter how many fascicles they have. Multiple-text manuscripts are codicological units that include more than one text. It does not matter how many fascicles there are (which obviously depends on the length of the written texts). Composite manuscripts are codicological units that include several fascicles produced at different times by different people and thus constitute a mixture of production units. Each of the fascicles in a composite manuscript can thus be a single-text fascicle or a multiple-text one, depending on the scribe's intention. Accordingly, single-text and multiple-text manuscripts both contain texts from a single production unit, whereas composite manuscripts are mainly concerned with objects derived from different production units.

Sometimes *anisong* and non-*anisong* fascicles are grouped into one and the same bundle. The fascicles may be from different production units despite being combined in the same bundle. In the case of *anisong* manuscripts, the fascicles would originally have been commissioned at different times and places, then later grouped into bundles to form a larger unit, i.e. a composite manuscript³² (see Section 5), based on its practical function – especially in the case of ritual use – or similar textual themes.³³ Different elements of the manuscripts – their page layouts, covers, foliation/pagination and revisions – will be discussed below, both in terms of palm-leaf manuscripts and mulberry-paper manuscripts.

³² A composite manuscript takes the form of a bundle in northern Thailand and Laos, and includes several fascicles, some of which may contain similar textual themes; see Jaengsawang 2022, 36.

³³ See Jaengsawang 2022, 289–291.



Fig. 3a–c: An example of an *anisong* palm-leaf manuscript used at funerals. *Sòng sak sop khon tai* ('Rewards deriving from participation in funerals'). BAP, BAD-13-1-0771.

In palm-leaf manuscripts, *anisong* texts were written on four or five lines³⁴ on both the recto and verso sides of the leaf (Fig. 3a–c). The texts inscribed on the two sides are upside down in relation to each other, making it easy for preachers to turn over each leaf and continue reading the manuscript while sitting and addressing their audience. Symbols indicating pauses between sentences or between Pali and vernacular words are included to help the preacher. The visual organisation of palm-leaf manuscripts is not much different than that of mulberry-paper manuscripts.

Thanks to the various shapes and sizes of mulberry paper produced, mulberry-paper manuscripts could be designed in a wide variety of ways, not only in the case of *anisong* manuscripts. The four mulberry-paper manuscripts examined in this study are multiple-text manuscripts; one contains non-*anisong* texts, while the other three³⁵ do feature *anisong* texts. The first manuscript with non-*anisong* texts is a book with a whirlwind binding (PNTMP, ๙๙ 0620021-00; Fig. 4). The texts included presuppose magical uses involving spirits and deities. All the texts are connected, and their titles are in the left-hand margin on the same page as the beginning of the texts.

³⁴ There are generally four lines in those from Laos, but five lines in those from northern Thailand.

³⁵ BAP, BAD-13-2-034 (2004 CE), BAD-13-2-037 (2004 CE), BAD-13-2-087 (year unknown).



Fig. 4: Beginning of *Anisong song sakan*, with its title at the top of the left margin. *Anisong song sakan* ('Rewards deriving from participation in funerals'). PNTMP, ໙໓ 0620021-00.

Three other mulberry-paper manuscripts have been made in a *leporello* (*concer-tina*) format. Each of them is a multiple-text manuscript and includes different *anisong* texts recited on various religious occasions.³⁶ They are made of connected sheets of mulberry paper with similar templates for the covers. The texts are preceded by large titles at the beginning. Only one side of the connected paper was written on, while the other side was left blank. To achieve a horizontal text layout, the paper was folded into parts, similar to the *pothi* or oblong

36 BAP, BAD-13-2-034 contains four texts: *Salòng ciwòn* ('Rewards deriving from the donation of monks' robes'), *Salòng haksà sin* ('Rewards deriving from precept observance'), *Salòng pha phutthahup* ('Rewards deriving from the donation of Buddha images') and *Salòng pong sop lü phao phi* ('Rewards deriving from participation in funerals'). BAP, BAD-13-2-037 contains two texts: *Salòng pong sop lü phao phi* ('Rewards deriving from participation in funerals') and *Salòng ciwòn* ('Rewards deriving from the donation of monks' robes'). BAP, BAD-13-2-087 contains two texts: *Anisong fang tham* ('Rewards deriving from listening to the Dhamma') and *Anisong phao phi* ('Rewards deriving from participation in funerals').

format representing the traditional shape of palm-leaf manuscripts. The oblong shape of palm-leaf and mulberry-paper manuscripts dictates how the preacher should hold the manuscript during the sermon. Two of the three manuscripts were produced in 2004 CE by a former monk (Thit) called Niao Maniwong, who made them as master versions for producing further copies (see Subsection 5.1). Both covers were made using the same template, and the *anisong* texts used for funeral sermons were photocopied and therefore identical. Thus, it is hard to tell which one was produced first. In the following figure, the covers are similarly embellished, with decorated margins and tables of contents flanked by two twin curves and floral drawings (Fig. 5a–b). The one on top was perhaps the model for the one below. Judging by the simplicity of the ornamentation on the covers, its lack of polychromy and the humble floral design, the manuscript was meant to be used for liturgical purposes.



Fig. 5a–b: Covers of two palm-leaf manuscripts written by Niao Maniwong, a former monk/scribe. BAP, BAD-13-2-034, BAD-13-2-037.

Instead of having leaves that count foliage, as in the case of palm-leaf manuscripts, a numbering system that counts pages is employed in oblong mulberry-paper manuscripts. Nai Tham numerals,³⁷ commonly used in religious texts, are provided for the pagination. Dotted lines are frequently found, indicating opportunities for improvisation on the part of the preachers, who sometimes speak to the audience before or during a sermon. In the manuscript reproduced in

³⁷ In general, Nai Tham numerals and Hora numerals are found in northern Thai and Lao manuscripts. The two kinds of numerals are quite different. Nai Tham numerals are used in religious texts, while Hora numerals, which originated in Burma, are used in manuscripts containing secular texts; see Jaengawang 2022, 138.

Fig. 6, for example, lines 9 and 10 of the text display such dotted lines. The sermon is not interrupted by the dotted line; rather, preachers can hold a sermon with or without any improvisation. Before giving the sermon, they often demonstrate the deceased's virtue during his or her lifetime by describing the person's life and praiseworthy actions. Monks sometimes use soothing words to comfort the audience, and do so spontaneously. Interestingly, dotted lines can be found among the vernacular parts of the texts, letting preachers talk freely and interact with the audience.

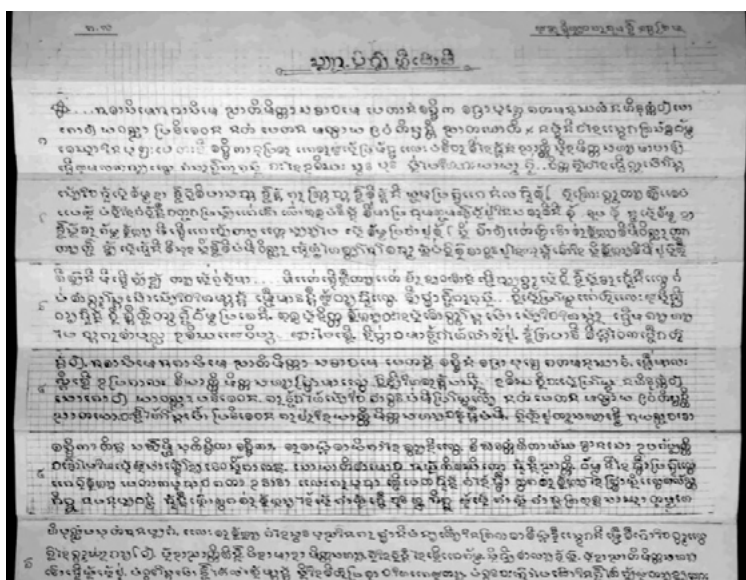


Fig. 6: Dotted lines indicating improvised speech. BAP, BAD-13-2-034.

Since written manuscripts were made by hand in one go and scribal mistakes obviously occurred from time to time, one can often find traces of revisions in the works, such as deletions made using white chemical erasers and new additions added in ink. The manuscripts were read out loud by the preaching monks; the texts themselves were not supposed to be shown to the audience. Revisions made in ink would not have had any impact on the sacred nature of the texts. Misspelled or incomplete words and abbreviations are found in the manuscripts, which were either due to carelessness or introduced deliberately to save space on the palm leaves, which were precious resources. Experienced preachers can certainly understand indistinct words (written in Pali or the ver-

nacular) and intuitively recognise incorrect or abbreviated spellings. Novices or newly ordained monks, however, may not really know whether such words in the manuscripts are correct. Additions and revisions, sometimes done with ink pens and chemical erasers, reflect the fact that funeral preaching was by no means restricted to well-experienced or trained monks; *anisonṅ* sermons could actually be delivered by monks with very different levels of experience, as the texts were not solely in Pali. In the manuscript reproduced in Fig. 7, traces of white chemical eraser can be seen in many places. We cannot be sure who revised the texts this way, however, as information of this kind was not recorded.

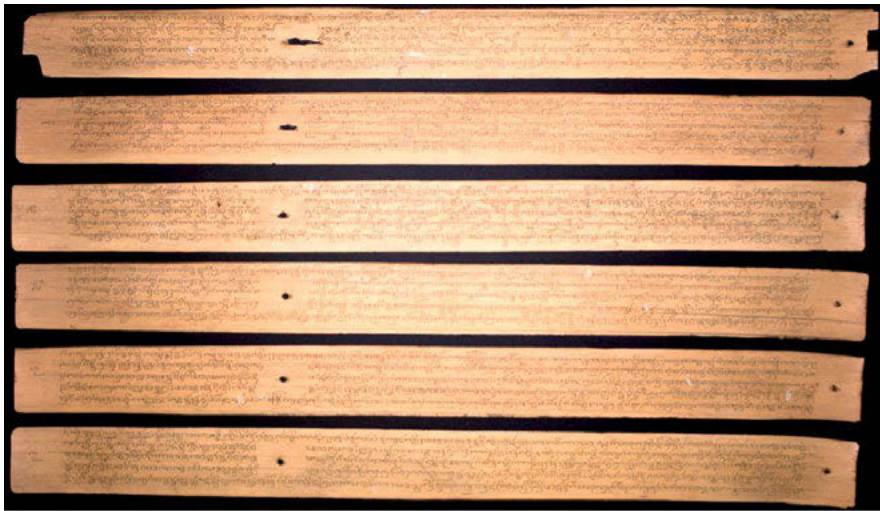


Fig. 7: Textual revision marks. *Anisonṅ song sakan phi tai* ('Rewards deriving from participation in funerals'). DLNTM, ชม 0606003-04.

In the first folio of the manuscript entitled *Sōṅ sop khon tai* (DLLM, 06011406004-05), there is a sentence that reads as follows: ห่มผ้าแล้วเข้าไปอยู่ในธรรมาสน์อาสนะ ('Wear [your] robes and remain at the pulpit'). This short comment was written in Dhamma script and obviously addresses monks and novices, reminding them to follow certain rules while preaching. Another manuscript (shown in Fig. 8), entitled *Anisonṅ phao phi*, from Phrae province, includes a foliation remark written in Central Thai script, reading หน้าต้นอาสน์สงฆ์เผาผี ('first page of *Anisonṅ phao phi*'). This was no doubt intended for those responsible for assisting the preaching monks, but who did not understand Dhamma script, such as monastic servants and *sangha* volunteers, who were supposed to put the manuscript in order again

after its use; *anisong* manuscripts intended for funerals were used not only by monks, but by laypeople or monastic volunteers who assisted the preaching monks before and after the sermons.

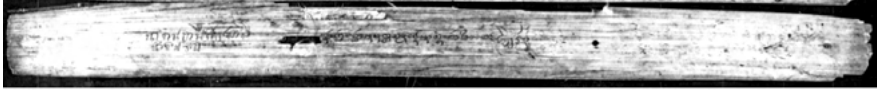


Fig. 8: Central Thai script on the leaf of a manuscript colophon. *Anisong phao phi* ('Rewards deriving from participation in funerals'). PNTMP, พง 0106004-01.

4.2 Texts and rituals

In the manuscripts, funeral rites and the rewards deriving from being involved in such rites are described, revealing funeral culture and activities. One clear example is a multiple-text manuscript (PNTMP, นน 0620021-00) made of mulberry paper including *Anisong song sakan*, which explains and enumerates the rewards earned by attending each step in a funeral. Various procedures are involved in a funeral: carrying corpses to funerary locations (merit due: a reward of 300 *kappa*),³⁸ cremating corpses (three *koṭi*),³⁹ preparing or leading funeral processions (800 *kappa*), playing musical instruments during a funeral procession (300 *kappa*), following behind funeral processions (two *kappa*) and being ordained as a monk or novice at funerals (a reward of 400 *kappa* and rebirth as a celestial deity living in a seven-*yojana*-high⁴⁰ golden castle and being served by seven *koṭi* angels). In Buddhism, those who take part in funerals for relatives or non-relatives believe they will be given 'magnificent merit', have their wishes fulfilled and experience enlightenment (*nibbāna*). Only paternal grandparents (*pu*, *ya*) are mentioned in the manuscripts; those who host funerals for their *pu* (paternal grandfather) will be rewarded with 'glorious merit' for seventy million *kappa*, and those who host funerals for their *ya* (paternal

³⁸ A *kappa* in a world eon, a world age, or a world cycle (Payutto 2015, 317). The Buddha explained that a *kappa* can be likened to an enormous piece of rock that is seven miles long, seven miles wide and seven miles deep in dimension. Once every one hundred years, a *deva* ('deity'), taking a piece of very fine cloth, rubs it until it is no more; this is the length of time of one *kappa* (Suvanno 2001, 48).

³⁹ One *koṭi* equals ten million (in years or number).

⁴⁰ One *yojana* equals sixteen kilometres (ten miles).

grandmother) will be rewarded the same. This practice reflects northern Thai paternalistic society and is also shared by many other east Asian cultures.⁴¹

Some words in the titles of the manuscripts in this case study are concerned with paying commemorative respect to the dead and dedicating merit to them: *song sakan* (สังสการ), *than ha phu tai* (ทานหาผู้ตาย), *plong sop* (ปลงศพ), *sarira* (สรีระ), *sop phi tai* (ศพผิตาย), *sak sop* (ซากศพ), *phao phi* (เผาผี), *chapanakit* (ฌาปนกิจ). Funeral participation is thus a merit-making process for the attendees and deceased alike. The participants are also involved in corpse management. The process of destroying corpses is effected through cremation. Traditionally, this was done outdoors at a local cemetery and the attendees placed a wooden flower on the corpse. Nowadays, before being put in a coffin, the corpses are also exposed and attendees are allowed to pour water onto the deceased's right hand. The practice is known as *rot nam sop* (รดน้ำศพ). The display of corpses is relevant to *asubha-kammaṭṭhāna* contemplation,⁴² which is part of the forty 'subjects of meditation' (*kammaṭṭhāna*).⁴³ Gruesome corpses are sometimes portrayed in the manuscript texts so that readers realise life is transient and death and decay inevitable. In the manuscript entitled *Anisong song sakan* (PNTMP, นน 0620021-00), a *sutta* from the Theravāda Buddhist Canon (*Tiṭṭaka*) called the *Amata-sutta* has been added at the very end of the colophon. It reads as follows: อานิสงส์สังสการมาจากธรรมอมตสรีระสการ บอกไว้ ('*Anisong song sakan* is derived from *Amata sarira sakan*'). The *Amata-sutta* (อมตสูตร) is included in the Saṃyutta Nikāya, in the Suttanta Piṭaka section of the *Amata-vakka* (อมตวรรค), and describes the *satipaṭṭhāna* ('four foundations of mindfulness')⁴⁴ expounded by Buddha Gotama, which lead us to *nibbāna* or the deathless state (*amata*).

⁴¹ Paternalistic leadership entails three dimensions: *authoritarianism* (hierarchical dynamics between leaders and subordinates and authorities to control and punish people), *benevolence* (nurturing and supporting subordinates) and *moral character* (behaving as a role model with moral integrity). Cheng et al. 2013, 2.

⁴² *Asubha-kammaṭṭhāna* contains contemplations on corpses at ten different stages of decay: *uddhumātaka* ('swollen corpse'), *vinīlaka* ('bluish-coloured corpse'), *vipubbaka* ('festering corpse'), *vicchiddaka* ('disjointed corpse'), *vikkhāyitaka* ('gnawed corpse'), *vikakhittaka* ('mangled corpse'), *hatavikakhittaka* ('hacked and scattered corpse'), *lohataka* ('bleeding corpse'), *puḷuvaka* ('worm-infested corpse') and *aṭṭhika* ('skeleton'). Payutto 2015, 247–248.

⁴³ The subjects of meditation include *kaṣiṇa* ('ten meditation devices'), *asubha* ('ten kinds of foulness'), *anusati* ('ten recollections'), *appamaññā* ('four unbound states of mind'), *āhārepaṭikūlasaññā* ('perception of the loathsomeness of food'), *catudhātu-vavaṭṭhāna* ('analysis of the four elements') and *arūpa* ('four absorptions of the formless spheres'). Payutto 2015, 277.

⁴⁴ The four foundations of mindfulness are *kāyānupassanā* ('contemplation of the body'), *vedanānupassanā* ('contemplation of feelings'), *cittānupassanā* ('contemplation of mind') and *dhammānupassanā* ('contemplation of "mind objects"'). Payutto 2015, 141.

The term *amata panha* or ‘questions on immortality’ is also found in another manuscript, entitled *Anisong phao phi* (DELMN, 321), narrating the story of King Pasenadi Kosala, who questioned Buddha Gotama about the rewards deriving from participating in different stages of funerals. The manuscript is made of palm leaves and was inscribed by a monk named Intha,⁴⁵ revealing that the *sangha* members enjoyed the privilege of having wider access to religious-textual sources.

5 Multiple-text manuscripts and composite manuscripts

Many of the *anisong* manuscripts contain more than one text. To understand how these manuscripts were produced, employed and stored, it is useful to distinguish between multiple-text manuscripts (MTMs) and composite manuscripts (COMs), as we saw previously in Subsection 4.1. When using these terms, we need to keep in mind that much of the codicological scholarship that has employed them used the codex as its paradigm. Once bound, a codex is relatively stable and does not allow for easy modification. Palm-leaf manuscripts are more flexible in this regard: generally speaking, folios in a palm-leaf manuscript fascicle can be removed or added simply by loosening its bookbinding thread.

The term ‘multiple-text manuscript’ was first suggested by Harunaga Isaacson.⁴⁶ Multiple-text manuscripts, in J. Peter Gumbert’s definition, designate codicological units produced from two or more texts ‘in a single operation’,⁴⁷ or a ‘production unit’ resulting from one process delimited in time and space.⁴⁸ An MTM contains several texts in a single production unit, thereby aggregating various bits of information into a textual unit produced at a single chronological moment. Limited access to writing supports was a leading reason for writing multiple-text manuscripts. In order to produce a palm-leaf writing support, for example, leaves of palm trees take up to ten days to prepare before the surface is ready to be inscribed. In the past, manuscripts made from palm leaves were therefore less accessible than other kinds of writing supports, such as mulberry paper or industrial paper. Sponsors had to think carefully about exactly what they should commission the scribes

⁴⁵ อินทะภิกขุจรจนาด้วยตนเองเดี๋ยวล (‘Intha Bhikkhu wrote [the manuscript] on his own’).

⁴⁶ Prof. Isaacson first suggested this term in Hamburg during discussions with members of DFG Research Group 963 ‘Manuscript Cultures in Asia and Africa’ (2008–2011).

⁴⁷ Gumbert 2004.

⁴⁸ See Friedrich and Schwarke 2016, 15–16.

to write on the material, as the scribes had to complete the writing in one go; the writing support was thus provided by estimating the number of palm leaves required for the whole text. Multiple texts could be included in a single fascicle in which at least one front folio and one rear folio were needed as covers. The texts were written one after the other with a small symbol between the previous text and the next one. This was much better than having a scribe write every single manuscript over and over again whenever the sponsors desired, which would have consumed a considerable amount of material and possibly led to a shortage of it.

The other related term, ‘composite manuscript’,⁴⁹ is also a codicological unit made up of formerly independent units.⁵⁰ In northern Thailand and Laos, a composite manuscript is a bundle of works including several fascicles. These individual works sometimes contain texts on similar subjects that were made at different times, and only later combined to form a bundle. In his 2016 article ‘“One-Volume Libraries” and the Traditions of Learning in Medieval Arabic Islamic Culture’, Gerhard Endress examines *mağmū’a* codices (*mağmū’a* means ‘collected’ or ‘put together’), distinguishing familiar types, including MTMs and composite manuscripts, in a way that can be compared with manuscripts with several content units in northern Thai and Lao manuscript cultures:

Composite Manuscripts, *recuelis factices*, were bound together from several cahiers or codicological units that in the first instance were produced and put to use separately, and then bound by bookseller or librarian, or the scribe himself. Multiple-text compilations (MTMs) organised and united by one scribe, and written in a continuous effort by a single hand. The text of one treatise would traverse the quire boundary after a quire had been filled. (A frequent practice, in the Arabic book as in the Latin West, consists of adding a catchword [*reclamans*] at the bottom of one quire pointing to the first word of the following quire in order to avoid disorder.) These would grow in the course of several months, or even years, before they were finally bound by the *muğallid* ‘bookbinder’ in the service of the *madrassa* and library foundations, or in the market by ‘papetiers’, *warrāqūn*, who sold both paper and copies of books by commission.⁵¹

As for *anisong* manuscripts from northern Thailand and Laos, one can identify manuscripts as multiple-text or composite by looking at the colophons where scribes (or their sponsors) wrote their wishes, intentions and other matter. Par-

⁴⁹ In 1939, the German medievalist Edward Schröder (1858–1942) distinguished between *Sammelhandschriften* and *Miszellanhandschriften* (Friedrich and Schwarke 2016, 3), which were both called ‘composite manuscripts’ by Lynn Thorndike (1882–1965). Their meaning is similar to ‘collecting manuscripts’ or multiple-text manuscripts. The term *Sammelhandschriften*, however, has a narrative connotation.

⁵⁰ Friedrich and Schwarke 2016, 16.

⁵¹ Endress 2016, 178.

acontent⁵² appearing in the manuscripts may indicate whether they were produced as a single unit but written by different people, or whether they were made for different donors. There are five multiple-text manuscripts and two composite manuscripts among the manuscripts in the corpus examined in this study.

5.1 Multiple-text manuscripts

As for multiple-text *anisong* manuscripts in northern Thailand and Laos, one fascicle (*phuk*) contains various *anisong* texts that are used on different occasions; the texts were thus mixed for the purpose of making a collection. There are distinctively rare cases in which *anisong* MTMs also include non-*anisong* texts in the same unit. Multiple-text manuscripts are found more frequently in northern Thailand than in Laos. Each contains several *anisong* texts that are supposed to be used in a range of different rituals, hence MTMs in northern Thailand served as textual *anisong* collections. MTMs could be written by monks or ex-monks. Sponsors who donated money to commission the copying of the manuscripts are mentioned in the colophons, sometimes accompanied by the names of scribes. A number of manuscripts display the names of familiar scribes who also wrote other manuscripts, which were sponsored by different donors. A scribe could therefore be hired to inscribe manuscripts by various sponsors.⁵³

Most of the five multiple-text manuscripts are made of mulberry paper, with the exception of BAP, BAD-13-1-0157 (1944 CE), which is made of palm leaves.⁵⁴

52 Paracontent, which has been discussed in an occasional paper published by the CSMC, is defined as data about manuscripts regarded as physical objects. It can have a bearing on both the core content and the manuscript itself and can also tell us something about the manuscript, helping us to reconstruct the activity of a specific scholar. This relates to colophons, titles and commentaries, for example, but also page or folio numbers, quire numbers and catchwords; see Ciotti et al. 2018.

53 There is also the case of groups of commissioners producing a number of manuscripts. A two-man commission consisting of the Supreme Patriarch and a former monk called Wandī worked together in Luang Prabang from 1962 to 1970 CE to make eight palm-leaf manuscripts containing fourteen *anisong* texts; see Jaengsawang 2022, 219–220.

54 The five texts are *Sòng dōk mai thup thian* ('Rewards deriving from the donation of flowers, incense sticks and candles'), *Sòng haksā sin* ('Rewards deriving from precept observance'), *Sòng fang tham* ('Rewards deriving from listening to the Dhamma'), *Sòng phao phi* ('Rewards deriving from participation in funerals') and *Sòng maha wetsandōn chadok* ('Rewards deriving from listening to Vessantara Jātaka').

The remaining four are PNTMP, ๗๗ 0620021-00 (year unknown),⁵⁵ BAP, BAD-13-2-034 (2004 CE),⁵⁶ BAP, BAD-13-2-037 (2004 CE)⁵⁷ and BAP, BAD-13-2-087 (year unknown).⁵⁸ Besides *anisong* texts used for funerals, the various texts included in the five multiple-text manuscripts were intended for gift-giving rituals and other miscellaneous rituals. Gift-giving is considered a fundamental practice in Buddhism, indeed the most fundamental one of all. Gift-giving occasions and religious events in general are closely associated with *anisong* sermons, as they are mainly held with the expectation of being rewarded with merit; the sermons thus play a role in confirming beneficial returns in one's next life.⁵⁹ Some rituals are not specifically held on a certain occasion,⁶⁰ but can also be performed in a variety of situations. *Anisong* sermons are mainly characterised by allowing devotees to earn merit via self-improvement by following Buddhist precepts and rules, listening to the Dhamma, doing meditation, considering or contemplating one's self alone, wishing for good things and reciting holy prayers. Acts of merit are basically done for different purposes at different times. For instance, *anisong* sermons explaining the rewards earned by taking care of one's own parents can be held at funerals or at the traditional New Year's celebration, when all the family members meet up.⁶¹

Thus, the mixture of texts in the five MTMs does not reflect any textual similarities, but rather their frequent use on religious occasions. One clear case is the mulberry-paper manuscript coded BAP, BAD-13-2-037, which includes two *anisong* texts: *Salòng pong sop lü phao phi* ('Rewards deriving from participation in funerals') and *Salòng ciwòn* ('Rewards deriving from the donation of monks' robes). The two texts can both be used at funerals. Offering robes (Thai: *ciwòn*, or *pha bangsukun*) to monks is another activity performed at funerals. Before a cremation begins, a set of monk's robes is placed on sacred threads between the coffin and the monk, symbolising the dedication of monks' robes by the dead.

55 The manuscript contains numerous texts used for magical rituals.

56 This manuscript contains four texts: *Salòng ciwòn* ('Rewards deriving from the donation of monks' robes'), *Salòng haksá sin* ('Rewards deriving from precept observance'), *Salòng pha phutthahup* ('Rewards deriving from the donation of Buddha images') and *Salòng pong sop lü phao phi* ('Rewards deriving from participation in funerals').

57 The manuscript contains two texts: *Salòng pong sop lü phao phi* ('Rewards deriving from participation in funerals') and *Salòng ciwòn* ('Rewards deriving from the donation of monks' robes').

58 The manuscript contains two texts: *Anisong fang tham* ('Rewards deriving from listening to the Dhamma') and *Anisong phao phi* ('Rewards deriving from participation in funerals').

59 See Jaengsaawang 2022, 256.

60 Regarding the different types of rituals, see Jaengsaawang 2022, 274.

61 See Jaengsaawang 2022, 274.

Bangsukun (บังสุกุล) means ‘being full of dust’ and denotes uncleaned cloth that has been disposed of as an ‘unused’ object. During Buddha Gotama’s lifetime, monks were requested to find themselves ‘unused’ cloth and make it into robes for themselves; they were not allowed to ask laypeople explicitly for robes. As regulated by the Buddhist canon, which elaborates the concept of detachment, Buddhist monks have to take such cloth and use it to make robes for themselves regardless of its condition.⁶² This tradition has developed from Buddhist canonical conventions describing how Buddhist monks once took ‘unused’ cloth from roads, forests and even cemeteries (the clothes left on corpses there) and used it as their robes. Offering robes at funerals is therefore considered an example of merit-making on behalf of the deceased.

Multiple-text manuscripts were sometimes commissioned to provide further copies, as in the case of the manuscripts coded BAP, BAD-13-2-034 and BAP, BAD-13-2-037. According to their inventory sheets, they are kept in a cabinet in the prayer room (*hong wai phra*) at the abode of the Venerable Sathu Nyai Khamchan (1920–2007) at Vat Saen Sukharam, Luang Prabang, where the owner could easily access them for his own use. The manuscripts were written by Thit Niao Maniwong,⁶³ a Buddhist scholar in Luang Prabang. He wrote a number of *anisong* manuscripts made of mulberry paper. The honorific title ‘Thit’ refers to the scribe’s ex-monk status; he undoubtedly experienced learning Tham script during his monkhood. The mulberry-paper manuscripts made by him were all produced with the same layout, composed of similarly styled covers and paper connected in a single long sheet with oblong folds (Fig. 9).⁶⁴ Whether or not he designed the covers himself is unclear. The colophons mostly include blank spaces with dotted underlines that are provided for filling in the names of sponsors and merit recipients

62 See the *Nissaggiyakaṇḍa*, describing ten regulations pertaining to robes in Vinaya Piṭaka, the second volume of the Buddhist canon known as the *Tiṭṭaka*.

63 No further information about him exists apart from a study by Bounleuth Sengsoulin, who mentions his social status pertaining to a specific dating system: ‘Thit Niao Maniwong (Thit Niao) was a Buddhist scholar in Luang Prabang who followed the newly introduced orthographic system of the Tham-Lao script and the new way of writing manuscripts – both the system and the way might have been put into place by Sathu Nyai Khamchan. However, Thit Niao did not use two dating systems in the same manuscript, whereas some manuscripts initiated by Sathu Nyai Khamchan regularly contain two dating systems, the Buddhist and Minor Eras. Therefore, Thit Niao had his own way of dating manuscripts’. Bounleuth 2016, 240–241.

64 MTM containing four texts: *Salòng ciwôn* (‘Rewards deriving from the donation of monks’ robes’), *Salòng haksā sin* (‘Rewards deriving from precept observance’), *Salòng pha phutthahup* (‘Rewards deriving from the donation of Buddha images’) and *Salòng pong sop lü phao phi* (‘Rewards deriving from participation in funerals’).

(Fig. 10)⁶⁵. The abbreviation ‘ဂ.လ.’ on some of the title pages means ‘already checked’ (ဂၢၤတၢ်လၢၤ). Presumably, Thit Niao Maniwong intended the manuscripts to serve as master copies from which to make future exemplars.



Fig. 9: An MTM containing four texts, cover page. BAP, BAD-13-2-034.

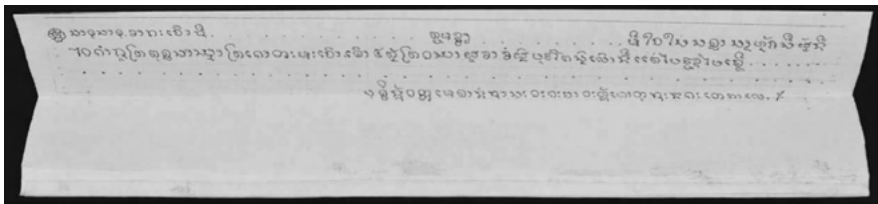


Fig. 10: An MTM containing four texts, colophon. BAP, BAD-13-2-037.

5.2 Composite manuscripts

In *anisong* composite manuscripts made in northern Thailand and Laos, each bundle contains more than one fascicle. Each fascicle was originally made by different production units at different times and with the financial help of different sponsors, and the fascicles were combined into bundles to serve particular purposes. Some were collected on the basis of similar textual themes, while others were combined so they could be employed on similar occasions. The two composite manuscripts in this case study are PNTMP, ယူ 03-06-320-428⁶⁶ and DLLM, 01012906002-

⁶⁵ MTM containing four texts: *Salòng pong sop lü phao phi* (‘Rewards deriving from participation in funerals’), *Salòng ciwòn* (‘Rewards deriving from the donation of monks’ robes’), *Salòng pha phutthahup* (‘Rewards deriving from the donation of Buddha images’) and *Salòng pong sop lü phao phi* (‘Rewards deriving from participation in funerals’).

⁶⁶ The whole bundle is coded PNTMP, ယူ 03-06-320-428, but the individual fascicles inside are uncoded. The fourteen fascicles are *Anisong liang phò liang mae*, *Anisong khao phan kôn*, *Anisong sapphathan*, *Anisong sia phi*, *Anisong buat mai*, *Anisong sang tham*, *Anisong kwat wat*, *Anisong kathinathan*, *Anisong pi mai*, *Anisong pha bangsukun*, *Anisong pidok*, *Anisong chapanakit*, *Anisong pi mai* and *Anisong bòk fai*.

04. The former contains fourteen fascicles, each of which contains a single text. These were probably mostly used as sermon texts in gift-giving rituals and calendrical rituals without any thematic similarity or with a common purpose. The latter contains five fascicles; only one contains multiple texts, whereas the remaining four are single-text items. They are *Salòng sop* ('Rewards deriving from participation in funerals') (1904 CE), *Thesana chapanakit wiphak* ('Liturgy at funerals') (year unknown), a multiple-text fascicle⁶⁷ (year unknown), *Sòng sop* ('Rewards deriving from participation in funerals') (1846 CE) and *Sòng sop phi tai* ('Rewards deriving from participation in funerals') (year unknown). Each of these texts was written in a separate fascicle in different years and then later added to a bundle because of their thematic similarity and common purpose: to serve as funerary liturgical texts. The sponsorship and authorship of these five fascicles were dominated by *sangha* members, monks and novices.⁶⁸ They were a particular group with broader access to religious sources than other people and were in charge of ritual chanting at funerals, thereby producing sermon texts that served their practical uses. Only one fascicle, entitled *Sòng sop*, was sponsored by a group of laypeople (in 1846 CE), and, according to the colophon,⁶⁹ it was initially donated to a monastery along with six other texts written in fourteen fascicles before it was picked out to be regrouped into the current bundle.

⁶⁷ This fascicle contains three texts, making it a multiple-text manuscript: *Sòng sop* ('Rewards deriving from participation in funerals'), *Sòng pitaka* ('Rewards deriving from copying religious books') and *Sòng kammawaca* ('Rewards deriving from sponsoring ordination ceremonies').

⁶⁸ ผู้ข้าชื่อว่าจ้าวเป้าได้สร้างหนังสือสองศพ ('I, a novice called Pao, produced this manuscript, entitled *Sòng sop*'), พระทองสังข์ แก้วสีเรือง สุวันโณ ลิกขาเปตี ('Phra [monk] Thongsang Kaeosiruang Suvanṇo inscribed [this manuscript]'), เจ้าหม่อมหล้า ได้เขียนหนังสือสองศพไว้กับศาสนา ('Cao Mò [monk] La inscribed this manuscript, entitled *Sòng sop*, for the Buddhist religion') and ทูชัตติยวงศาเป็นผู้รจนาสร้างหนังสือสองศพผัดตาย ('Thu [monk] Khattiyavamsā inscribed this manuscript, entitled *Sòng sop phi tai*').

⁶⁹ หมายถึงมูลศรัทธาพ้อหม่อมอ่อนตาและภรรยาบุตรนัดดา มีใจใสศรัทธาสรางปัญญาบารมีหลวงมี ๘ ผูกแล สุวรรณกุมารมี ๒ ผูกแล ศรัทธาวิมาลา ๑ ผูกแล กุสลาวินิจนัยกถา ๑ ผูกแล หนูคำ ๑ ผูกแล หนูเผือก ๑ ผูกแล สองสบ ๑ ผูกแล หมดเท่านั้น ('[The production of this manuscript was sponsored by] principal initiators including Phò Mò (monk) Ònta, his (ex-)wife, his children and his grandchildren, who had the ardent religious faith to sponsor eight fascicles of *Panya Barami Lüang*, two fascicles of *Suvanṇakumāra*, one fascicle of *Saddhāvīmālā*, one fascicle of *Kusalavinicchaya-gathā*, one fascicle of *Nu Kham*, one fascicle of *Nu Phüak* and one fascicle of *Sòng sop*').

6 Manuscript circulation

Funerals are important because they are life-transition rituals. The manuscripts discussed here were required for funerary rituals and were therefore in high demand, but limited in number and kept at monasteries. Accordingly, in the past, *anison* manuscripts used for funerals were often borrowed and circulated in the community. Ownership notes found in several *anison* manuscripts reflect this, their aim being to ensure that the manuscript was returned to its proper place. The manuscript entitled *Sòng sak sop khon tai* (BAP, BAD-13-1-0771) was sponsored by a group of laypeople and inscribed by a monk associated with Vat Siang Thòng, but it is currently kept at Vat Saen Sukharam. The manuscript must have been circulated among local monasteries in Luang Prabang until it ended up being stored in its current monastic repository. An ownership note added to the last folio – simply the name ‘Vat Saen’ – evidently relates to this culture of manuscript circulation. Admonitions about returning manuscripts to their rightful places (monasteries) are sometimes found along with affiliation markers. A palm-leaf manuscript kept in Lampang province includes an admonition and the following ownership statement:

ผู้ต้องการยืมเอาไปทางใด ขอเอามาไว้วัดบ้านเอื้อมตั้งเก่า สัมมาที่ใด สัมไปที่นั้น
อย่าไปลืมเนื้อ

Borrowers should return the manuscript to Wat Ban Ūam; please return things to their rightful location. Do not forget.⁷⁰

Another notable example is a multiple-text palm-leaf manuscript coded BAP, BAD-13-1-0157 (1944 CE) (see Figs 11–13). It contains five texts: *Sòng dòk mai thup thian* (‘Rewards deriving from the donation of flowers, incense sticks and candles’), *Sòng haksa sin* (‘Rewards deriving from precept observance’), *Sòng fang tham* (‘Rewards deriving from listening to the Dhamma’), *Sòng phao phi* (‘Rewards deriving from participation in funerals’) and *Sòng maha wetsandòn chadok* (‘Rewards deriving from listening to Vessantara Jātaka’). Besides having an ownership note like the previous one (‘Vat Saen’; Fig. 11), the foliation system of the manuscript was also designed with its circulation in mind. On their recto side, the folios are marked with Nai Tham numerals in the left-hand margin, ordering the folios of each text (Fig. 12), while the verso side of the folios is

⁷⁰ PNTMP, สป 0420097-02, fol. 17^v.

marked with syllables,⁷¹ ordering the folios of the whole manuscript fascicle (Fig. 13). Each of the five texts has the same template of headings and is followed by blank folios serving as separators, thereby enabling specific texts to be picked out and ‘borrowed’ individually without affecting any of the adjacent texts and then returned to the correct place in the fascicle afterwards. This particular manuscript circulated among local temples, which shared it,⁷² and judging by the co-existence of two different foliations,⁷³ each of the individual texts was borrowed by different users (either a preaching monk or one of the users added an ownership label to indicate the manuscript’s origin). Foliation could be done in accordance with the use of manuscripts in a community, as Bounleuth Sengsoulin has explained:

The different ways of counting the leaves of various manuscripts indicate that the Buddhist scholars of Luang Prabang have established their own rather idiosyncratic pagination system for palm-leaf manuscripts. Both traditional numerals and the orthographic system of Sanskrit and Pali have been applied in order to list the leaves of manuscripts.⁷⁴

71 Unlike paper manuscripts, palm-leaf manuscripts are mostly numbered using a combination of consonant and vowel graphemes, according to the order used for the arrangement of words written in Devanagari and other Indic scripts (for the sake of simplicity, I will call it just ‘Sanskrit orthography’ here). This system of foliation is especially used for manuscripts that contain religious texts. The first twelve folios would start with a *k* (a voiceless and unaspirated velar), the first consonant of the alphabet, which is then combined with twelve vowels – *a, ā, i, ī, u, ū, e, ai, o, au, aṃ, aḥ* – used in Sanskrit. Apart from the last one, these vowels are pronounced in a similar way to the corresponding vowels in Lao. The first twelve folios would be paginated, for example, as follows: *ka, kā, ki, kī, ku, kū* and so on, which corresponds to one, two, three, four, five, six etc. (up to twelve). In the case of a longer text, i.e. a fascicle of a palm-leaf manuscript comprising more than twelve leaves, the remaining consonants, such as *kh, g, gh, ṅ, c, ch, j, jh, ñ* and so forth, would likewise be combined with the same set of twelve vowels. Khamvone and Grabowsky 2017, 20–21.

72 Manuscripts were shared by local temples and circulated among them. They were sometimes kept at a specific monastery and borrowed by monks from other temples.

73 Numerous palm-leaf manuscripts found in the abode of the Venerable Monk Sathu Nyai Khamchan Virachitto are also foliated using two systems, numerals and words. As Khamvone Boulyaphonh and Volker Grabowsky have observed, ‘The numeral was mostly written in the left-hand margin of the first page of each leaf, whereas the numerated word was placed in the traditional manner. Some palm-leaf manuscripts have been foliated twice, first with the combination of consonant and vowel graphemes as described above and a second time (mostly not by the original scribe but by a later user) by using numerals’. Khamvone and Grabowsky 2017, 21.

74 Bounleuth 2016, 61.



Fig. 11: A multiple-text manuscript containing five *anisong* texts. BAP, BAD-13-1-0157, fols 1' to 5'.



Fig. 12: *Sông dôk mai thup thian* ('Rewards deriving from the donation of flowers, incense sticks and candles'). BAP, BAD-13-1-0157, fols 1' to 5'.



Fig. 13: *Sông dôk mai thup thian* ('Rewards deriving from the donation of flowers, incense sticks and candles'). BAP, BAD-13-1-0157, fol. 6'.

7 Conclusion

Funerals are held to commemorate the dead and remind the attendees to be aware of the transience of life. Besides describing the rewards one could gain from taking part in different funeral processes, *anisong* manuscripts delineate the various stages of physical decay that corpses undergo. *Anisong* sermons are given by monks to promise forthcoming rewards to the participants themselves and to the dead. Funerals are organised in the form of social activities and can be attended by family members, relatives and friends of the deceased as well as other people, all of whom receive rewards. The *sangha* community was familiar with Buddhist textual sources, including the frequently mentioned *Amata-sutta*, and was therefore particularly responsible for producing *anisong* manuscripts. Since holding sermons was a practice that was not restricted to well-trained preachers, mistakes and revisions are commonly found in the manuscripts in our corpus, but they never devalue the sacredness of the manuscripts, as they were corrected by the preaching monks and the texts were always read aloud. *Anisong* manuscripts provide evidence of interaction between monks and their lay audience during sermons, in which the monks were expected to wear suitable attire and talk to the attendees to alleviate their grief as need be. Since funerals have remained a living tradition, the manuscripts were sometimes re-grouped to create new bundles used for subsequent funerals. In some cases, the bundles could be undone and individual sections could be taken out and reinserted later. Funerals were such regular occurrences that *anisong* manuscripts were also used as master versions to make further copies. Mulberry-paper manuscripts were produced in a pothi shape to imitate palm leaves when this natural material started to become rare.

Manuscripts

DLNTM = Digital Library of Northern Thai Manuscripts

Vientiane, National Library of Laos, ซม 0606003-04. อานิสงส์สังสการพิตาย [*Anisong song sakan phi tai*], palm-leaf manuscript; language: Pali and Thai; script: Tham Lan Na; 9 fols; cs 1297 (1935 CE).

PNTMP = Preservation of Northern Thai Manuscripts Project

Chiang Mai, Wat Chiang Man, ซม 0106001-05. อานิสงส์ทานไปหากนตาย [*Anisong than pai ha khon tai*], palm-leaf manuscript; language: Pali and Thai; script: Tham Lan Na; 5 fols; undated.

Lampang, Wat Ban Uam, ลป 0420097-02. สามิทำงานศพอุทิศให้แกภริยาที่ดับขันธืไป [*Sami tham ngan sop uthit hai kae phariya thi dap khan pai*], palm-leaf manuscript; language: Pali and Thai; script: Tham Lan Na; 18 fols; CS 1307 (1945 CE).

Nan, Wat Monthian, นน 03-06-320-428. รวมอานิสงส์: อานิสงส์เลี้ยงพ่อเลี้ยงแม่; อานิสงส์ข้าวพันก้อน; อานิสงส์สรรพทาน; อานิสงส์เสียดิ; อานิสงส์บวชใหม่; อานิสงส์สร้างธรรม; อานิสงส์กวาดวัด; อานิสงส์กฐินทาน; อานิสงส์บิใหม่; อานิสงส์ผ้าบังสุกุล; อานิสงส์บิฎก; อานิสงส์ฌาปนกิจ; อานิสงส์บิใหม่; อานิสงส์บิอกไฟ [*Anisong liang phò liang mae; Anisong khao phan kòn; Anisong sapphathan; Anisong sia phi; Anisong buat mai; Anisong sang tham; Anisong kwat wat; Anisong kathinathan; Anisong pi mai; Anisong pha bangsukun; Anisong pidok; Anisong chapanakit; Anisong pi mai; Anisong bòk fai*], palm-leaf manuscript; language: Lao and Pali; script: Tham Lao; CS 1263 (1901 CE).

Nan, Wat Pa Müat, นน 0620021-00. อานิสงส์สังสาร [*Anisong song sakan*], mulberry-paper manuscript; language: Pali and Thai; script: Tham Lan Na; 16 fols; undated.

Nan, Wat Phra Koet, นน 11-06-003-01. อานิสงส์ฌาปนกิจ [*Anisong chapanakit*], palm-leaf manuscript; language: Pali and Thai; script: Tham Lan Na. Undated.

Phrae, Wat Phrabat Ming Müang, พร 0406012-03. อานิสงส์เผาผีให้ [*Anisong phao phi bò hai*], palm-leaf manuscript; language: Pali and Thai; script: Tham Lan Na; 11 fols; CS 1200 (1838 CE).

Phrae, Wat Sung Men, พร 0106004-01. อานิสงส์เผาผี [*Anisong phao phi*], palm-leaf manuscript; language: Pali and Thai; script: Tham Lan Na; 11 fols; undated.

Phrae, Wat Sung Men, พร 0406012-01. อานิสงส์สรีระ [*Anisong sarira*], palm-leaf manuscript; language: Pali and Thai; script: Tham Lan Na; 8 fols; CS 1273 (1911 CE).

DLLM = Digital Library of Lao Manuscripts

Luang Prabang, Vat Mai Suvanna Phumaram, 06011406004-05. สองศพคนตาย [*Sòng sop khon tai*], palm-leaf manuscript; language: Lao and Pali; script: Tham Lao; 19 fols; CS 1310 (1948 CE).

Luang Prabang, Vat Mai Suvanna Phumaram, 06011406006-04. สองอานิสงส์บุญที่ได้ทานไปหาผู้ตาย [*Sòng anisong bun thi dai than pai ha phu tai*], palm-leaf manuscript; language: Lao and Pali; script: Tham Lao; 10 fols; CS 1342 (1980 CE).

Vientiane, National Library of Laos, 01012906002-04. รวมอานิสงส์: สองศพ; เทศนาฌาปนกิจวิภาค; สองศพ; สองศพ; สองศพผิตาย [*Sòng sop; Thesana chapanakit wiphak; Sòng sop; Sòng sop; Sòng sop phi tai*], palm-leaf manuscript; language: Lao and Pali; script: Tham Lao; 66 fols; CS 1266 (1904 CE).

DELMN = Dokumentarische Erfassung literarischer Materialien in den Nordprovinzen Thailands

Lamphun, Wat Huai Nam Dip, 321. อานิสงส์เผาผี [*Anisong phao phi*], palm-leaf manuscript; language: Pali and Thai; script: Tham Lan Na; 13 fols; CS 1295 (1933 CE).

BAP = The Buddhist Archive of Photography

Luang Prabang, Vat Saen Sukharam, BAD-13-1-0157. รวมอานิสงส์: สองดอกไม้รูปเขียน; สองเผาผี; สองมหาเวสสันดรชาดก [*Sòng dòk mai thup thian; Sòng phao phi; Sòng maha wetsandòn chadok*], palm-leaf manuscript; language: Lao and Pali; script: Tham Lao; 40 fols; CS 1306 (1944 CE).

- Luang Prabang, Vat Saen Sukharam, BAD-13-1-0771. สองซอกศพคนตาย [*Sòng sak sop khon tai*], palm-leaf manuscript; language: Lao and Pali; script: Tham Lao; 10 fols; CS 1313 (1951 CE).
- Luang Prabang, Vat Saen Sukharam, BAD-13-2-034. รวมอานิสงส์: สองงจีวร; สองงรักษาศีล; สองงพระพุทธรูป; สองงปลงศพหรือเผาผี [*Salòng ciwòñ; Salòng haksà sin; Salòng pha phutthahup; Salòng pong sop lù phao phi*], mulberry-paper manuscript; language: Lao and Pali; script: Tham Lao; 12 sides; CS 1366 (2004 CE).
- Luang Prabang, Vat Saen Sukharam, BAD-13-2-037. รวมอานิสงส์: สองงปลงศพหรือเผาผี; สองงจีวร; สองงพระพุทธรูป; สองงปลงศพหรือเผาผี [*Salòng pong sop lù phao phi; Salòng ciwòñ; Salòng pha phutthahup; Salòng pong sop lù phao phi*], mulberry-paper manuscript; language: Lao and Pali; script: Tham Lao; 7 sides; CS 1366 (2004 CE).
- Luang Prabang, Vat Saen Sukharam, BAD-13-2-087. รวมอานิสงส์: อานิสงส์พึงธรรม; อานิสงส์เผาผี [*Anisong fang tham; Anisong phao phi*], mulberry-paper manuscript; language: Lao and Pali; script: Tham Lao; 20 sides; undated.

References

- Bounleuth Sengsoulin (2016), *Buddhist Monks and Their Search for Knowledge: An Examination of the Personal Collection of Manuscripts of Phra Khamchan Virachitto (1920–2007), Abbot of Vat Saen Sukharam, Luang Prabang*, PhD thesis, Universität Hamburg.
- Cheng, Bor-Shiuan et al. (2013), 'Paternalistic Leadership in Four East Asian Societies: Generalizability and Cultural Differences of the Triad Model', *Journal of Cross-Cultural Psychology*, 45/1: 1–9 <doi.org/10.1177/0022022113490070>.
- Ciotti, Giovanni et al. (2018), 'Definition of *Paracontent*', *CSMC Occasional Paper*, 6, <doi.org/10.25592/uhhfdm.9814>.
- Endress, Gerhard (2016), "'One-Volume Libraries" and the Traditions of Learning in Medieval Arabic Islamic Culture', in Michael Friedrich and Cosima Schwarke (eds), *One-Volume Libraries: Composite and Multiple-Text Manuscripts* (Studies in Manuscript Cultures, 9), Berlin: De Gruyter, 171–206.
- Friedrich, Michael and Cosima Schwarke (2016), 'Introduction – Manuscripts as Evolving Entities', in Michael Friedrich and Cosima Schwarke (eds), *One-Volume Libraries: Composite and Multiple-Text Manuscripts* (Studies in Manuscript Cultures, 9), Berlin: De Gruyter, 1–26.
- Grabowsky, Volker (2017), 'Anisong Through Religious Donations: The Case of the Phaya Sekòng Manuscript from Müang Sing (Laos)', in *13th International Conference on Thai Studies: 'Globalized Thailand? Connectivity, Conflict and Conundrums of Thai Studies', 15–18 July 2017, Chiang Mai University, Thailand*, vol. 1: A–G, Chiang Mai: Chiang Mai University, Regional Center for Social Science and Sustainable Development (RCSD), 410–434 <https://icts13.chiangmai.cmu.ac.th/download_pub.php?ct=cMXxfhstXNgElmBwDQuLv0bjplusj&> (accessed on 7 March 2023).
- Gumbert, J. Peter (2004), 'Codicological Units: Towards a Terminology for the Stratigraphy of the Non-Homogeneous Codex', in Edoardo Crisci and Oronzo Pecere (eds), *Il codice miscellaneo: Tipologie e funzioni. Atti del convegno internazionale (Cassino, 14–17 maggio 2003) = Segno e testo*, 2: 17–42.

- Jaengsaawang, Silpsupa (2022), *Relationship between Anisong Manuscripts and Rituals: A Comparative Study of the Lan Na and Lao Traditions* (Hamburger Thaiistik-Studien, 4), Segnitz: Zenos Verlag.
- Khamvone Boulyaphonh and Volker Grabowsky (2017), *A Lost Monastery Library Rediscovered: A Catalogue of Lao Manuscripts Kept in the Abbot's Abode (kuti) of Vat Si Bun Hüang, Luang Prabang* (Hamburger Südostasienstudien, 15), Hamburg: Südostasien-Abteilung der Universität Hamburg / New York: Anantha Publishing.
- Ladwig, Patrice (2008), *From Revolution to Reform: Ethics, Gift Giving and Sangha-state Relationships in Laos Buddhism*, PhD thesis, University of Cambridge.
- Ladwig, Patrice (2012a), 'Can Things Reach the Dead? The Ontological Status of Objects and the Study of Lao Buddhist Rituals for the Spirits of the Deceased', in Kirsten W. Endres and Andrea Lauser (eds), *Engaging the Spirit World: Popular Beliefs and Practices in Modern Southeast Asia* (Asian Anthropologies, 5), New York: Berghahn, 19–41 <doi.org/10.1515/9780857453594-004>.
- Ladwig, Patrice (2012b), 'Feeding the Dead: Ghosts, Materiality and Merit in a Lao Buddhist Festival for the Deceased', in Paul Williams and Patrice Ladwig (eds), *Buddhist Funeral Cultures of Southeast Asia and China*, Cambridge: Cambridge University Press, 119–141.
- McDaniel, Justin (2008), *Gathering Leaves and Lifting Words: Histories of Buddhist Monastic Education in Laos and Thailand* (Critical Dialogues in Southeast Asian Studies), Seattle: University of Washington Press (in association with Silkworm Books, Thailand).
- Payutto, P. A. (2015), *Photcananukrom phutthasat chabap pramuan tham พจนานุกรมพุทธศาสตร์ ฉบับประมวลธรรม / Dictionary of Buddhism*, Bangkok: Museum for Sustainable Buddhism.
- Phra A-thikanratana Ratano (Buathong) (2018), *Kan bòrihan cat kan kan oprom phu buat raya san khòng khana song cangwat ang thòng การบริหารจัดการการอบรมผู้บวชระยะสั้นของคณะสงฆ์ จังหวัดอ่างทอง / Training Management for Short-Term Ordained Monks of Sangha in Ang Thong Province, s.l.: s.n.*
- Suvanno Mahathera (2001), *The 31 Planes of Existence*, Malaysia: Buddha Dhamma Education Association Inc.
- Thammaporn Sukmee (2016), *Prapheni ngan sop: Krabuankan klai pen sin kha phai tai krasae bòriphok niyom ประเพณีงานศพ: กระบวนการกลายเป็นสินค้าในกระแสบริโภคนิยม / Funeral Traditions: Commoditization in Consumerism*, Master's thesis, Prince of Songkla University, Thailand <https://kb.psu.ac.th/psukb/handle/2016/11234> (accessed on 7 March 2023).
- Veidlinger, Daniel M. (2007), *Spreading the Dhamma: Writing, Orality, and Textual Transmission in Buddhist Northern Thailand*, Honolulu: University of Hawai'i Press.



Manuscripts as Performers

Laura Fernández Fernández

The Palace as ‘Theatre of Knowledge’: Performing with Manuscripts in the Alfonsine Court

Abstract: Through three particularly representative examples of book culture in the time of Alfonso X, I will analyse the performative role of books acquired at the Alfonsine court, their symbolic and representational value, their functionality, but also their consultation, manipulation and preservation after the king’s death.

1 The Learned King

When analysing the manuscript production commissioned by King Alfonso X (1221–1284), we cannot ignore the performative value that books acquired in his court. The monarch decided to rule under the sign of knowledge and distinguish his person with the attributes of wisdom, emulating the wise biblical kings, David and Solomon,¹ as well as other models of government in which wisdom acquired a prominent meaning. During his reign, books were used as a space for political reflection, creative and scientific experimentation, as a place in which to gather previous traditions that could serve as a theoretical framework for new postulates, and as a platform for projection into the future. As a result, book culture became the cornerstone of his governmental action and, as we shall see, the book became a distinctive element of his visual representation.

Alfonso X rose to the throne in 1252 and, from the very beginning of his reign, he took advantage of the rich cultural scene of the Iberian Peninsula. Al-Andalus had become an important hub of exchange connecting influences from the Islamic sphere, and a fertile area for cultural and scientific creation. Classical sources translated into Arabic circulated alongside newly created works, which meant that several cities, most notably Toledo, became points of reference for scholars from other parts of Europe who came to translate Arabic manuscripts into Latin.² The king and his collaborators had access to this intellectu-

1 Procter 1951; Boudet 2008; Gregorio 2008; Rodríguez de la Peña 2014–2015; Bautista 2014; Bautista and Fernández Fernández 2022.

2 Burnett 1995; Burnett 2001; Burnett 2009; Márquez Villanueva 1996; Pym 2000.

al wealth that marked the development of the royal scriptorium henceforth, especially the labour of the scientific workshop, but also influencing the focus and contents of other topics of interest for him, such as history³ or law.⁴ The assimilation and inclusion of this Islamic cultural legacy, in addition to the activity developed by the Hebrew community (as many members of the royal workshop were Jewish), characterized and distinguished the intellectual production of Alfonso X from his earliest days in power.⁵ In addition to classical and Islamic sources, the Alfonsine teams had access to other early medieval materials, particularly the works of St Isidore of Seville and Roman law, and were not unaware of contemporary debates taking place in other parts of the Christian West, especially thanks to their family and diplomatic links with England, France and the Holy Roman Empire, including important territories in the Italian Peninsula, as well as with the Crown of Aragon, which helps to visualise an interconnected intellectual space. Furthermore, we must not forget the influence of the projects led by Archbishop Rodrigo Jiménez de Rada (1209–1247)⁶ at the court of his father, Fernando III (1217–1252), which could also have influenced the political and cultural interests of the monarch.⁷

All these resources were gathered and put at the service of the king's intentions through a project that went beyond cultural purposes and pursued the creation of a structure to support his ideal of government. Thus, Alfonso X conceived the acquisition and dissemination of knowledge as an integral part of his

3 Fernández-Ordóñez 1992; Fernández-Ordóñez 2000.

4 Velasco 2020.

5 On the use of Islamic sources and the role of Jewish collaborators at the court, see Millás Vallicrosa 1933; Procter 1945; Bossong 1982; Bossong 2008–2009; Roth 1985; Romano 1992; Foz 1998; Samsó 2008–2009; Samsó 2020; Fierro 2009; Alvar 2010; Fernández Fernández 2013; Fernández Fernández 2022.

6 Rodrigo Jiménez de Rada, *Historia de Rebus Hispaniae*, ed. Fernández Valverde 1987; Rodrigo Jiménez de Rada, *Historia arabum*, ed. Lozano Sánchez 1993.

7 Works commissioned by Alfonso X encompassed the following subjects: scientific work, the most developed part in terms of the volume of works produced, which also includes aspects related to magic and astrology (*Lapidario*, *Libro conplido en los iudizios de las estrellas*, *Libro de las cruces*, *Cuadripartito*, *Libro de la mágica de las imágenes* [Picatrix], *Liber Razielis*, *Cosmología de Ibn al-Haytam*, *Tablas Alfonsíes*, *Libro del saber de astrología*, *Libro de las formas e de las ymágenes*, *Libro de astromagia*, *Cánones de Albateni*, *Tablas de Azarquiel*, *Tratado del cuadrante señero*); legislative work (*Espéculo*, *Fuero Real*, *Siete Partidas*, *Setenario*); historiographical/hagiographical work (*Estoria de España*, *General Estoria* and *Vitae Patrum*); literary works, both sapiential literature (*Calila e Dimna*, *La escala de Mahoma*) and poetic work (*Cantigas de Santa María*, secular cantigas), and a treatise on games (*Libro del axedrez*, *dados e tablas*). For an overview, see Fernández-Ordóñez 2021.

duties as sovereign and made his cultural and intellectual action a clear extension of his political ideals.⁸

We could assert that this attitude is not an exception within the medieval European context.⁹ In fact, the symbolic dimension of the book and written culture as a distinctive element of power during the Middle Ages is a constant topic of discussion in the scholarly literature. The use of knowledge was an outstanding feature of the royal figure, to the extent that the monarch had the obligation to form himself and study the different kinds of sciences in order to make proper use of them. The dictum 'rex illiteratus est quasi asinus coronatus' ('an ignorant king is like a crowned donkey'), a message that John of Salisbury codified in his *Policraticus* (c. 1159), one of the most important texts of medieval political theory, is widely known. In this work, the author points out the risk of leaving the kingdom in the hands of an ignorant ruler because 'without wisdom no government is able to endure or exist'.¹⁰ Nevertheless, these responsibilities were not always assumed by the monarchs, and, if so, it was at different levels of intensity.¹¹

In the context of the Castilian Crown, this approach acquired a significant relevance thanks to the rich Arabic sapiential tradition that was assimilated in court literature through the 'mirrors for princes', with Alfonso X as a paradigm of a well-educated ruler.¹² The king assumed wisdom as the essential leitmotiv of his governmental action, and the construction of his figure and definition of his political project were indissolubly blended with this concept. In the *Libro del fuero de las leyes*, known as the *Siete Partidas*, the seven-parts law code commissioned by the king, we can find a clear reflection of this. In the 'II Partida', or 'Second Part', the chapter devoted to the royal figure and his duties, the text asserts:

A king should be eager to learn the sciences, for, by means of them, he will understand the affairs of sovereigns and will better know how to act with regard to them. Moreover, by knowing how to read, he will be better able to keep his secrets, and be master of them, which, under other circumstances, he could not well do. For, by want of familiarity with

8 Burns 1990; O'Callaghan 1993, esp. Chap. 17, 270–282; Márquez Villanueva 2004, esp. 35–40.

9 From the twelfth century onwards, there was a change in the paradigm regarding the value of knowledge within the framework of theological thought, and it came to be considered a tool for approaching divinity and, therefore, for salvation. Dahan 1990; Paul 1998; Verger 2001.

10 John of Salisbury, *Policraticus*, ed. Nederman 1990, 45.

11 Dickinson 1926; Born 1928; Nederman and Brückmann 1983; Wilks 1984; Rodríguez de la Peña 2019.

12 Rucquoi 1995; Rucquoi 2006; Gómez Redondo 1998, 241–291; Bizzarri and Rucquoi 2005. For the historiographic tradition of 'mirror for princes', see Boccaccini 2022.

these things, he would necessarily have to admit someone else into his confidence, in order that he might know them, and there might happen to him what King Solomon said namely: 'He who places his secret in the power of another, becomes his slave; and he who knows how to keep it, is the master of his own heart, which is very becoming to a king'. And, even without this, by means of the Scriptures he will the better understand the Faith, and will know more perfectly how to pray to God. By reading, he can become acquainted with the remarkable events that transpire, from which he will learn many good habits and examples. Not only did the wise men of the ancients deem it proper that a king should know how to read, but also that he should study all the sciences in order to be able to profit by them. On this subject King David, while giving advice to kings, said, that they should be learned and wise, since they had to judge the earth. King Solomon, his son, also said that kings should learn the sciences and should not forget them, for by means of them they would have to judge and protect their people.¹³

One of the main sources for the 'II Partida' was the *Sirr al-asrâr*, an Arabic treatise in the Aristotelian tradition, which incorporates earlier Greek materials, in which Aristotle teaches Alexander the Great the fundamental basis for good government and establishes the need for a well-trained ruler.¹⁴ According to the testimony of some of his contemporaries, Alfonso X was noted for his scholarship and intellectual capacity. Beyond the clichés about his good-looking appearance and demeanour, it is worth mentioning the words of the Franciscan

13 English translation in Alfonso X, *Las Siete Partidas*, ed. Burns 2001, vol. 2, 294. 'Acucioso debe el rey ser en aprender los saberes, pues por ellos entenderá las cosas de raíz y sabrá mejor obrar en ellos y otrosí, por saber leer, sabrá mejor guardar sus secretos y ser señor de ellos, lo que de otra manera no podría tan bien hacer, y por la mengua de no saber estas cosas habría por fuerza de meter otro que los supiese, y le podría ocurrir lo que dijo el rey Salomón: que "el que mete su secreto en poder de otro hácese su siervo, y quien lo sabe guardar es señor de su corazón"; lo que conviene mucho al rey. Y aun sin todo esto, por la escritura entenderá mejor la fe, y sabrá más cumplidamente rogar a Dios, y aun por el leer puede él mismo saber los hechos granados que pasaron, de lo que aprenderá muchos buenos ejemplos. Y no tan solamente tuvieron por bien los sabios antiguos que los reyes supiesen leer, más aún, que aprendiesen de todos los saberes para poderse aprovechar de ellos, y en esta razón dijo el rey David aconsejando a los reyes que fuesen entendidos y sabios, pues que ellos han de juzgar la tierra y eso mismo dijo el rey Salomón a su hijo; "que los reyes aprendiesen los saberes y no los olvidasen, pues por ellos habían de juzgar y mantener a las gentes"', Alfonso X, *Las Siete Partidas*, ed. Boletín Oficial del Estado 2011, vol. 2, Title 5, Law 16.

14 The *Sirr al-asrâr* was translated into Latin on two occasions as *Secretum secretorum*; the first, as a sort of abridged version of the work, by Johannes Hispalensis in the twelfth century, and the second, from the complete text, by Philippus Tripolitanus around 1220. An abridged version of the Arabic text was translated into Castilian in the mid-thirteenth century under the name *Poridat de Poridades*, and the complete Latin text was also translated into Castilian during the reign of Alfonso X as *Secreto de los secretos*. Grinaschi 1976; Gómez Redondo 1998, 273–291; Ramón Guerrero 1998; Bizzarri 2010.

Juan Gil de Zamora, who portrayed the king as a man of 'sharp intellect, attentive in study, with an excellent memory'.¹⁵

This pedagogical and instructive aspect infused the cultural actions undertaken by the monarch, promoting the development of resources to facilitate the assimilation of his political ideas through his works. The king's documents became his direct voice, and instruments for his practice of power. In the *Especulo*, another of the legal works commissioned by Alfonso X in the early years of his reign, it is stated:

The letters and the seal of the king must also be very honoured, the letter because it is the word of the king and shows his will, and the seal because it has in it his image and his sign confirmation and testifies that the king wants what the letter says. And, therefore, we command those who receive the king's letters to obey and honour them as if he himself were saying what his letter says.¹⁶

In tune with this spirit, the court set out the rules for the proper functioning of the *estudios generales*, the equivalent of a university college, aimed at leading the intellectual development of the kingdom. According to the *Siete Partidas*, these centres should gather together masters and pupils, 'extraños e de lugares departidos', foreigners, and from different places, with a 'will and understanding for learning eruditions', who carried out their work under the Crown's protection.¹⁷ The 'estudios e escuelas generales de latín e arábigo',¹⁸ the Latin and Arabic college, was founded in Seville, on 8 December 1254, only two years after Alfonso X's accession to the throne. In 1260, the king demanded from the archbishop and the city council some mosques near the *alcázar* he had given them in the partition of the city that followed the Christian conquest, because he planned to dedicate them as a dwelling and teaching place for the scholars that he had brought in from other places.¹⁹

¹⁵ O'Callaghan 1993, 270.

¹⁶ The author's translation. 'Las cartas e el seello del rey deven otrosí seer muy onrados, la carta porque es palabra del rey e demuestra su voluntad, e el seello porque a en él su imagen e su señal confirmamiento e testimonia que el rey quiere lo que la carta dize. E por ende mandamos a aquellos que las cartas del rey recibieren, que las obedezcan e las onren como si él por su persona dixiese lo que su carta dice', Alfonso X, *Opúsculos legales*, 58.

¹⁷ 'Schools and Schoolmasters' in Alfonso X, *Las Siete Partidas*, ed. Burns 2001, vol. 2, 527–531.

¹⁸ *Memorial Histórico Español* 1851, 54.

¹⁹ '[P]ara morada de los físicos que vinieron de allende, y para tenerlos más cerca é que en ellas fagan la su enseñanza á los que les hemos mandado que nos lo enseñen por el su gran saber, ca por eso los hemos ende traído' ('for the lodging of the physicians who came from afar, to have them nearer, and for them to teach those of us who have commanded them to teach us

This information on the monarch's interest in surrounding himself with scholars from other places is corroborated by what Don Juan Manuel (1282–1348), nephew of the king and one of the most remarkable writers during the first half of the fourteenth century, would say years later. He affirmed in his *Crónica abreviada* that, according to the people who had lived under his protection, the king enjoyed dealing with the masters and scholars he brought to his court and created a place for studying the subjects he wanted to develop.²⁰

It is not surprising, therefore, that the book became the symbol of Alfonso X, his distinctive element, defining his persona in the opening images of his manuscripts.²¹ These compositions allow us to observe the Alfonsine court, the real one or an ideal one that Alfonso wanted to construct. The king appears in these images surrounded by his collaborators and courtiers, represented on a kind of stage designed to be observed by not only the elite courtly audience that had access to the manuscripts but also the future readers of these books. Alfonso is depicted as a great monarch, crowned and sumptuously dressed, as the *Siete Partidas* specified, and in dialogue with a group of figures around him, sometimes only with the actors who participated in the elaboration of the works, others also including members of the court who took part in the action. The king is occasionally immersed in the execution of the work itself, as occurs in the *Cantigas de Santa María*, Códice Rico (El Escorial, RBME, MS T-I-1, fol. 5^r), giving the indications for the text, such as in the prologues of the *Libro del axedrez, dados e tablas* (El Escorial, RBME, MS T-I-6, fols 1^r, 65^r, and 72^r) or receiving the work once finished, as happens in the *Libro de las formas e de las ymágenes* (El Escorial, RBME, MS h-I-16, fol. 1^v). Particularly noteworthy are the image in the *Estoria de España* (El Escorial, RBME, MS Y-I-2, fol. 1^v), where the monarch is represented in all his royal dignity, surrounded by his court, handing a book to

through their great knowledge; that is why we have brought them'), Ortiz de Zúñiga, *Anales eclesiásticos y seculares*, 90.

20 'E aun, segunt dizen los que vivían a la su merced, que fablavan con él los que querían e quando él quería, en ansí avía espacio de estudiar en lo quel quería fazer para si mismo, e aun para veer e esterminar las cosas de los saberes quel mandava ordenar a los maestros e a los sabios que traya para esto en su corte', Juan Manuel, *Crónica abreviada*, ed. Blecua 1981–1983, vol. 2, 575–576 ('And according to those whom lived at his mercy, they could speak with him whenever they wanted or whenever he wanted. And he had the time to study what he wanted for himself, and even to see and review the topics of knowledge that he ordered to be compiled by the masters and sages he brought to his court for this purpose'). I thank Mario Cossio for the translation of this excerpt.

21 On the representation of Alfonso X in the opening images of his manuscripts, see Domínguez Rodríguez 1976; Fernández Fernández 2010; Fernández Fernández 2011; Fernández Fernández 2013; Fernández Fernández 2021a; Haro Cortés 2016; Kennedy 2019.

his heir, as we shall see later, and the one in the Part IV of the *General Estoria* (Vatican City, BAV, Urb. lat. 539, fol. 2^v), where he holds a closed book as a distinctive element by assimilating the formula of the representation of Christ enthroned with the Book of Revelation in his hands. There is no globe, there is no sceptre, the common symbols of the royalty, the object that represents the essence of the king is a book.

Through these compositions the king makes himself present and assumes different roles in the creative process: author, co-ordinator, patron and reader. His presence distinguishes the manuscripts as a royal product. But these images also play a fundamental role, projecting the monarch as a sapiential figure and commemorating him in his historical dimension so that he might be remembered by future generations, 'los que auíen de uenir' ('the ones who had to come'); a goal, almost an obsession, that underlies the entire Alfonsine production. And this is how he was subsequently perceived, as evidenced by the appellation of 'el Sabio' ('the Learned'), by which he began to be known from the *Crónica de los tres reyes* written in the time of Alfonso XI (1311–1350).²²

As we can see, the court of Alfonso X became a 'theatre of knowledge' where the king played the main role, often depicted with written culture as a distinctive element, reading, commenting or holding a book in his hands. Moreover, the court, both the real and the one constructed through the images shown in the illuminated manuscripts, was full of books; books for praying, books for playing, books for studying and books for wielding power in government.

However, there are still many unknowns about the use of books in the court, their location and who had access to them. We must think that depending on the content and the target audience, the circumstances of access and use of the books would be different. In this sense, a double category must be established, since, on the one hand, there were books used as a source of knowledge, and, therefore, with an evident component of study and reference, and books conceived as representational manuscripts, in which their functional character was combined with a strong symbolic charge (e.g. memorial, political, socially prestigious, religious). Depending on the role played by a book, its material appearance will vary, as will its use and manipulation. In the case of represen-

²² Fernández-Ordóñez 2021, 99. In parallel with this sapiential vision, some sources developed a less friendly and positive vision of the king, in which he was portrayed as a proud and arrogant person who had sacrificed his kingdom for the sake of scientific knowledge, specifically astronomy and astrology. As Leonardo Funes pointed out years ago, this negative view probably emerged in Sancho IV's entourage as a strategy to justify Sancho's uprising against his father and his controversial accession to the throne (Funes 2016). For an overview of the so-called 'blasphemy of Alfonso X', see Fernández Fernández 2022, 38–39.

tational manuscripts, the book becomes a book-object that plays a symbolic role and acquires a meaning that goes beyond its subject matter and remains inextricably linked to transcendent concepts or actions. Consequently, these books are often made of rich materials and aim to impress by not only their content but their materiality and composition. This type of book is often assimilated to liturgical functions,²³ but can also be associated with political or social rituals.

With this framework in mind, I would like to analyse three examples that present us with different scenarios of the use and conception of the book in Alfonso X's court. In addition, I will discuss some details of the life of these manuscripts after the king's death, how they were used, preserved, read or manipulated, and how they contributed to building and reinforcing the memory of the Learned King.

2 Performing with manuscripts in court: devotion, history and science

2.1 Devotion and transcendence

Perhaps one of the most interesting documents on the use of a book at the court of Alfonso X is found in Cantiga 209, one of the compositions of the *Cantigas de Santa María*. This collection of songs in praise of the Virgin contains miracles in which Mary acts as the intercessor and protector of the people, and sometimes the beneficiary of the divine action is the monarch himself, as in this case. This poem, written in the first person, an example of 'autobiographical writing' according to John E. Keller and Richard P. Kinkade,²⁴ tells us how in 1276, while travelling with his court in the northern part of the peninsula, King Alfonso X fell gravely ill in the city of Vitoria. In the rubric to the poem, it reads:

How King Alfonso of Castile fell ill in Vitoria and had such severe pain that they thought he would die of it. They laid the *Book of the Canticles* of Holy Mary upon him and he was cured.²⁵

²³ Petrucci 1973; Petrucci 1976.

²⁴ Keller and Kinkade 1983.

²⁵ '[C]omo el Rey Don Affonso de Castela adoeçeu en Bitoria e ouv' hũa door tan grande, que coidaron que morresse ende, e poseron-lle de suso o livro das Cantigas de Santa Maria, e foi guarido', Keller and Kinkade 1983, 349.

The cantiga relates how at a certain point, the monarch refused the attention of his physicians and asked for his book of songs devoted to the Virgin Mary, and as soon as he placed the open book on his chest, he was healed. The visual narrative unfolds over six vignettes in which the illuminators, with their characteristic documentary interest, were able to represent the drama of the situation and the joy of the king's recovery thanks to the action of the Virgin represented by the book (see Fig. 1). In the fifth vignette, Alfonso, seated on the bed, raises the codex and kisses it devoutly while those present look at the king in wonder. In the last image, after the miracle, Alfonso and his courtiers thank the Virgin Mary, while the book, already closed, rests on the king's lap. To invoke Our Lady's saving action, the book must be opened; it is not enough to place it on the monarch's sick body; its manipulation is required, in what we could understand as a metaphor of the need for its use, not only for its possession. The book, commissioned by the king himself, acts here as a powerful object able to represent divinity, and channels the miracle performed by the Virgin.²⁶ But the book is also an embodiment of the king himself, who acts as a mediator between divinity and his subjects throughout the work. A role, that of mediator, which he can play in his condition as a Learned King, since wisdom allows him to be close to the divinity, the source of all knowledge.

The *Cantigas de Santa Maria* (hereafter CSM) was one of the most ambitious and personal projects undertaken by the king. It is not only a devotional work but also an account of his time, his kingdom and his person, a tool to show his intellect as an author and his privileged position as a king protected by the Virgin Mary. The work began possibly in the 1260s, although it is widely known that it grew and evolved throughout the entire rule of Alfonso X.

²⁶ For more information on this episode, see Kennedy 2004; Prado-Vilar 2011.



Fig. 1: Cantiga 9, *Cantigas de Santa María*, Códice de Florencia, Florence, BNCF, Banco Rari, 20, fol. 119v.

The teams²⁷ in the service of the king collected, translated and adapted European literary sources to which they added Iberian miracles, in addition to newly written poems, in some cases linked to the royal family and specific historic events.²⁸ The work began with a first collection of one hundred compositions, which was completed around 1276,²⁹ and continued for years until it reached more than four hundred cantigas. From historical mentions, or from literary features and connections with other works, we know that many poems were created in the late 1270s, in fact some of them describe events that occurred in the early 1280s, a short time before the king's death. These poetic compositions were written to be sung, so, in parallel with the literary creation, melodies which were meant to accompany the account of miracles were composed. At a certain point, it was decided that each cantiga, in addition to text and music, would also have a visual narration.³⁰ The Marian collection evolved, and adopted various functions – devotional, leisure, symbolic, political – and each stage of its development materialised in different written supports: the drafts, probably made on loose-leaf, and the final manuscripts. Unfortunately, most of the material involved in the process has been lost, including drafts on which the

27 In contrast to the wealth of information provided by the prologues of scientific texts, in the case of the CSM, the anonymity of the collaborators in this process of searching for sources, translating and writing new poems is particularly striking. Traditionally, it has been considered that the king himself wrote part of the repertoire, but there are still many gaps in this respect regarding the other composers. Walter Mettmann proposed the participation of Airas Nunes as one of the main authors, a question that has recently been extended by José Antonio Souto, who, together with other scholars such as Elvira Fidalgo Francisco or Henrique Monteagudo, has pointed to the participation of a group of clerics in the elaboration of the CSM. It has also been suggested that the Franciscan Juan Gil de Zamora may have contributed in some way to the process. Mettmann 1971; Mettmann 1987, 365; Snow 2012a; Fidalgo Francisco 2015; Monteagudo 2021; Souto 2023. I am grateful to Professor José Antonio Souto for sending me his paper before publication.

28 An overview of the textual sources of the *Cantigas* in Parkinson 2011; about the visual sources, see Menéndez Pidal 1951; Menéndez Pidal 1962; Domínguez Rodríguez and Treviño Gajardo 2007; Sánchez Ameijeiras 2013.

29 Thanks to a very recent work by Francisco Bautista (Bautista forthcoming) on Cantiga 63, we know that this first repertoire was completed later than traditionally thought, around 1275. I am grateful to Professor Francisco Bautista for allowing me to read this work before its publication.

30 The general bibliography of the CSM is very extensive. See Snow 2012b and the updated bibliography in 'The Oxford Cantigas de Santa María database', Centre for the Study of the Cantigas de Santa María of Oxford University, led by Stephen Parkinson, <<http://csm.mml.ox.ac.uk>>. On the evolution of the chronology of the CSM manuscripts, see Procter 1951; Menéndez Pidal 1962; Chico Picaza 1993; O'Callaghan 1998; Schaffer 1999; Fernández Fernández 2011; Fernández Fernández 2012–2013.

cantigas were probably copied, revised and perfected, and only four manuscripts have survived as evidence of their final material production. The so-called *Códice de Toledo* (Madrid, BNE, MSS/10069), which represents the first stage of the project, the compilation of hundred poems, just with text and music.³¹ The *Códice Rico* (El Escorial, RBME, MS T-I-1), in which the contents of *Códice de Toledo* were adapted and rearranged and the number of poems increased to two hundred; it was conceived as a splendid illuminated manuscript, which includes a rich and complex visual apparatus for each poem.³² The *Códice de Florencia* (Florence, BNCF, Banco Rari, 20), intended as a second volume of *Códice Rico*, follows the same formal guidelines and should have included two hundred additional poems but unfortunately was not completed. And finally, the *Códice de los músicos* (El Escorial, RBME, MS b-I-2), the only one that includes all the poems and additional poetic pieces.³³ Although it is also a richly illuminated manuscript, in this case, the image was intended only for the prologue and the decennial cantigas, those dedicated to praising the Virgin, in which we find musicians playing instruments.³⁴

What use was made of these books? Where, when, how and for whom were the songs read, sung or otherwise performed? As we have seen in *Cantiga 209*, the king travelled with a book of the CSM, and this book had a special significance for him. This was to serve both as a devotional book and a source for interpreting the songs dedicated to the Virgin at court. The poem probably refers to the first codex, the one containing the hundred poems, made about 1276. As for the rest of the manuscripts of the CSM, both from the dates given in some of the poems and from other textual and material indicators, we know that they must have been produced in the last years of the reign of Alfonso X. Firstly, the

31 The manuscript is known as the *Códice de Toledo* because it was kept in the Toledo Chapter Library until it was transferred to the National Library in Madrid in the nineteenth century. Although this is one of the main testimonies of the CSM, there are doubts about where and when this manuscript was made, in fact, it could be a later copy dated to the late thirteenth or early fourteenth century. An overview of the historiographical problem is in Fernández Fernández 2008–2009.

32 Except for the first cantiga, which has an illuminated folio with eight vignettes in accordance with the eight joys of the Virgin, the rest of the cantigas have six, save for those ending in the number five, which have a double illuminated folio, so, the story is represented in twelve vignettes.

33 Actually, the *Códice de Florencia* includes two cantigas that were not copied in the *Códice de los músicos*, F14 (CSM 408) and F86 (CSM 409). Fidalgo Francisco 2019, 386.

34 For specific information regarding the manuscripts, see Menéndez Pidal 1962; Schaffer 1999; Parkinson 2006; Parkinson 2015; Fernández Fernández 2008–2009; Fernández Fernández 2011; Fernández Fernández 2012–2013; Fernández Fernández 2021b; Kennedy 2019, 153–184.

Códice Rico, around 1280, and, shortly afterwards, the Códice de Florencia and the Códice de los músicos were begun, leaving the Códice de Florencia unfinished.

Designed as a luxury object, the Códice Rico must have been an outstanding piece of the royal treasure during the very last years of the reign, and can be interpreted as a kind of personal and political document of Alfonso X. Conceived to be used by the king and a select group that included the royal family and members of the nobility, the book was probably shown in the *alcázar* of Seville at specific court ceremonies, including the performance of cantigas.³⁵ We observe a work in progress scene in its opening image on fol. 5^r where the king is surrounded by his collaborators (see Fig. 2). Alfonso is consulting an open book, probably one of the sources used for the redaction of the CSM, and, at the same time, is giving indications to one of the copyists who is writing the beginning of the first cantiga in one of the working draft rolls; a group of singers is practicing next to him. On the other side of the composition, a cleric checks the musical notation in a roll, and together with him, a group of musicians tune their instruments. This image documents the process of the elaboration of the work, the role that the monarch played in it, and the use of other books and written materials to create the new codex.

35 This is one of the questions that usually arises in relation to the CSM: were they intended to be performed in courtly ceremonies? As we shall see below, the image at the beginning of the Códice de los músicos, fol. 29^r, seems to confirm this. We do not know whether there were other manuscripts whose traces have been lost, or whether the quires were used when the manuscript was not completely finished, which would broaden the functional significance of these materials. But regardless of the late production of Códice Rico, Códice de Florencia and Códice de los músicos, the CSM as a poetic and musical product must have been present in the courtly environment, and probably in the sanctuaries referred to in the songbook. However, as Kirstin Kennedy pointed out, the fact that the monarch did not provide resources to the places where the CSM should have been performed did not favour their incorporation into ceremonial contexts (Kennedy 2004, 211), beyond a possible interpretation of the cantigas dedicated to the feasts of Mary in the royal chapel in Seville (Ferreira 2016, 315–316). For this reason, after the death of the monarch, and as the use of Galician-Portuguese became less present at court, the tradition of the CSM gradually died out, until it disappeared from the collective imagination, remaining only as a scholarly product accessible to certain personalities (Fernández Fernández 2021b). However, Dionisio Preciado discovered the trace of the melody of one of the cantigas in a piece of sixteenth century Spanish music preserved in the *Cancionero Musical de Palacio* ('Palace musical songbook'), which could be an indication of its survival in the music of the court (Preciado 1987).

Don Alfonso de Castela
 de Toledo de Leoa
 Rey a ben res Oyofofa
 ta o Reyno O angon
 e O corda de Laben
 de Sculla O uroffly
 e de O vira u gran té
 lle fez deus com apredi
 e O lgarne que gçiou
 de O duros e noffa fe
 meru p. e az poblou
Bavallous a Reyno e
 vir anique que colien
 a mouros Deule Xeres
Beger Medina pienten
 e A Lala touma ues.
 que vos Romalos Rey
 e pr terer e S ennos
 este Luro com acher
Durgen Santa Maria
 que este marie de reus
 en que ele auqro ffa
 puen vos auingres seo
Fez cantares e foes
 saluofos de cantar
 reos de fennas mçoes
 com p piores achay.

Esta e a primeira cançã de loor de
 Santa Maria ementanto os .vii. goyos
 que omie de seu fãlle.

Estoge marie qe eu
 votur pla feno
 onã roã qe carne fular. tẽm
 e sagrada. pr nos dar gran soldada.
 no seu reyno e nos verdar. pr seo
 re fa mofada. te uro plogada. ten

Fig. 2: Opening image, *Cantigas de Santa María*, Códice Rico, El Escorial, RBME, MS T-I-1, fol. 5^r.

In the case of the *Códice de los músicos*, fol. 29^r, although, at first glance, the composition is quite similar, even appearing to be based on the previous image, there are significant variations, and the subject is different (see Fig. 3). The king, once again, is sitting in the centre of the composition, with an open book, apparently addressing a few words to the singers who look at him, ready to begin; one of them is also holding an open book and a scribe dressed in an elegant manner is listening attentively with the calamus (pen), the inkwell and a roll in his hands, as if he were going to take note of what happened. On both sides of the composition, the musicians with their instruments are also waiting, but some members of the court, distinguished by their clothing, are depicted near the monarch, therefore, the image no longer represents the work in progress, but rather a public performance of one of the songs. The picture gathers and codifies the long musical and poetic tradition of the court of the Learned King and preserves it to be transmitted to those who would have access to the manuscript for centuries to come.

In addition to the use that the books of the CSM may have had in the final years of the reign, it is important to think about the use that Alfonso X wanted to give to his books after his death, the mission that he entrusted to them. According to Alfonso's will, his books of songs should be preserved and performed on Marian and Our Lord feast days in the place where he was buried, therefore, to be used in a para-liturgical context:

Likewise we order that all the books of the songs of the miracles and of praise of Holy Mary be in that church where our body is buried and that they be sung on the feast days of Holy Mary and of Our Lord. And should he who lawfully inherits our possessions from us wish to have those books of the songs of Holy Mary, we order that he grant something in exchange to the church from which he takes them, so that he may have them lawfully and without sin.³⁶

³⁶ English translation from Kennedy 2004, 202. 'Otrosi, mandamos que todos los libros de los Cantares de los miraglos e de loor de sancta Maria sean dados en aquella iglesia o el nuestro cuerpo fuere enterrado, e que los fagan cantar en las fiestas de Sancta Maria o de Nuestro Sennor. Et si aquel que lo nuestro heredare con derecho e por nos quisiere auer estos libros de los Cantares de Sancta Maria, mandamos que faga bien e algo por end a la iglesia dont los tomare porque los aya con merced e sin pecado', Hernández 2021, vol. 2, 994.

Santa maria que est amelloz.
 cousta que el fies. ep. agst. en.
 que uo ser or mais seu sbador
 en go. le q' me que uia por seu
 tobar. ca q' a meu tar. ar.
 u. q' e. ca q' e. q' e. u. most. ar.
 tos m. u. g. r. e. s. q' e. l. e. f. e. z. e. a. u.
 q' e. r. e. i. m. e. l. e. u. a. r. d. e. c. o. p. b. a. r. t. e. s.
 p. o. u. r. t. o. n. a. e. a. u. d. a. c. o. b. r. a. u.
 p. e. s. t. a. q' u. a. r. e. n. a. s. o. u. t. r. a. s. p. d. i.
 a. o. a. m. o. r. t. e. s. t. a. s. e. n. o. r. e. t. a. l.
 q. u. e. q. u. o. a. s. e. m. p. p. i. m. a. s. u. a. l.
 e. p. u. l. o. g. u. a. n. i. a. d. a. n. o. n. l. e. f. a. l.
 s. e. n. o. s. e. e. y. l. a. g. r. a. n. d. o. c. a. i. o. n.
 q. u. e. r. e. n. t. o. l. e. u. a. r. t. e. s. f. a. z. m. a. l.
 a. i. p. e. r. s. t. o. o. y. t. e. e. p. e. r. a. l. n. o. n.
 p. o. r. e. t. e. l. a. n. o. m. e. q' e. r. u. p. a. r. t. i. r.
Per se de p' q' se a ten senur...
 q' non p'xerit en seu le falur.
 de oauer annica p' falur.
 que llo soure co' me q'pe p' d'ur
 ca' tal r'go semp' la ten or'u.
Ontelle r'go se claquifer...
 que llo praza do q' dela dissen
 en mes amores e sell' ap'riquer
 que me de gual' auto' comelada
 aos q' ama e queno souler...
 por ela mais deguato nobara.

Esta e a p'imeira cantiga de loez
 de santa maria ementando es. xij.
 trovos que oune de seu fillo. m. m.

Estege mar
 queru no
 bar. p'la sennoz enrrada. en que
 tus quis carne filiar. t'v'ra
 7 sagrada. por nos dar gran sol
 rada. no seu xepno 7 nos et

Fig. 3: Opening image, *Cantigas de Santa María*, Códice de los músicos, El Escorial, RBME, MS b-I-2, fol. 29'.

The king died in Seville and was buried in the royal chapel he had built for his parents, Fernando III and Beatriz de Suabia, in the cathedral; a place with an exceptional scenography intended to perpetuate the memory of his progenitors and his reign under the protection of the Virgin. Documentary evidence suggests that of the CSM manuscripts, only the *Códice de los músicos* was kept in the cathedral for a long period. In fact, everything seems to indicate that this manuscript was conceived as a general archive for the project, and that it was already planned to be deposited in the royal chapel to be used for the festivities of the Virgin, as the king's will specified. Years later, the manuscript was claimed by Philip II (1527–1598) to be incorporated into the library that the monarch was creating in the monastery of El Escorial. However, the *Códice Rico* and the *Códice de Florencia* remained in the possession of the royal house, first in Seville and later in the *alcázar* of Segovia, one of the residences where the royal treasure, including the library, was kept, as we know from the inventories carried out in Segovia in 1503 and 1505, as well as from other documentary references. In 1576, the *Códice Rico* also became part of the Escorial library, donated by Philip II, however, the *Códice de Florencia* had been gifted by Queen Isabel 'la Católica' (1451–1504) to Andrés Cabrera, marquis of Moya, in 1475 in gratitude for his services and support, and after a long journey through various private libraries it came into the possession of the Medici family in Florence.³⁷

The manuscripts of the *Cantigas de Santa María* represent an exceptional collection that allows us to reflect on the use that these books may have had in the public space of the court and the role they may have played in ceremonies of various kinds, as well as their value as a thesaurus in later times.

2.2 History and legacy

The approach of wisdom – *el saber* – as a fundamental asset in the construction of the Alfonsine political project is especially present in his historical works. The king used the historical narrative as a key vehicle to transmit his political thought, using the past to support and structure his reign.³⁸ The achievement of this aim in the Alfonsine court involved two main projects, one conceived as a universal history of the world, the *General Estoria*, and the other as a specific

³⁷ The complete history of each manuscript, from the time it was made until it reached the institution where it is preserved today, in Fernández Fernández 2005; Fernández Fernández 2008–2009; Fernández Fernández 2021b.

³⁸ Martínez 2010, 546.

history about the Iberian Peninsula, the *Estoria de España*. Both were conceived simultaneously, using ordinary materials and a common conception of the historic narrative, although with different approaches. Neither were completed during the reign of Alfonso X, but both constituted the basis for the whole of Castilian chronicle literature until the sixteenth century.³⁹

In addition to its political symbolism, historical narrative was also used with exemplary value to train and educate young knights. The *Siete Partidas* tells us how historical books should be read during meals to create models of conduct and standards of behaviour, therefore, these books took a relevant role in courtly scenography.

Accounts of Great Deeds of Arms Should Be Read to Knights While They Eat. [...] For this reason they established as a custom that narratives of great deeds of arms performed by others should be read to knights while they ate, as well as accounts of their wisdom and power by means of which they were able to conquer, and accomplish what they wished; [...] This was done in order that, hearing them, their minds and hearts might be enlarged and strengthened by the performance of good actions, and to awaken a desire to attain to what others had accomplished, or to surpass their efforts.⁴⁰

The manuscript El Escorial, RBME, MS Y-I-2 preserves part of the first version of the *Estoria de España* in the so-called '*versión regia*', a text elaborated between 1270 and 1274, although it is likely that the work of compilation and the first translations had begun years earlier. Almost at the same time that the text was considered valid in draft format, it was copied into this manuscript, also dated c. 1274 (except for the first folio, as can be seen below).⁴¹ A complex image of the court opens the manuscript on fol. 1^v (see Fig. 4).

³⁹ Alfonso X, *Primera Crónica General*, ed. Menéndez Pidal 1906; Catalán 1992; Catalán 1997; Fernández-Ordóñez 1992; Fernández-Ordóñez 2000; Bautista and Fernández Fernández 2022.

⁴⁰ English translation from Alfonso X, *Las Siete Partidas*, ed. Burns 2001, vol. 2, 428–429. 'Como ante los caualleros deuen leer las estorias delos grandes fechos de armas quando comieren. [...] E por esso acostumbrauan los caualleros, quando comian, que les leyessen las estorias delos grandes fechos, de armas que los otros fizieran, e los sesos, e los esfuerços, que ouieron para saber los vencer, e acabar lo que querían. [...] E esto era porque oyendo las les crescian las voluntades, e los coraçones, e esforçauan se, faziendo bien, e queriendo llegar, a lo que los otros fizieran, o passaran por ellos', Alfonso X, *Las Siete Partidas*, ed. Boletín Oficial del Estado, 2011, vol. 2, Title 21, Law 20.

⁴¹ Catalán 1997, 33–113, 124–161, and 183–229; Fernández-Ordóñez 2000, 219–260.



Fig. 4: Opening image, *Estoria de España*, El Escorial, RBME, MS Y-I-2, fol. 1^r.

Unfortunately, the folio is quite damaged, but the composition is clear. The monarch, seated in a prominent chair adorned with his heraldry, appears in the absolute centre of the image. He is flanked by several figures, to our left, despite their deterioration we can identify ecclesiastical dignitaries, and on the right side, we find another differentiated group, members of the royal family, dressed in maximum wealth. The king carries a raised sword in his right hand, symbol of his governing capacity and the administration of justice, and he carries a richly bound book in his left, that he delivers to the Infante seated next to him, his heir (see Fig. 5). At the bottom, other members of the nobility attend as witnesses who validate the action. In my opinion, the image commemorates the official nomination of Sancho IV (1258–1295) as heir to the kingdom in the presence of the court and his new role as ruler alongside his father from 1278.⁴² It is very eloquent that the transfer of power to the heir is expressed with the delivery of a book from the king to his son. The book here becomes a symbol of the royal power, a power that is sustained by the continuation of the lineage, which is, in turn, reflected in the book in which the action is represented. It is important to note that the folio depicting the action was added to the body of the manuscript years after the book had been started.⁴³ In fact, the copying and the illumination of this manuscript had been interrupted at a certain point (c. 1274), probably because another version of the text was being prepared, but the relevance of the work, the *Estoria de España*, therefore, the history of the Iberian Peninsula, with deep political roots, gave the codex a symbolic value beyond the accuracy of its content. The inclusion of this image reinforced its function as a thesaurus, as a representational book.

⁴² About this complex and sophisticated image see Fernández Fernández 2010; Fernández Fernández 2021a; Rodríguez Porto 2012. On the appointment of Sancho IV as heir and coregent, see Procter 1980, 138–143; Hernández 2021, vol. 1, 152–153.

⁴³ There is ample evidence for this: its larger size than the rest of the manuscript, the *mise-en-page* that does not coincide with the following folio, the palaeography with different characteristics, or the decorative and stylistic details that do not correspond to the first phase of the manuscript's elaboration. If we accept that the scene represents the appointment of Sancho as heir and coregent, the image must have been made after 1278, but before 1282, when Sancho and his father broke off their relationship. A complete analysis is in Fernández Fernández 2021a.



Fig. 5: Opening image, *Estoria de España*, El Escorial, RBME, MS Y-I-2, fol. 1^v, detail.

Similar to the *Códice Rico* and the *Códice de Florencia*, the manuscript El Escorial, RBME, MS Y-I-2 remained in the royal treasure after the death of Alfonso X, and it was the focus of a unique episode of book manipulation in the time of Alfonso XI (1311–1350). Its last two quires were split off to become the first two of a new codicological unit, the composite manuscript El Escorial, RBME, MS X-I-4, created between 1321 and 1344 with materials on the *Estoria de España* written in the times of Alfonso X, Sancho IV and Alfonso XI.⁴⁴ The creation of this new manuscript was part of a political strategy orchestrated at the court of Alfonso XI, who needed to elaborate a historical narrative that would give stability and

⁴⁴ Fernández-Ordóñez 2000, 133; Fernández Fernández 2021b, 68–71.

legitimacy to his reign after some turbulent years due to the minority of the monarch and the succession of regencies. It is particularly interesting to note that, in order to validate this historical narrative, it was not enough to merely write it down, but it had to be materially assembled through the linking of these manuscripts in order to become the official history of the kingdom. Both books remained in the possession of the Crown and were extensively read and used, as evidenced by the numerous reading marks and annotations on their folios, and, although by different routes, they also arrived at the Escorial donated by Philip II.⁴⁵

2.3 Science and fame

Finally, I would like to draw attention to the role that science books played at the Alfonsine court. King Alfonso's interest in scientific topics, mainly astronomy and astrology, was present from a very early stage of his reign and his scientific production represents the largest and most cohesive collection of texts produced at the royal scriptorium.⁴⁶ Nevertheless, there are many unknowns about the use of science books at court and their location, although it is clear that a large scientific collection was available to the king's collaborators.⁴⁷ Once again it is important to consider two categories of books, those used as working material and, therefore, intended for practical use, and those also conceived as representational books and part of the royal treasure. Among the scientific books commissioned by the king, the *Libro del saber de astrología* (Madrid, Biblioteca Histórica Marqués de Valdecilla, MSS 156) stands out in a particularly relevant way (see Fig. 6).⁴⁸ On the one hand, because this fancy book represents a very long process of translation and creation of new content on astronomical subjects in which the most relevant scientists in the service of the king were involved and, on the other, because its subsequent history helps us to better understand some aspects related to the use of books in medieval courts from a broader point of view.

⁴⁵ Fernández Fernández 2021b, 68–71.

⁴⁶ The complete Alfonsine scientific production is in Fernández Fernández 2013.

⁴⁷ Thanks to the prefaces, we have many references to the sources used for the redaction of the works commissioned by the king, as well as an extensive list of names of those who actively participated in the translation and redaction of the scientific works: Judah ben Moses ha-Cohen, Isaac ben Sid, Abraham, Samuel ha-Leví, [don Mossé], Johan Daspa, Guillén Arremón Daspa, Garcí Pérez, Álvaro de Oviedo, Fernando de Toledo, Joan de Mesina, Joan de Cremona, Aegidio de Tebaldi, Pietro de Regio and Bernardo 'el Arábigo'.

⁴⁸ Fernández Fernández 2013, 213–252.

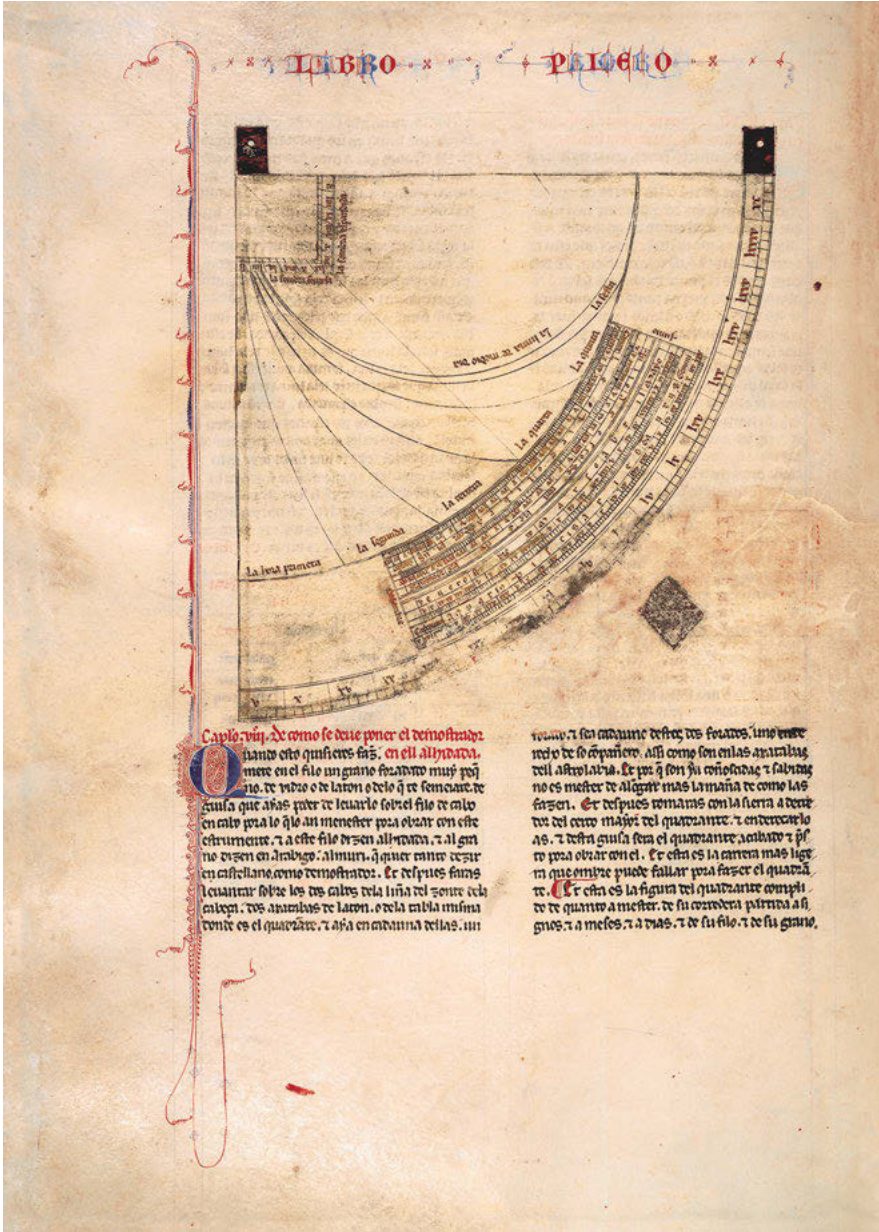


Fig. 6: Libro primero del quadrante, Libro del saber de astrología, Madrid, Biblioteca Histórica Marqués de Valdecilla, MSS 156, fol. 174^v.

The sixteen treatises that make up the book are grouped into three main thematic blocks: the analysis of constellations, the scientific instruments used for the study of the stars and the application of these tools, and different systems of time measurement. According to the prologues, the first translations began in the mid-1250s and were revised and expanded over the following years, as well as new works being created. As in the case of the CSM or works with historical or legal content, the production of manuscripts of this type involved the writing of previous drafts, which were used both in the development of the content and in the process of copying and final revision. Unfortunately, the drafts that played a decisive role in the production of these works have not survived, or have not been identified, but thanks to the study of the texts and the composition of the manuscripts, as well as the workshop marks or corrections and annotations visible on many folios, we can approximate the working system. In the case of the *Libro del saber de astrología*, the manuscript in which the sixteen treatises and the general prologue to the work were copied and illustrated was completed in the city of Burgos in 1278. This is an important point because, if we cross-reference this information with that provided by the royal diplomas, we can see that the court was located in the city of Burgos at that time, so the materials and agents involved in the making of the manuscript travelled with the court and the king could have been in contact with the production process.⁴⁹

The codex remained part of the Crown's heritage until 1505 when it was bought by Cardenal Cisneros from King Fernando 'el Católico' (1479–1516) for the foundational library of the Colegio Mayor de San Ildefonso, in Alcalá de Henares.⁵⁰ After the death of Alfonso X, the book, similar to other manuscripts,⁵¹ remained in the royal residence in Seville. There, in 1341, a Florentine called Gueruccio, son of Cione Federighi, member of one of the most prominent families of merchants in Florence, commissioned a careful copy of the *Libro del saber de astrología*. This copy, written in *fiorentino*,⁵² or Florentine dialect, nowadays kept at the Vatican Library (Vatican City, BAV, Vat. lat. 8174), was made as a 'facsimile' copy from the royal codex, imitating the size, the quire structure,

⁴⁹ Fernández Fernández 2013, 218.

⁵⁰ Fernández Fernández 2013, 248–249.

⁵¹ Sadly, others disappeared, such as the *Libro de las tablas*, the famous *Alfonsine Tables*, or passed into other hands, such as the *Lapidario* (El Escorial, RBME, MS h-I-15), part of the *Libro de las formas e de las ymágenes*, or the tabular compendium, now kept in Paris (Bibliothèque de l'Arsenal, Ms-8322). Fernández Fernández 2013; Fernández Fernández 2022.

⁵² 'essendo in Ispagna nella citta di Sibia, Gueruccio figluolo di Cione Federighi della molto nobile citta di Firençe, fece traslatare questo libro di Castellano in fiorentino', Vatican City, BAV, Vat. lat. 8174, fol. 103.

the writing and illumination. For some reason, the copy was not completely finished, missing part of the iconic repertoire and decoration as well as the two last treatises.⁵³ The motivation that led Gueruccio Federigui to carry out such a commission are not sufficiently clear, but what is evident is that the books that were kept in the royal residence in Seville could be consulted by people outside the courtier's circle. Curiously, in a text that can be dated to 1347, therefore, in a close chronology to the Florentine copy, a Parisian astronomer identified as Geoffrey of Meaux stated that he had seen a Castilian version of the *Libro de las estrellas fixas*, the first treatise of the *Libro del saber de astrología*, 'librum stellarum fixarum scriptum in Hispanico'. The author of this text asserts that the book had been taken from the king's library – 'armario Regis Alfontii' – according to the person who acquired it.⁵⁴ As José Chabás and Bernard Goldstein pointed out,⁵⁵ it is unclear whether the book was seen by the Parisian astronomer, in Castile or in Paris; Philipp Nothaft considered that as the author does not mention a visit to the Iberian Peninsula, he must have consulted 'a copy of the *Libro*' that had arrived in Paris before 1347.⁵⁶ Regardless of where the Parisian astronomer consulted the book, it is clear that the information provided by him is linked to the original manuscript which, thanks to the copy commissioned by Gueruccio Federigui, we know was preserved in Seville at the time. The person who provided Geoffrey of Meaux with the book may have seen the Alfonsine manuscript and copied it directly, or, more likely, may have commissioned a copy of it. Once again, the questions arise: the royal manuscript was visible for whom, for what purpose and who could make the copies? Unfortunately, the text does not reveal any further information about the place where that *armario* ('library')⁵⁷ was located, or about who could access this material

53 Narducci 1865; Knecht 1965; Cárdenas 1981; Fernández Fernández 2013, 252–256.

54 'Vidi namque librum stellarum fixarum scriptum in Hispanico continentem radices stellarum fixarum eodem modo cum tabulis. Qui liber extractus fuit de armario Regis Alfontii, sicut dixit mihi ille qui extrahi eum procuravit. Vidi etiam stellas fixas situatas isto modo in spera solida facta pro ipsomet Alfontio', Nothaft 2015, 94. Together with the book a celestial globe is also mentioned in the text. For this interesting data see also North 1977, 289–290; North 1996, 470–471; Comes, Puig Aguilar and Samsó 1987, 39; Chabás and Goldstein 2003, 247–248.

55 Chabás and Goldstein 2003, 247.

56 Nothaft 2015, 82.

57 Nor do we know whether the Alfonso in the sentence 'armario Regis Alfontii' ('the library of King Alfonso') refers to Alfonso X or to his great-grandson, Alfonso XI; although it would make sense that it refers to Alfonso XI, given the chronology of the text, c. 1347, it could also refer to what was once Alfonso X's library. In any case, and as far as the manuscript we are discussing

and under what conditions, but these data reveal the fact that scientific books produced within the framework of the court were known beyond the walls of the palace and attracted the curiosity of scholars and people from other lands. Thanks to these two testimonies, we can affirm that during the reign of Alfonso XI (1331–1350), a rich merchant from Florence, who probably played a relevant role in the economic and diplomatic relationships with the court, and some people related to scientific circles in Paris, had access to the *Libro del saber de astrología* preserved in the royal library. In both cases, the book must have aroused great interest in them, as they commissioned or made copies of it.

As these references show, the walls of the palace were a permeable frontier that allowed people from different origins and backgrounds to obtain direct information of what was happening inside and, therefore, to spread and use it for obvious propagandistic or practical purposes. The court was organized and defined as a space of cultural exchange where actors of very different sorts participated. In this courtly scenography, science reached a relevant role as something intellectually and socially distinctive, therefore, the interest in copying and possessing manuscripts with scientific content by scholars and members of high social and economic levels should not surprise us.

As we have seen, and recovering our main theme of analysis, the book acquired a prominent role in the Alfonsine court. It was used not only as a working tool but also as a piece of representation, becoming a symbol of royal power, capable of distinguishing the political action developed by Alfonso X, a king who decided to turn wisdom into the basis of his government, and in doing so, transformed his court into a ‘theatre of knowledge’, being known for generations to come as the Learned King.

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is concerned, the library would be the same. About the Alfonso X’s library see Fernández Fernández 2015.

Manuscripts

El Escorial,

Real Biblioteca del Monasterio de San Lorenzo de El Escorial,

MS b-I-2 [= Códice de los músicos]

MS h-I-15

MS h-I-16

MS T-I-1 [= Códice Rico]

MS T-I-6

MS X-I-4

MS Y-I-2

Florence,

Biblioteca Nazionale Centrale di Firenze,

Banco Rari, 20 [= Códice de Florencia]

Madrid,

Biblioteca Histórica Marqués de Valdecilla,

MSS 156

Biblioteca Nacional de España,

MSS/10069 [= Códice de Toledo]

Paris,

Bibliothèque de l'Arsenal,

Ms-8322

Vatican City,

Biblioteca Apostolica Vaticana,

Urb. lat. 539

Vat. lat. 8174

References

Primary sources

Alfonso X, *Primera Crónica General: Estoria de España que mandó componer Alfonso el Sabio y se continuaba bajo Sancho IV en 1289*, ed. Ramón Menéndez Pidal, Madrid: Seminario Menéndez Pidal, 1906.

Alfonso X, *Opúsculos legales del Rey Don Alfonso el Sabio*, vol. 1: *El espéculo o espejo de todos los derechos*, Madrid: Real Academia de la Historia, 1836.

Alfonso X, *Las Siete Partidas*, 3 vols, ed. Boletín Oficial del Estado (Textos Históricos), Madrid: Boletín Oficial del Estado, 2011 [facs. reprint of 1555 edn].

- Alfonso X, *Las Siete Partidas*, vol. 2: *Medieval Government: The World of Kings and Warriors*, ed. Robert Ignatius Burns, tr. Samuel Parsons Scott, Philadelphia: University of Pennsylvania Press, 2001.
- John of Salisbury, *Policraticus: Of the Frivolities of Courtiers and the Footprints of Philosophers* (Cambridge Texts in the History of Political Thought), ed. Cary J. Nederman, Cambridge: Cambridge University Press, 1990.
- Juan Manuel, *Crónica abreviada: Obras completas*, 2 vols, ed. José Manuel Blecha, Madrid: Gredos, 1981–1983.
- Memorial Histórico Español: colección de documentos, opúsculos y antigüedades*, vol. 1, Madrid: Real Academia de la Historia, 1851.
- Ortiz de Zúñiga, Diego, *Anales eclesiásticos y seculares de la muy noble y muy leal ciudad de Sevilla [...]*, Madrid: Imprenta Real, 1677.
- Rodrigo Jiménez de Rada, *Historia de Rebus Hispaniae sive Historia Gothica*, ed. Juan Fernández Valverde (Corpus Christianorum. Continuatio Mediaevalis, LXXII), Turnhout: Brepols, 1987.
- Rodrigo Jiménez de Rada, *Historia arabum*, ed. José Lozano Sánchez, Sevilla: Universidad de Sevilla, 1993.

Secondary sources

- Alvar, Carlos (2010), *Traducciones y traductores: Materiales para una historia de la traducción en Castilla durante la Edad Media* (Colección Historia y literatura, 2), Alcalá de Henares: Centro de estudios cervantinos.
- Bautista, Francisco (2014), 'El renacimiento alfonsí: renovatio y saber en la producción cultural de Alfonso X', in *La cultura en la Europa del siglo XIII: emisión, intermediación, audiencia. XL Semana de Estudios Medievales de Estella, 16–19 de julio de 2013*, Pamplona: Gobierno de Navarra, 85–96.
- Bautista, Francisco (forthcoming), 'Las *Cantigas de Santa María* en el taller alfonsí: intertextualidades y cronología', in Ricardo Pichel (ed.), '*Contarte he maravillas...* ': *Estudios hispánicos dedicados a Joseph T. Snow*, Bern: Peter Lang.
- Bautista, Francisco and Laura Fernández Fernández (2022), *Arquitecto de historias: Alfonso X y el saber histórico en la Edad Media* (Historia de la universidad, 116), Salamanca: Universidad de Salamanca.
- Bizzarri, Hugo O. (2010), *Secreto de los secretos: Poridad de las poridades. Versiones castellanas del Pseudo-Aristóteles Secretum Secretorum* (Colección Parnaseo, 12), Valencia: Universitat de Valencia.
- Bizzarri, Hugo O. and Adeline Rucquoi (2005), 'Los Espejos de Príncipes en Castilla: Entre Oriente y Occidente', *Cuadernos de historia de España*, 79: 7–30.
- Boccaccini, Enrico (2022), *Reflecting Mirrors, East and West: Transcultural Comparisons of Advice Literature for Rulers (8th–13th Century)* (Islamic History and Civilization, 189), Leiden: Brill.
- Born, Lester K. (1928), 'The Perfect Prince: A Study in Thirteenth and Fourteenth Century Ideals', *Speculum*, 3/4: 470–504.
- Bossong, George (1982), 'Las traducciones alfonsíes y el desarrollo de la prosa científica castellana', in Wido Hempel and Dietrich Briesemeister (eds), *Actas del coloquio hispano-*

- alemán Ramón Menéndez Pidal, Madrid, 31 de marzo a 2 de abril de 1978, Tübingen: Niemeyer, 1–14.
- Bossong, George (2008–2009), 'Creatividad lingüística en las traducciones alfonsíes del árabe', *Alcanate: Revista de estudios Alfonsíes*, 6: 17–38.
- Boudet, Jean Patrice (2008), 'Le modèle du roi sage aux XIIIe et XIVe siècles: Salomon, Alphonse X et Charles V', *Revue historique*, 647: 545–566.
- Burnett, Charles (1995), 'The Institutional Context of Arabic-Latin Translations of the Middle Ages: A Reassessment of the School of Toledo', in Olga Weijers (ed.), *Vocabulary of Teaching and Research between Middle Ages and Renaissance: Proceedings of the Colloquium London, Warburg Institute, 11–12 March 1994* (CIVICIMA, 8), Turnhout: Brepols, 214–235.
- Burnett, Charles (2001), 'The Coherence of the Arabic-Latin Translation Program in Toledo in the Twelfth Century', *Science in Context*, 14/1–2: 249–288.
- Burnett, Charles (2009), *Arabic into Latin in the Middle Ages: The Translators and Their Intellectual and Social Context* (Variorum Collected Studies Series, 939), Farnham: Ashgate.
- Burns, Robert I. (1990), 'Stupor mundi: Alfonso X of Castile, the Learned', in Robert I. Burns (ed.), *Emperor of Culture: Alfonso X the Learned of Castile and His Thirteenth-Century Renaissance* (Middle Ages Series), Philadelphia: University of Pennsylvania Press, 1–13.
- Cárdenas, Anthony J. (1981), 'The Complete Libro del saber de astrología and Vat. lat. 8174', *Manuscripta*, 25: 14–22.
- Catalán, Diego (1992), *La Estoria de España de Alfonso X: Creación y Evolución* (Fuentes cronísticas de la historia de España, 5), Madrid: Universidad Autónoma de Madrid.
- Catalán, Diego (1997), *De la silva textual al taller historiográfico alfonsí: Códices, crónicas, versiones y cuadernos de trabajo* (Fuentes cronísticas de la historia de España, 9), Madrid: Universidad Autónoma de Madrid.
- Chabás, José and Bernard Goldstein (2003), *The Alfonsine Tables of Toledo* (Archimedes: New Studies in the History and Philosophy of Science and Technology, 8), Dordrecht: Kluwer Academic Publishers.
- Chico Picaza, María Victoria (1993), 'Cronología de la miniatura alfonsí: estado de la cuestión', *Anales de Historia del Arte*, 4: 569–576.
- Comes, Mercè, Roser Puig Aguilar and Julio Samsó (eds) (1987), *De Astronomia Alphonsi Regis: Actas del Simposio sobre Astronomia Alfonsi celebrado en Berkeley (agosto 1985) y otros trabajos sobre el mismo tema*, Barcelona: Universitat de Barcelona, Instituto 'Millás Vallicrosa' de Historia de la Ciencia Árabe.
- Dahan, Gilbert (1990), 'Les classifications du savoir aux XII et XIIIe siècles', *L'enseignement philosophique*, 40/4: 5–27.
- Dickinson, John (1926), 'The Mediaeval Conception of Kingship and Some of Its Limitations, as Developed in the Policraticus of John of Salisbury', *Speculum*, 1/3: 308–337.
- Domínguez Rodríguez, Ana (1976), 'Imágenes de presentación de la miniatura alfonsí', *Goya*, 131: 287–291.
- Domínguez Rodríguez, Ana and Pilar Treviño Gajardo (2007), *Las Cantigas de Santa María: formas e imágenes*, Madrid: AyN.
- Fernández Fernández, Laura (2005), 'Historia Florentina de las Cantigas de Santa María, Mss. B.R. 20', *Reales Sitios: Revista del Patrimonio Nacional*, 164: 18–29.
- Fernández Fernández, Laura (2008–2009), 'Las Cantigas de Santa María: Fortuna de sus manuscritos', *Alcanate*, 7: 323–348.

- Fernández Fernández, Laura (2010), 'Transmisión del Saber – Transmisión del Poder: La imagen de Alfonso X en la Estoria de España, Ms. Y-I-2, RBME', in *II Jornadas complutenses de Arte Medieval = Anales de Historia del Arte*, special issue 2010: 187–210.
- Fernández Fernández, Laura (2011), 'Este livro, com' achei, fez á onr' e á loor da virgen Santa María: El proyecto de las Cantigas de Santa María en el marco del escritorio regio. Estado de la cuestión y nuevas reflexiones', in Laura Fernández Fernández and Juan C. Ruiz Souza (eds), *Las Cantigas de Santa María: Códice Rico, Ms. T-I-1, Real Biblioteca del Monasterio de San Lorenzo de El Escorial* (Scriptorium, 21), Madrid: Testimonio/Patrimonio Nacional, 43–78.
- Fernández Fernández, Laura (2012–2013), 'Los manuscritos de las Cantigas de Santa María: Definición material de un proyecto regio', *Alcanate*, 9: 79–115.
- Fernández Fernández, Laura (2013), *Arte y ciencia en el scriptorium de Alfonso X* (Monografías de Alfonso X, 1), Sevilla: Universidad de Sevilla/Cátedra Alfonso X.
- Fernández Fernández, Laura (2015), 'Armario regis Alfontii: La biblioteca de un rey letrado', in María Lucía Lahoz Gutiérrez and Manuel Pérez Hernández (eds), *Lienzos del recuerdo: Estudios en homenaje a José M^a Martínez Frías*, Salamanca: Universidad de Salamanca, 193–201.
- Fernández Fernández, Laura (2021a), 'Folios reutilizados y proyectos en curso: Imagen histórica e imagen jurídica en el proyecto político alfonsí', in Mechthild Albert, Ulrike Becker and Elmar Schmidt (eds), *Alfonso el Sabio y la conceptualización jurídica de la monarquía en las 'Siete Partidas' / Alfonso the Wise and the Juridical Conceptualization of Monarchy in the 'Siete Partidas'* (Studien zu Macht und Herrschaft, 10), Göttingen: Bonn University Press, 73–116.
- Fernández Fernández, Laura (2021b), 'Del *scriptorium* a la biblioteca: Fortuna de los manuscritos alfonsíes en la Real Biblioteca del Monasterio de El Escorial', in *Códices del rey Sabio: VIII centenario de Alfonso X*, Madrid: Patrimonio Nacional, 49–71.
- Fernández Fernández, Laura (2022), 'The Libro de las tablas alfonsíes: New Documentary and Material Sources', in Matthieu Husson, José Chabás and Richard Kremer (eds), *Alfonsine Astronomy: The Written Record* (Alfonsine Astronomy), Turnhout: Brepols, 21–55.
- Fernández-Ordóñez, Inés (1992), *Las 'Estorias' de Alfonso el Sabio*, Madrid: Istmo.
- Fernández-Ordóñez, Inés (2000), 'La transmisión textual de la Estoria de España y de las principales "Crónicas" de ella derivadas', in Inés Fernández-Ordóñez (ed.), *Alfonso el Sabio y las crónicas de España*, Valladolid: Universidad de Valladolid, Centro para la Edición de los Clásicos Españoles, 219–260.
- Fernández-Ordóñez, Inés (2021), 'Los saberes de Alfonso X', in María Pilar Perea, Santiago Fortuño Llorens and Lluís Gimeno Betí (eds), *Ad perennem magistri memoriam: Germà Colón Domènech. Fesomies i texts* (Col·lecció Germà Colón d'estudis filològics, 22), Castelló de la Plana: Universitat Jaume I, 99–146.
- Ferreira, Manuel P. (2016), 'The Medieval Fate of the *Cantigas de Santa María*', *Journal of the American Musicological Society*, 69/2: 295–353.
- Fidalgo Francisco, Elvira (2015), 'De nuevo sobre la expresión del joi en la lírica gallegoportuguesa', in Marta Haro Cortés (ed.), *Literatura y ficción: 'estorias', aventuras y poesía en la Edad Media* (Colección Parnaseo, 25), vol. 2, Valencia: Publicacions de la Universitat de València, 701–716.
- Fidalgo Francisco, Elvira (2019), 'Cuando las Cantigas de Santa María eran "a work in progress": el código de Florencia', in Isabella Tomassetti, Roberta Alvitti, Aviva Garribba

- and Debora Vaccari (eds), *Avatares y perspectivas del medievalismo ibérico* (Instituto Literatura y Traducción, 23), vol. 1, San Millán de la Cogolla: Cilengua, 379–388.
- Fierro, Maribel (2009), 'Alfonso X "The Wise": The Last Almohad Caliph?', *Medieval Encounters*, 15: 175–198.
- Foz, Clara (1998), *Le Traducteur, l'Église et le Roi: Espagne, XIIè et XIIIè siècles* (Regards sur la traduction / Traductologie), Ottawa: University of Ottawa Press.
- Funes, Leonardo (2016), 'La leyenda de la blasfemia del Rey Sabio: revisión de su itinerario narrativo', *e-Spania*, 25 <doi.org/10.4000/e-spania.25873>.
- Gómez Redondo, Fernando (1998), *Historia de la prosa medieval castellana*, vol. 1: *La creación del discurso prosístico: El entramado cortesano*, Madrid: Cátedra.
- Gregorio, Daniel (2008), 'Alfonso X de Castilla, o la sabiduría como herramienta del poder', *De Arte*, 7: 61–76.
- Grinaschi, Mario (1976), 'L'origine et les métamorphoses du Sarr-al-asrar (Secretum secretorum)', *Archives d'histoire doctrinale et littéraire du Moyen Age*, 43: 7–112.
- Haro Cortés, Marta (2016), 'Semblanza iconográfica de la realeza sapiencial de Alfonso X: las miniaturas liminares de los códices regio's', in Marta Haro Cortés (ed.), *Texto e ilustración en el libro medieval: factura física, lectura y recepción = Revista de Poética Medieval*, 30: 131–153.
- Hernández, Francisco J. (2021), *Los hombres del rey y la transición de Alfonso X el Sabio y Sancho IV (1276–1286)*, 2 vols, Salamanca: Universidad de Salamanca.
- Keller, John E. and Richard P. Kinkade (1983), 'Iconography and Literature: Alfonso Himself in Cantiga 209', *Hispania*, 66/3: 348–352.
- Kennedy, Kirstin (2004), 'Alfonso's Miraculous Book: Patronage, Politics, and Performance in the Cantigas de Santa María', in Nils Holger Petersen (ed.), *The Appearances of Medieval Rituals: The Play of Construction and Modification* (Disputatio, 3), Turnhout: Brepols, 199–212.
- Kennedy, Kirstin (2019), *Alfonso X of Castile-Leon: Royal Patronage, Self-Promotion and Manuscripts* (Church, Faith and Culture in the Medieval West), Amsterdam: Amsterdam University Press.
- Knecht, Pierre (1965), *I libri astronomici di Alfonso X in una versione fiorentina del trecento*, Zaragoza: Librería General.
- Márquez Villanueva, Francisco (1996), 'In lingua tholetana', in Ana María López Álvarez et al. (eds), *La Escuela de Traductores de Toledo*, Toledo: Diputación Provincial, 23–34.
- Márquez Villanueva, Francisco (2004), *El concepto cultural alfonsí* (Serie General Universitaria, 35), Barcelona: Bellaterra.
- Martínez, H. Salvador (2010), *Alfonso X, the Learned: A Biography* (Studies in the History of Christian Traditions, 146), Leiden: Brill.
- Menéndez Pidal, Gonzalo (1951), 'Como trabajaron las escuelas alfonsíes', *Nueva Revista De Filología Hispánica*, 5/4: 363–380.
- Menéndez Pidal, Gonzalo (1962), 'Los manuscritos de las Cantigas: Como se elaboró la miniatura alfonsí', *Boletín de la Real Academia de la Historia*, 150: 25–51.
- Mettmann, Walter (1971), 'Aíras Nunes, Mitautor der CSM', *Iberoromania*, 3: 8–10.
- Mettmann, Walter (1987), 'Algunas observaciones sobre la génesis de la colección de las *Cantigas de Santa María* y sobre el problema del autor', in Israel J. Katz and John E. Keller (eds), *Studies on the Cantigas de Santa Maria: Art, Music, and Poetry. Proceedings of the International Symposium on the Cantigas de Santa Maria of Alfonso X, el Sabio (1221–1284) in Commemoration of Its 700th Anniversary Year, 1981, New York, November 19–21*, Madison: Hispanic Seminary of Medieval Studies, 355–366.

- Millás Vallicrosa, José M. (1933), 'El literalismo de los traductores de la corte de Alfonso el Sabio', *Al-Andalus*, 1: 155–187.
- Monteagudo, Henrique (2021), 'Ayra Nunes, Afonso o Sabio e as *Cantigas de Santa María*', *Boletín da Real Academia Galega*, 382: 113–134.
- Narducci, Enrico (1865), *Intorno ad una traduzione italiana fatta nell'anno 1341 di una compilazione astronomica di Alfonso X, Re di Castiglia*, Roma: Tipografia delle Scienze Matematiche e Fisiche.
- Nederman, Cary J. and John Brückmann (1983), 'Aristotelianism in John of Salisbury's Policraticus', *Journal of the History of Philosophy*, 21: 203–229.
- North, John D. (1977), 'The Alfonsine Tables in England', in Yasukatsu Maeyama and Walter G. Salzer (eds), *Prismata: Naturwissenschaftsgeschichtliche Studien. Festschrift für Willy Hartner*, Wiesbaden: Franz Steiner, 269–301.
- North, John D. (1996), 'Just Whose Were the Alfonsine Tables?', in Josep Casulleras and Julio Samsó (eds), *From Baghdad to Barcelona: Studies in the Islamic Exact Sciences in Honour of Prof. Juan Vernet*, vol. 1 (Anuari de filologia, 19.B: Estudis àrabs i islàmics, 2), Barcelona: Universitat de Barcelona, Instituto 'Millás Vallicrosa' de Historia de la Ciencia Àrabe, 453–475.
- Nothaft, C. Philipp E. (2015), 'Critical Analysis of the Alfonsine Tables in the Fourteenth Century: The Parisian *Expositio Tabularum Alfonsii* of 1347', *Journal for the History of Astronomy*, 46/1: 76–99.
- O'Callaghan, Joseph F. (1993), *The Learned King: The Reign of Alfonso X of Castile* (Middle Ages Series), Philadelphia: University of Pennsylvania Press.
- O'Callaghan, Joseph F. (1998), *Alfonso X and the Cantigas de Santa Maria: A Poetic Biography* (Alfonso X and the Cantigas de Santa Maria: The Medieval Mediterranean, 16), Leiden: Brill.
- Parkinson, Stephen (2006), 'Collection, Composition and Compilation in the Cantigas de Santa Maria', *Portuguese Studies*, 22: 159–172.
- Parkinson, Stephen (2011), 'Alfonso X, Miracle Collector', in Laura Fernández Fernández and Juan C. Ruiz Souza (eds), *Las Cantigas de Santa María: Códice Rico, Ms. T-I-1, Real Biblioteca del Monasterio de San Lorenzo de El Escorial* (Scriptorium, 21), Madrid: Testimonio/Patrimonio Nacional, 341–357.
- Parkinson, Stephen (2015), *Alfonso X, the Learned: Cantigas de Santa Maria. An Anthology* (MHRA Critical Texts, 40), Cambridge: Modern Humanities Research Association.
- Paul, Jacques (1998), *Histoire intellectuelle de l'Occident médiéval*, 2nd edn, Paris: Colin [1st edn: 1973].
- Petrucci, Armando (1973), 'La concezione cristiana del libro fra VI e VII secolo', *Studi medievali*, 14: 961–984.
- Petrucci, Armando (1976), 'Aspetti simbolici delle testimonianze scritte', in *Simboli e simbologia nell'alto medioevo* (Settimane di studio del Centro italiano di studi sull'alto medioevo, 23), vol. 2, Spoleto: CISAM, 813–844.
- Prado-Vilar, Francisco (2011), 'Iudeus Sacer: Life, Law, and Identity in the "State of Exception" Called "Marian Miracle"', in Herbert L. Kessler and David Nirenberg (eds), *Judaism and Christian Art: Aesthetic Anxieties from the Catacombs to Colonialism*, Philadelphia: University of Pennsylvania Press, 115–142.
- Preciado, Dionisio (1987), 'Pervivencia de una melodía de las cantigas en el "Cancionero Musical de Palacio"', in José López-Calo, Ismael Fernández de la Cuesta and Emilio F. Casares Rodicio (eds), *España en la música de occidente: actas del congreso internacional celebrado*

- en Salamanca, 29 de octubre-5 de noviembre de 1985. Año Europeo de la Música* (España en la Música de Occidente, 1/1), vol. 1, Madrid: Ministerio de Cultura, 95–100.
- Procter, Evelyn (1945), 'The Scientific Works of the Court of Alfonso X of Castille: The King and His Collaborators', *The Modern Language Review*, 40/1: 12–29.
- Procter, Evelyn (1951), *Alfonso X of Castile, Patron of Literature and Learning*, Oxford: Clarendon Press.
- Procter, Evelyn (1980), *Curia and Cortes in Leon and Castile, 1072–1295* (Cambridge Iberian and Latin American Studies), New York: Cambridge University Press.
- Pym, Anthony (2000), *Negotiating the Frontier: Translators and Intercultures in Hispanic History*, Brooklands, MA: St Jerome Publishing.
- Ramón Guerrero, Rafael (1998), 'El Pseudo-Aristóteles árabe y la literatura didáctico-moral hispana: Del Sirr al-Asrar a la Poridad de las poridades', in José María Soto Rábanos (ed.), *Pensamiento medieval hispano: homenaje a Horacio Santiago-Otero* (Pensamiento medieval hispano, 2/2), vol. 2, Madrid: CSIC, 1037–1051.
- Rodríguez de la Peña, Manuel Alejandro (2014–2015), 'Rex excelsus qui scientiam diligit: La dimensión sapiencial de la Realeza alfonsí', *Alcanate*, 9: 107–135.
- Rodríguez de la Peña, Manuel Alejandro (2019), 'The Wise King Topos in Context: Royal Literacy and Political Theology in Medieval Western Europe (c. 1000–1200)', in Elena Woodacre, Lucinda H. S. Dean, Chris Jones, Zita Rohr and Russell Martin (eds), *The Routledge History of Monarchy* (The Routledge Histories), London: Routledge, 38–53.
- Rodríguez Porto, Rosa M. (2012), 'Inscribed/Effaced: The Estoria de Espanna after 1275', *Hispanic Research Journal*, 13/5: 387–406.
- Romano, David (1992), *La ciencia hispanojudía* (Colección Mapfre, 17: Colección Sefarad, 2), Madrid: Mapfre.
- Roth, Norman (1985), 'Jewish Translators at the Court of Alfonso X', *Thought: Fordham University Quarterly*, 60/239: 439–455.
- Rucquoi, Adeline (1995), 'De los reyes que no son taumaturgos: los fundamentos de la realeza en España', *Temas medievales*, 5: 163–186.
- Rucquoi, Adeline (2006), *Rex, sapientia, nobilitas: Estudios sobre la Península Ibérica medieval* (Biblioteca de bolsillo divulgativa colectanea limitanea, 48), Granada: Editorial Universidad de Granada.
- Sánchez Ameijeiras, Rocío (2013), 'Del salterio al marial: sobre las fuentes de las imágenes de los Códices de las Historias de las *Cantigas de Santa María*', *Alcanate*, 8: 55–80.
- Samsó, Julio (2008–2009), 'Las traduccions astronómicas alfonsíes y la aparición de una prosa científica castellana', *Alcanate*, 6: 39–51.
- Samsó, Julio (2020), *On Both Sides of the Straits of Gibraltar: Studies in the History of Medieval Astronomy in the Iberian Peninsula and the Maghrib* (Handbuch der Orientalistik, 1/144), Leiden: Brill.
- Schaffer, Martha (1999), 'Los códices de las *Cantigas de Santa María*: Su problemática', in Jesús Montoya Martínez and Ana Domínguez Rodríguez (eds), *El Scriptorium alfonsí: De los Libros de Astrología a las 'Cantigas de Santa María'* (Cursos de Verano de el Escorial), Madrid: Editorial Complutense, 127–148.
- Snow, Joseph T. (2012a), 'Alfonso X y la cuestión de la autoría de las *Cantigas de Santa María* (otra vez)', in Patrizia Botta, Aviva Garribba, María Luisa Cerrón Puga and Debora Vaccari (eds), *Rumbos del hispanismo en el umbral del Cincuentenario de la AIH*, vol. 2: *Medieval*, Rome: Bagatto Libri, 145–149.

- Snow, Joseph T. (2012b), *The Poetry of Alfonso X: An Annotated Critical Bibliography (1278–2010)* (Research Bibliographies and Checklists, New Series, 10), Woodbridge: Tamesis.
- Souto, José Antonio (2023), 'Ca o vej'eu assaz om'ordinhado: Airas Nunes no "coro" clerical trovadoresco', *Madrygal*, 26/1.
- Velasco, Jesús R. (2020), *Dead Voice: Law, Philosophy, and Fiction in the Iberian Middle Ages* (The Middle Ages Series), Philadelphia: University of Pennsylvania Press.
- Verger, Jacques (2001), *Gentes del saber en la Europa de finales de la Edad Media* (La mirada de la historia), Madrid: Editorial Complutense.
- Wilks, Michael (ed.) (1984), *The World of John of Salisbury* (Studies in Church History, Subsidia, 3), Oxford: Blackwell.

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Performing (with) Multiple-Text Manuscripts in the Making of the Ethiopian Sainthood: Matter and Devotion in Ethiopia between the Fourteenth Century and the Present Time

Abstract: The present contribution offers an insight into the formation and development of multiple-text manuscripts (MTMs) transmitting works earmarked for liturgical and healing performances connected with the veneration of saints in Ethiopia. The time span covered ranges between the fourteenth century and the present time. Themes related to the role of manuscripts in the making of Ethiopian sainthood and keeping it alive will be explored. The main points discussed are (1) the acquisition and structuring of a corpus of hagiographic texts in MTMs; (2) the perception of these MTMs in connection with the construction of Ethiopian sainthood; (3) their function in the authentication to sainthood in Ethiopia; and (4) their use in liturgical and healing performances.

1 *Vox populi, vox Dei*

The construction of the *fama sanctitatis* of holy people in Ethiopia, as in the rest of the Christian world, generally arises among the members of the community who were in touch with them during their lifetime or in places connected in some way with their fame. These locations progressively became pilgrimage destinations, sites of churches, and shelters for sufferers and indigents who invoked their intercession and made known the effects of it (healings, protection, comfort). The *fama sanctitatis* spread from these places, often with the patronage of the local ecclesiastical communities which encouraged, legitimising it, a cult already established in popular practice by the faithful.

The verification of sainthood in late antique and medieval Ethiopia did not entail any official initiative from the high religious authorities in a modern sense, although a sort of ratification probably occurred when the hagiographic narrative of saints was written down and copied in manuscripts which started to circulate and be read on their memorial day. This stage possibly marks the formal, official establishment of the devotion towards saints, since the manuscript is the essential medium which makes possible their liturgical commemoration

and other ritual practices connected with their veneration. One can more generally assume that the circulation and ritual use of hagiographic manuscripts contributed to officialising the *fama sanctitatis* in premodern Ethiopia.¹ Essential evidence of the emergence of the devotion also provides ancient chant manuscripts, at times preserved only in a fragmentary state but extremely archaic in their text and material appearance,² as well as hymnodic celebrations which play an essential role in the spreading of the veneration practices.³

2 Legitimation to sainthood: the *kidān* and the *tazkār*

Crucial evidence of the role of hagiographic manuscripts in legitimising and promoting the veneration of saints in medieval Ethiopia is offered by the *kidān* ('pact'),⁴ a textual section of the saints' *Lives* which endorses the celebration of the saint's *tazkār* ('commemoration').⁵ The narrative structure of the *kidān* is usually shaped in the form of a vision: God or Jesus Christ appears to the saints shortly before their death and gives his word (sometimes at the saint's request) that all the prayers made in the saint's name will be fulfilled and that their intercession will ensure eternal life to the faithful who address to them and celebrate their commemoration.

An example of *kidān*, excerpted from the *Life* of Saint Malkə'a Krəstos,⁶ is as follows:

ወመጽአ፡ እግዚእነ፡ ኢየሱስ፡ ክርስቶስ፡ ምስለ፡ አዕላፍ፡ መላእክቲሁ፡ ወምስለ፡ ነቢያት፡ ወሐዋርያት፡ ጸድቃን፡ ወሰማዕት፡ ደናግል፡ ወመነኮሳት፡ ጌራን ። ወይቤሎ፡ በቃሉ፡ እግዚእነ፡ ለመልክዓ፡ ክርስቶስ፡ ፍቅርየ፡ ወፍቅረ፡ እምየ፡ ጎረይ፡ ኃብታተ፡ ዘፈቃድክ፡ እምኔየ ። ወአውሥአ፡ ወይቤሎ፡ አቡነ፡ ባርክ፡ እግዚእ፡ ሀገርየ፡ ምድር፡ ትኩዝ፡ ወመክረም፡ ወምድረ፡ ቀያህቲ፡ ወአለሉ፡ ወአድ፡ ክሳድ፡ ወምድረ፡ ትሹም፡ እሰመ፡ አፈቅሮን፡ ፈድፋድ፡ እምኩሉ፡ አህጉር ። ወባርክ፡ እግዚእ፡ ዛተ፡ ሀገረ፡ ወካልዓተኒ፡ አህጉረ ። ወባርክ፡ ገዳማትየ ። ወባርክ፡ ደቂቅየ፡ መሐር፡ እግዚእ፡ እለ፡ ይገብሩ፡ ተዝካርየ፡ ወእለ፡ ይጹወ፡

1 A preliminary assessment on the relationship between hagiography and liturgy in the Ethiopian Church was published by Brita 2015.

2 Cf. Nosnitsin 2016 and Nosnitsin 2018.

3 Cf. Karlsson 2022.

4 Kur and Nosnitsin 2007.

5 Mersha Alehegne 2010.

6 CAe 4118. The critical edition with an Italian translation of the text was published by Raineri 2009.

ስምየ ፡ ወእለ ፡ ይትመሐፀኑ ፡ በጸሎትየ ፡ ወይቤሎ ፡ እግዚእነ ፡ ለአቡነ ፡ መሐርኩ ፡ ለከ ፡ ኩሎ ፡ ዘሰዓልከኒ ፡ ዘገብረ ፡ ተገነረከ ፡ ወዘጸውዓ ፡ ስመከ ፡ ወዘጸንዓ ፡ በትምህርትከ ፡ ወዘአጽሐፈ ፡ መጽሐፈ ፡ ገድልከ ፡ ወዘሐለየ ፡ ማኅሌተ ፡ በበዓልከ ፡ ወዘሐነፀ ፡ ቤተ ፡ ክርስቲያን ፡ በእንቲአከ ፡ ወበእንተ ፡ እምየ ፡ ወዘያበውዕ ፡ ዕማነ ፡ ወማኅቶተ ፡ ለተገነረ ፡ በዓልከ ፡ ወዘተማኅፀነ ፡ በጸሎትከ ፡ እስከ ፡ ፲ወ፩ትውልድ ፡ እምህር ፡ ለከ ፡ ከመዝ ፡ ተካየድኩ ፡ ምስሌከ ፡ ወለእመ ፡ ኢተዓደዉ ፡ ትእዛዛየ ፡ ወእምትእዛዛከ ፡ ኢይመውቲ ፡ በረኅብ ፡ ወአነሂ ፡ ኢያመጽእ ፡ ላዕሌሆሙ ፡ ንዴተ ፡ ወተፅናስ ፡ ወእባርክ ፡ ፍሬ ፡ ምድሮሙ ፡ ወለእመ ፡ ጸለዩ ፡ ኅቤየ ፡ እንዝ ፡ ይብሉ ፡ አእምላኩ ፡ ለመልክዓ ፡ ክርስቶስ ፡ ርድኣኒ ፡ ፍጡኅ ፡ እሰምዖሙ ፡ ኃጥዓንሂ ፡ ለእመ ፡ ተቀብሩ ፡ ውስቴታ ፡ ለገዳምከ ፡ ትኩዝ ፡ እምህር ፡ ለከ ፡ እመሰ ፡ ዘኢይምህሮሙ ፡ ኃጥዓን ፡ አወጽኦሙ ፡ እምኔሂ ፡ ወለእለ ፡ አፍቀርክዎሙ ፡ አመጽኦሙ ፡ ኅቤሂ ፡ ወየዓርፉ ፡ ባቲ ፡ ወለእለ ፡ ያፈቅርዎ ፡ አፈቅሮሙ ፡ ወለእለ ፡ ይጸልዕዎ ፡ እጸልዎሙ ፡ ወእሣሩ ፡ እምድር ፡ ዝከሮሙ ፡ ወአጠፍዕ ፡ ዘርዎሙ ።⁷

And Our Lord Jesus Christ came with thousands of his angels, and with prophets and apostles, righteous and martyrs, virgins and pious monks. And Our Lord told, with his word, to Malkə'a Krəstos: 'My beloved and beloved of my Mother, choose the bestowals that you wish from me'. And our father replied and said: 'O Lord, bless my country, the land of Təkkuz and Makram, and the land of Qayāhti and Alatu and Add Kəsād, and the land of Təšum because I love them more than any other lands; and bless, O Lord, this land and also the other lands; and bless my monastery; and bless my [spiritual] sons; have mercy, O Lord, on those who celebrate my *tazkār*, and on those who invoke my name, and on those who entrust themselves to my prayer'. And Our Lord told our father Malkə'a Krəstos: 'I will have mercy, for you, on everything you asked me; on the one who celebrates your *tazkār*; and on the one who invokes your name; and on the one who persists in your teachings; and on the one who commissions the manuscript of your *gadl*;⁸ and on the one who sings hymn during your celebration; and on the one who builds a church for you and for my Mother; and on the one who offers incense and lamps for the commemoration of your festival; and on the one who entrusts himself to your prayer. Up until eleven generations I will have mercy on you. So, I stipulate [this pact] with you. And if [the faithful] will not transgress my orders and your orders, they will not starve to death. And destitution and misery will not reach them, and I will bless the fruit of their soil. And if [the faithful] will address their prayers to me, by saying "O God of Malkə'a Krəstos, help me!", I will hear them immediately. And if sinners are buried in your monastery of Təkkuz, I will have mercy on you. In fact, I will not have mercy on [other] sinners and I will send them away from there. And those whom I love I will send them to you and they will rest there. And those who love it [the monastery] I will love them; and those who hate it, I will eradicate their memory from the world and I will extinguish their descendance'.⁹

7 Raineri 2009, 364 and 366, §§ 103–105.

8 The term *gadl* (pl. *gadlāt*), 'spiritual combat', in the present article is either left in its original form or translated into English with the more generic terms *Life* or *Acts*, the latter only when referred to martyrs or saints of early Christianity (as, for instance, in the labels *Gadla samā'tāt* and *Gadla qəddusān*).

9 The English translation is mine.

The text shows how the *kidān* prescribes, among several devotional actions, the patronage and the copying of the hagiographic manuscripts. Another example, excerpted from the *kidān* of Saint Libānos's *Life*, reads as follows:¹⁰

ዘንቲኒ ፡ መጽሐፈ ፡ ዘጸሐፈ ፡ ወአጽሐፈ ፡ እንዘ ፡ ሀለወ ፡ በሥጋ ፡ አነ ፡ እሁቦ ፡ ኅይለ ፡ መዊእ ፡ በቅድመ ፡ ኩሉ ፡ ወአዐቅቦ ፡ አነ ፡ በጽንዕየ ፡ ወአፈቅሮ ፡ ከመ ፡ ረድእየ ፡ ወድኅረሂ ፡ አመ ፡ ምጽአትየ ፡ እሬሰየ ፡ ይኅልፍ ፡ ምስሌክ ፡ በግህደት ፡ አልቦ ፡ ዘይትማሰለክ ፡ ዘእንበለ ፡ ማርያም ፡ እመየ ፡ ዘንቲኒ ፡ ኪዳን ፡ ይኩን ፡ ከመ ፡ ኪዳን ፡ ለእምየ ፡ ኩሉ ፡ ዙተአመነ ፡ በጸሎትክ ፡ በዝባ ለም ፡ ወበዘይመጽእ ፡ ዓለም ፡ ይድኅን ፡ እሰመ ፡ ኅግድ ፡ አንተ ፡ ወፈለሰክ ፡ እምብሔርክ ፡ በእን ቲአየ ፡ ወይቤ ፡ ብፁዕ ፡ ሊባኖስ ፡ ስብሐት ፡ ለክ ፡ አምላኪየ ፡ ዘወሀብኪኒ ፡ ዘንተ ፡ ኩሉ ፡ ኪዳን ፡ ሰማይ ፡ ወምድር ፡¹¹

The one who wrote and the one who commissioned this manuscript, while being alive,¹² I [the Lord] will give him the strength to win against everyone, I will protect him with my toughness and I will love him as my disciple, and, later, at my second coming, I will make sure that he manifestly moves with you.¹³ There is no one else like you, but Mary, my Mother. Be this the *kidān*, like the *kidān* of my Mother. Whoever confides in your prayer in this world and in the world to come will be saved, since you are a pilgrim [who] emigrated from your country for the sake of me. And the blessed Libānos said: ‘Praise to you, my God, who gave me all this *kidān* of heaven and earth’.

In the *kidān*'s section, it is the undisputed authority of God which sanctions the writing of the hagiographic manuscripts and the liturgical commemoration of the saints and, therefore, officially validates their legitimation to sainthood. Seemingly, the presence (or absence) of a *kidān* in the *Life* of a saint defines the border between a mere literary work and a text object of ritual. It, thus, represents the agency of hagiographic manuscripts, since it legitimises the efficacy of the *tazkār*. Last, but not least, the *kidān* fosters the copy, the translation, the donation, and the ritual use of hagiographic manuscripts contributing to the

¹⁰ CAe 1473. The critical edition of the text with the Italian translation was published by Bausi 2003. I made the English translation of the text passages quoted in the following paragraphs, and it follows the critical text reconstructed by Alessandro Bausi.

¹¹ Bausi 2003, vol. 1, 13, § 48. The manuscripts transmitting this passage are Rome, Biblioteca dell'Accademia Nazionale dei Lincei e Corsiniana, Fondo Conti Rossini 26, 1934 CE (manuscript 'A' in Bausi's edition) and Asmara, Biblioteca del Centro di Studi Etiopici, Pavoni Social Center, no shelfmark, twentieth century (manuscript 'D' in Bausi's edition), cf. Bausi 2003, vol. 1, ix.

¹² Literally 'while he is in the body'.

¹³ The passage 'he manifestly moves with you' is a textual reconstruction's hypothesis based on conjecture proposed by the editor of the *Gadla Libānos*, Alessandro Bausi. The corrupted passage is present only in manuscript 'D' and it is omitted in manuscript 'A', cf. Bausi 2003, vol. 1, 13, § 48.

spread of the *fama sanctitatis* of the protagonists whose *Lives* are transmitted therein.

3 ‘The holy water of the manuscript’

In addition to that, there are cases in which the devotional actions related to the patronage, copy, translation, reading and use of hagiographic manuscripts are entrusted to other sections of the saints’ *Lives*. What follows is again a passage from the *Life* of Libānos aiming at encouraging the faithful to commemorate the saint. The manuscript tradition of the text presents two different versions of this passage. In this case, it is the Holy Spirit who requests the writing of the *gadl*:¹⁴

First version:

ወይቤሎ ፡ መንፈስ ፡ ቅዱስ ፡ ለኤጲስ ፡ ቆጶስ ፡ ጸሐፍ ፡ ዘንተ ፡ ያንብብዎ ፡ በዕለተ ፡ ተዝካሩ ፡ ወይ ትአመኑ ፡ በጸሎቱ ፡¹⁵

The Holy Spirit said to the bishop: ‘Write this [manuscript], so that they read it on the day of his *tazkār* and have faith in his prayer’.

Second version:

ወይቤሎ ፡ መንፈስ ፡ ቅዱስ ፡ ለኤጲስ ፡ ቆጶስ ፡ ዘአከሱም ፡ ጸሐፍ ፡ ዘንተ ፡ መጽሐፈ ፡ ገድሱ ፡ ለፍቁርያ ፡ ሊባኖስ ፡ ከመ ፡ ይኩን ፡ መድኃኒተ ፡ ሰብእ ፡ ወእንሰሳ ፡ እመሂ ፡ ዘተረቅየ ፡ ወእ መሂ ፡ ዘተኅፀበ ፡ አው ፡ ዘሰትየ ፡ ማየ ፡ ጸሎቱ ፡ ለዝንቱ ፡ መጽሐፍ ፡ ከሱሎ ፡ ዘተመዘየ ፡ አነ ፡ እሁቦ ፡ ወአዘንም ፡ ላዕሌሁ ፡ ሣህልየ ፡ ወምሕረትየ ፡ ከመ ፡ ማየ ፡ ክረምት ፡ በዕለተ ፡ በዓሉኒ ፡ ክብርት ፡ ወበኩሎን ፡ ዕለታት ፡ ሠርክ ፡ ወነግሀ ፡ ለዘያነብባ ፡ አነ ፡ እከውኖ ፡ አፈ ፡ ወልሳነ ፡ ወለ

¹⁴ The first version is witnessed by the manuscripts: (1) Rome, Biblioteca dell’Accademia Nazionale dei Lincei e Corsiniana, Fondo Conti Rossini 88, 1940 CE (manuscript ‘B’ in Bausi’s edition); (2) Vatican City, Biblioteca Apostolica Vaticana, Fondo Cerulli Etiopico 198, 1809–1813 CE (manuscript ‘D’ in Bausi’s edition); and (3) Asmara, Biblioteca del Centro di Studi Etiopici, Pavoni Social Center, no shelfmark, 1674 CE (manuscript ‘E’ in Bausi’s edition). The second version, slightly longer and more elaborated, is transmitted in the manuscripts: (4) Rome, Biblioteca dell’Accademia Nazionale dei Lincei e Corsiniana, Fondo Conti Rossini 26, 1934 CE (manuscript ‘A’ in Bausi’s edition); and (5) Asmara, Biblioteca del Centro di Studi Etiopici, Pavoni Social Center, no shelfmark, twentieth century (manuscript ‘D’ in Bausi’s edition), cf. Bausi 2003, vol. 1, ix.

¹⁵ Bausi 2003, vol. 1, 39, § 168, manuscripts ‘B’, ‘C’ and ‘E’.

ዘጸሐፊሂ ፡ በእዱ ፡ ወለዘአጽሐፎ ፡ በንዋዩ ፡ አነ ፡ እጽሐፍ ፡ ስሞ ፡ ኀበ ፡ ዐምደ ፡ ወርቅ ፡ በቀ
ለመ ፡ ጽድቅ ፡¹⁶

The Holy Spirit said to the bishop of Aksum: ‘Write this manuscript of the *gadd* of my beloved Libānos, so that it is the salvation of men and animals. If one was exorcised, was washed or drank the holy water of this manuscript, I will give him everything he wishes, I will make rain upon him my compassion and my mercy, like the water of the rainy season. I will be mouth and tongue of the one who will read it [the manuscript] on the day of his [of Libānos] honourable festival, and every day, evening and morning. On the golden pillar I will write, with the pen of justice, the name of the one who wrote it [the manuscript] with his hand and of the one who commissioned it at his own expenses’.

In this second version, an additional element offers fresh clues regarding other possible ways to perform rites with manuscripts. This element is, so to say, hidden in the sentence ‘If one was exorcised, was washed or drank the holy water of this manuscript’. The expression **ማየ ፡ ጸሎት** (lit. ‘the water of prayer’) is attested in Gə‘əz with the meaning of ‘holy water’,¹⁷ but what is interesting here is its combination in a genitive chain with **ለዝንቲ ፡ መጽሐፍ** (‘of this manuscript’). The result is a sentence that apparently does not make sense and becomes clear only when it is interpreted in the light of contemporary ritual performances. This sentence indeed probably refers to a specific action performed during rituals, which I personally documented during my fieldtrips in Ethiopia in February 2017 and October 2018. The ceremony’s officiant, after reading a portion or the whole *Life* of the saint aloud to the audience, blows in a basin or a bottle containing water. The action of blowing into the water, as I was told, aims at transmitting the spirit (*manfas*), acquired by the officiant through the reading of the manuscript, to the water which then becomes holy and curative. This water is subsequently used for performing healing rituals, such as exorcisms and ablutions of patients’ bodies (also of animals), and is also sprinkled on cultivated fields infested by parasites (see Subsection 8.2). During the ceremony of the saint’s *tazkār*, the same water is also sprinkled over the ceremony’s attendants to bless and protect them from any sort of illness and demons’ attack. If the attendants have relatives or friends that are bedridden or infirm, they

¹⁶ Bausi 2003, vol. 1, 39, § 169, manuscripts ‘A’ and ‘D’.

¹⁷ *Māya šalot*, ‘holy water’, cf. Leslau 1991, 376a. The expression is also reported in Tigrinya in the following forms: **ማይ ጸሎት** *may šälot*, **ማይ ጨሎት** *may čälot* and **ማጨሎት** *mačälot*, with the meaning of ‘holy water, lustral water; spring or fountain where sick persons bathe in order to obtain healing; mineral or sulphurous water (note: bathing for healing purposes is ordinarily accompanied by an animal sacrifice, us. a sheep or goat, to the saint or spirit to whom it is dedicated)’, cf. Kane 2000, 500b. On the use of holy water in healing and other rituals and the related symbolism in Ethiopia, see Finneran 2009.

bring bottles full of water with them and, at the end of the manuscript reading, ask the officiants to blow into them so that they can deliver the curative water to the patients' homes. I could also observe that the action of blowing is not always performed, especially during the celebrations of the annual commemoration of the saints, probably because of the high number of people attending the ceremonies. On these occasions, the faithful, shortly before the reading of the manuscript, place open bottles or jars full of water (Fig. 1) near the lectern which holds the manuscript during the reading and collect them once the reading is accomplished. In these cases, the action of reading the manuscript aloud is sufficient to transmit the *manfas* to the water and for this reason, both bottles and jars are left open during the reading.



Fig. 1: Open bottles and jars containing water placed near the lectern which holds the manuscript during the reading. Annual *tazkār* of St Pānṭalewon *zašomā't*, 'Ēndā 'Abbā Pānṭalewon (Təgrāy, Ethiopia). Photograph by Antonella Brita (October 2018).

From a methodological point of view, this datum will encourage one to reconsider, when possible, the interpretation of textual and non-textual features transmitted in manuscripts used in performances in the light of current practices. Scholars often tend to attribute their lack of understanding to a yet unspecified 'unclear' text or 'unclear' feature, instead of considering that this dearth of

understanding might simply depend on a lack of knowledge about the use and function of manuscripts. Obviously, the study of manuscripts and related practices is contextualized and analysed from a synchronic perspective, but this does not mean that such a paradigm might not have a diachronic relevance. In the example shown above, the two witnesses transmitting the sentence ‘If one was exorcised, was washed or drank the holy water (deriving by the reciting) of this manuscript’ are dated to the twentieth century and, indeed, they attest a contemporary practice. On the other hand, observing the contemporary use of manuscripts reveals some facets which cannot be detected from their material evidence. The reason is that these facets pertain to a sphere of immaterial knowledge which follows a different channel of transmission – oral or experiential transmission – that usually does not leave any material trace in the manuscripts. The results provided by both material and immaterial evidence not only complement each other, as long as the diachronic perspective is observed, but also inform us about evolutions and possible changes over time. There is no question that each piece of evidence mirrors the historical context to which it is referred, but it is also true that contemporary practices can be projected back into the past – if they are supported by material evidence – and ancient practices can be considered still alive – if they are materially detectable in manuscripts.

4 Multiple-text manuscripts (MTMs): assembling the hagiographic corpus for the celebration of the saint’s *tazkār*

4.1 Ancient hagiographic presences in Ethiopia

The oldest typology of hagiographic manuscripts known so far in Ethiopia consists of collections of texts transmitted in MTMs to be read on the commemoration day of the saint. The most widespread types are *darsānāt* (pl. of *darsān*, ‘homily’), collections of homilies not exclusively hagiographic, attested in manuscripts from the thirteenth to fourteenth century,¹⁸ and *gadlāt* (pl. of *gadl*), collections of hagiographic work of various lengths about martyrs and saints of the

¹⁸ On homiletic collections in Ethiopia, see the recent article by Bausi 2019.

oriental and universal Church, with a few exceptions (see below).¹⁹ The latter are, specifically, attested in manuscripts labelled respectively *Gadla samā'tāt* (*Acts of the martyrs*)²⁰ and, less systematically, *Gadla qəddusān* (*Acts of the saints*),²¹ transmitting a corpus of fewer than two hundred hagiographies.²² The structure of each manuscript generally reflects its nature as a liturgical book. The texts do not occur all at once in the same manuscript (the largest MTMs contain around sixty texts), therefore, these MTMs were not produced to cover the celebrations of the saints for the whole liturgical year. The reason probably lies in the commemorative practices spread in the late antique and early medieval period in Ethiopia and particularly in the fact that only the veneration of a certain number of saints was diffused at that time. In order to better contextualize this evidence, it is useful to consider the formation and transmission of the corpus of the hagiographic texts over the centuries.

4.2 The reception of foreign sainthood: paths of transmission

The most ancient MTMs known to us are dated to the thirteenth to fourteenth century and witness the first detectable layer in the transmission of the corpus in Ethiopic, although presumably not the oldest. Material, linguistic and philological evidence collected so far allow one to ascertain that the reception in Gə'əz of the hagiographic corpus must have had a complex genesis, so far only partially traceable. The reception of individual texts embodied in the collection is marked by an early phase datable to the Aksumite period (fourth to seventh century), as witnessed by a nucleus of texts apparently translated from Greek, along with texts that were translated from Arabic at the earliest from the thirteenth to fourteenth or even twelfth century.²³ The hagiographies to be ascribed to the Greek translation are, at least, the *Acts* of Anicetus and Photius;²⁴ 'Arsenofis, Peter and 'Askiryon;²⁵ 'Ḥmārāyəs;²⁶ Euphemia;²⁷ Phileas bishop of

19 MTMs containing both homilies and *gadolāt* are also attested.

20 CAe 1493.

21 CAe 1487.

22 The matter of labels and titles of MTMs and related problems is discussed in Brita forthcoming.

23 This preliminary assessment of the *Gadla samā'tāt* transmission is based on various evidence collected and published by Bausi 2002, 15–17.

24 CAe 6501. Villa 2021.

25 CAe 1902. Edition and Italian translation by Conti Rossini 1938.

26 CAe 4039. Edited by Pereira 1902.

27 CAe 4043.

Thmuis;²⁸ Sophia and his three daughters: Pistis, 'Elpis and 'Agape;²⁹ Tewofelos, Pātroqyā and Damālis;³⁰ and, perhaps, Cyprian and Justina.³¹ These texts, to which others may be added, probably constitute the core of an earlier collection circulating in the Aksumite period that, at some point, ceased to exist. Its texts were then redistributed and rearranged in new collections transmitted in MTMs together with new texts translated from Arabic. The reception of the latter in Gə'əz apparently displays two different paths of transmission: (1) an Egyptian (Copto-Arabic) transmission supported by a certain number of texts' subscriptions explicitly stating that they were translated from Arabic or connecting their translation to a Copto-Arabic milieu; these subscriptions are found in the *Acts* of Abakerazum;³² Abraham the stone-cutter;³³ 'Abuqer and Yoḥannəs;³⁴ 'Arsānyos; Bəsoy;³⁵ Cornelius the Centurion;³⁶ Basilides;³⁷ Galāwdewos;³⁸ Nob;³⁹ 'Orni;⁴⁰ Peter, patriarch of Alexandria;⁴¹ Pifāmon;⁴² Theodore the Oriental;⁴³ Isaac of Tiphre;⁴⁴ Justus, his son Aboli and his wife Thecla;⁴⁵ and the miracles of Theodore Stratelates.⁴⁶ (2) The second channel of transmission, more difficult to ascertain, is probably identified on the opposite shore of the Red Sea, in the area between the Sinai Peninsula and South Arabia, as it is witnessed by a certain number of hagiographies which are apparently unknown in the Copto-Arabic tradition;⁴⁷ these are the *Acts* of Athanasios of Clysma⁴⁸ and the texts related to

28 CAe 3162. Edition and Italian translation by Bausi 2002.

29 CAe 1900. Villa 2018.

30 CAe 3168. Edition and Italian translation by Ricci 1947.

31 CAe 3159.

32 CAe 6435.

33 CAe 6381. Simon 1931.

34 CAe 1010.

35 CAe 6537. Compendium in French by Beylot 1986; edition and French translation by Colin 2002.

36 CAe 6540.

37 CAe 1893. Pereira 1907, edition: 1–78; Latin translation: 1–70.

38 CAe 4827. Pereira 1907, edition: 193–226; Latin translation: 173–204.

39 CAe 5631.

40 CAe 6380.

41 CAe 6499. Edition and German translation by Elagina 2013.

42 CAe 6346.

43 CAe 1904. Pereira 1907, edition: 123–164; Latin translation: 105–143.

44 CAe 4835. Edition by Pereira 1903.

45 CAe 2595. Pereira 1907, edition: 81–122; Latin translation: 71–103.

46 CAe 6182. Bausi 2002, 10–12.

47 Bausi 2016.

48 CAe 1797. Raineri 2001.

the historical episode of the massacre of Nāgrān and the subsequent expedition of the Ethiopian king Kāleb, in particular the *Acts of Arethas*⁴⁹ and of 'Azqir.⁵⁰

Furthermore, two additional marking features transmitted in the MTMs can also be regarded as clues to the stages of transmission. The first feature, attested in some MTMs, is represented by a both Greek-Coptic and Arabic form of the month's name attested in the date of the saint's death, for instance, in the *Acts of 'Arsenofis, Peter and 'Askiryon* (*ḡāhuni* or *ḡahin* instead of *sane*); Cyprian and Justa (*meker* instead of *ṭəqəmt*) (Fig. 2); Phileas bishop of Thmuis (*meker*); and Theodor the Oriental (*meker*). The second feature concerns the presence in some MTMs of a short final title at the end of some individual texts. It is found, for instance, in the *Acts of Phileas bishop of Thmuis*; Philemon the Gleeman;⁵¹ Theocritus the Reader;⁵² Tālāsēs and 'Al'azār.⁵³ The presence of a title at the beginning of the text in the Ethiopian Christian manuscript culture is quite common, while a title at the end of the text is a rather atypical phenomenon and may well be evidence of a relic of transmission.⁵⁴



Fig. 2: Reading indication of the *Acts of Cyprian and Justa*: 'for the month of *meker* (= *ṭəqəmt*) Qopryānos'. Manuscript Təgrāy, Dag^{wa} a Tamben, Dabra 'Abuna 'Abiya 'Egzi', AAE-001. Photograph by Antonella Brita (May 2013).

49 CAe 1891. Edition and Italian translation by Alessandro Bausi, in Bausi and Gori 2006.

50 CAe 1425. Edition and Italian translation in Bausi 2017.

51 CAe 4040.

52 CAe 1903.

53 CAe 6500.

54 For further details on end titles, see Brita forthcoming.

4.3 Embedding hagiographic works in liturgy: the structure and use of MTMs

The considerations made about the transmission of the hagiographic corpus in Gə'əz suggests that its organisation in the MTMs had a complex history, the process of which can be at present only partly understood.⁵⁵ The structure of the collections, as it is known today in the manuscripts, must be regarded as the result of a long process of revision, adaptation and reshaping of both texts and manuscripts. The most ancient MTMs so far known are dated to the thirteenth to fourteenth century and can be chronologically set in an intermediate period between the disappearing of the late antique Aksumite heritage based on Greek knowledge transmission and the absorption of the medieval Christian Arabic culture. The growing number of texts translated from Arabic, from the fourteenth century onwards, must have required a reshaping of the corpus in the MTMs and the revision of the individual texts both from a linguistic and material point of view. The new texts translated from Arabic were combined with more ancient texts translated from Greek, some of which might also have possibly gone through a retranslation process from Arabic or through a revision based on one (or more) Arabic model.⁵⁶ This process, aiming at producing manuscripts readapted each time to liturgical needs, was not only associated with a physical rearrangement of the texts in the MTMs, but also with a progressive change in the size of the MTMs. The evidence collected show that the increasing number of saints to be celebrated fostered an enlargement of the corpus, leading to the production of manuscripts of considerable size (in some cases, two volumes), large enough to accommodate more hagiographies. The *Acts of the martyrs* and (although less) the *Acts of the saints'* collections were very popular in the Ethiopian monasteries between the fourteenth and the sixteenth century: a growing number of MTMs were copied, disseminated and used for the liturgical commemoration of the saints. The chronological attestation of the MTMs allows one to determine the importance of these collections attested in a few MTMs even before the diffusion of the first recension of the Ethiopic *Synaxarion* at the end of the fourteenth century. The peak of both *Acts of the martyrs* and *Acts of the saints'* MTMs circulation is attested between the fourteenth and fifteenth centu-

⁵⁵ Apart from a few exceptions (Bausi 2002; Bausi 2017; Bausi and Gori 2006), the lack of proper critical editions of the texts of the corpus makes it difficult currently to propose more accurate conclusions, mostly concerning the thorny matter of the *Vorlage* of the individual texts, for which some reflections were proposed by Bausi 2002, 15–18.

⁵⁶ A process well-known in works translated in the Gə'əz language, cf. Bausi 2018.

ry. However, the diachronic distribution of the surviving manuscripts reveals an undeniable countertrend looming on the horizon from the second half of the sixteenth century and symptomatic of a cultural change in veneration practices in progress. In this period, the circulation of MTMs transmitting the second recension of the Ethiopic *Synaxarion* increased and kept on growing in the following centuries, while the circulation of the *Acts of the martyrs* and *Acts of the saints'* MTMs progressively began to decrease. It can be presumed that the spread of the second recension of the Ethiopic *Synaxarion* must have offered a new model of MTMs that the old MTM type could not emulate, determining its progressive dismissal.⁵⁷ From a material point of view, indeed, the MTMs transmitting the *Synaxarion* are organised in a less rigid structure, compared with the *Acts of the martyrs* and *Acts of the saints'* MTMs, and, consequently, their arrangement satisfied the new ritual requirements in a more effective way: (1) the hagiographies are shorter; (2) they cover the whole liturgical year; and (3) more than one saint is commemorated each day. The short readings, in substance, allowed one to accommodate the commemorative readings of more saints for the whole liturgical year in solely two volumes. The reason behind the success of the new MTMs' form lies in a change in the liturgical practices: the veneration of more saints implied a multiplication of hagiographic texts to be read (almost) every day of the liturgical year. This does not mean that this sort of conflict between the two MTM types entailed the replacement of the former to the advantage of the new type, since the two collections have a different function, being read at two different moments of the liturgical office.⁵⁸ It only means that the new MTM type could not serve as a model for reshuffling the old MTM type. The inclusion of more and more texts and additional commemoration dates would have led to the production of giant MTMs – even bigger than they were already – impossible to handle. From the second half of the sixteenth century, the old MTM type was set aside, although not yet completely dismissed, and additional MTM forms started to emerge. This process coincides with the increasing production of texts on local saints.

57 This hypothesis, already proposed by Bausi 2002, 12–14, is corroborated by the new documentation acquired in the last few years, which allowed the number of MTMs known at the time to double.

58 The *Synaxarion* is performed every day during the office of the morning while the *Acts of the martyrs* and the *Acts of the saints* are a main reading on the memorial day of the individual saints.

4.4 The visual patterns of the performance

The visual patterns⁵⁹ of the *Acts of the martyrs* and *Acts of the saints'* MTMs reveal their nature of liturgical books. The individual textual units are shaped in the form of commemorative readings of various lengths laid out in calendrical order to be performed on the saints' memorial days. The visual organisation of the MTMs' pages enables the reader to easily identify each textual unit and sub-unit. The decorations of the frontispiece and the beginning of the textual units range between plain geometric ornaments and more elaborated pictorial motifs. They can consist of rubricated words; straight lines made of dots or/and strokes in alternate black and red ink; pictorial frames filled with geometric patterns surrounding the text area (and the columns) and sometimes dividing the page into two registers (upper and lower); and traditional *ḥarags* or ribbon-shaped horizontal bands (sometimes enriched with perpendicular bands framing the text from the side and dividing the columns) filled with interlaced geometric or organic motifs and provided at the top with stylized leaves. The frontispiece can occasionally also be decorated with illuminations portraying the saints or Biblical figures. Linear graphic lines are normally used to (1) mark the end of the previous textual unit (Fig. 3); (2) delineate the caesura between two textual units (Fig. 4); or (3) distinguish the sub-units (e.g. miracles, blessing formulae, final titles, subscriptions, colophons) of the textual units (Figs 3 and 4).

The most lavish MTMs use pictorial frames, *ḥarag* and sometimes miniatures to flag the beginning of a textual unit, although their use within the same MTM is often inconsistent (Fig. 5). They can differ in style and size, be placed over one (Fig. 4), two (Figs 2 and 6) or three columns, or frame the text area and/or the intercolumn. The title and *incipit* of the textual units are commonly written in red and black ink in alternate lines or group of lines and sometimes also in balanced columns, distributed in the upper or lower register of the text area, where the vertical space is precisely calculated to obtain columns of the same length (Fig. 6). The balanced columns can also shape the end of a textual unit.

59 For a definition of 'patterns' in manuscripts, see Wimmer et al. 2015.



Fig. 3: Graphic lines dividing two textual units and subunits. Manuscript Təgrāy, Dag^wa Tamben, Dur 'Ambā Šəllāsse, DAS-002. Photograph by Antonella Brita (May 2013).



Fig. 4: Graphic lines used for marking the caesura between two textual units and subunits. Manuscript Təgrāy, Dag^wa Tamben, Dabra 'Abuna 'Abiya 'Əgzi', AAE-001. Photograph by Antonella Brita (May 2013).



Fig. 5: Image of the Sts Cyricus and Julitta. Manuscript Təgrāy, 'Aksum, Märyām Şəyon, MaySe-001. Photograph by Antonella Brita (November 2016).

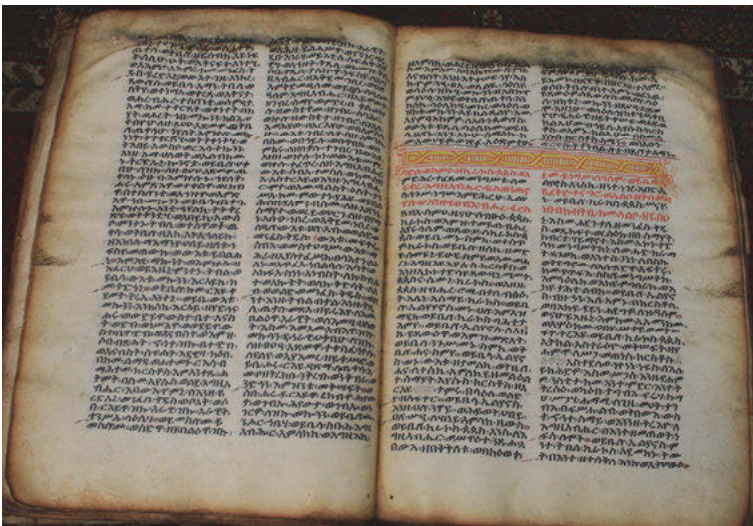


Fig. 6: Balanced columns. Manuscript Təgrāy, Dag^wa Tamben, Dabra 'Abuna 'Abiya 'Əgzi', AAE-001. Photograph by Antonella Brita (May 2013).

Reading indications bear witness to the MTMs' use, designating the time of the liturgical ritual performance. They are shaped in the form of paracontent⁶⁰ written in the margins of the pages, in correspondence with the beginning of the textual units (Fig. 7).



Fig. 7: Reading indication. Monastery of Gabra'el Wuqen (Taḡrāy, Ethiopia). Photograph by Antonella Brita (May 2013).

The formulae employed are quite heterogeneous, as the following examples show: 'on the 26th of *ḥədār*'; 'on the 6th of *ṭəqəmt* Saint Pāntalewon martyr'; 'on the 25th of *naḥase* reading'; 'for the month of *maskaram* on the 15th'; and others. As has already been mentioned above, in some MTMs, a Greek-Coptic form of the name of the month is also preserved, for instance: 'for the month of *meker* [= *ṭəqəmt*] on the 7th Qoṗryānos' (Fig. 2). In addition to the variety of formulae employed, the reading indication reveals the date of the death of the saint (*dies natalis*), i.e. when the ceremony of the *tazkār* takes place and the text must be recited.

⁶⁰ For a definition of 'paracontent' as alternative term for 'paratext' in manuscripts, see Ciotti et al. 2018.

These manuscripts show how the process of assembling and structuring hagiographic MTMs aimed at creating a performative device to be used for establishing, observing and actualising the time and rhythm of the saints' liturgical commemoration, and for evoking and renewing the presence of the saints among the faithful each time the manuscript is read.

4.5 The rise of the Ethiopian hagiography: variations on the theme of foreign sainthood

The sporadic presence of texts about local saints in MTMs witnesses the gradual emergence of a local hagiography committed to manuscripts from the end of the fourteenth century, along with the copying and revision of more ancient texts and the translation of new ones. The earliest texts known about Ethiopian saints were included in these MTMs, in addition to the texts on foreign saints known previously. Most of the first local saints of the Ethiopian Church are claimed to be of foreign origin but to have lived in Ethiopia in the Aksumite period, with the aim of disseminating the Christian faith among the population of the Ethiopian highlands.⁶¹ An example of such an initiative is the *Life* of the saint Pāṇṭalewon *zaṣomā't* (lit. 'the one of the cell'),⁶² a pious monk living in seclusion in a rock-hewn cell close to the city of 'Aksum (Təgrāy, North Ethiopia). The earliest copy of the text is transmitted in the manuscript Collegeville, MN, Hill Museum and Manuscript Library, EMLL 7602,⁶³ a fourteenth-century copy of the *Acts of the saints*⁶⁴ and, from the fifteenth century onwards, in some *Acts of the martyrs*' MTMs as well. The core narrative of the *Life* of Pāṇṭalewon *zaṣomā't* is based predominantly on written sources related to the military campaign of King Kāleb to South Arabia, with a few original passages.⁶⁵ It is based more specifically on two hagiographic texts that are also part of the *Acts of the martyrs*' corpus transmitted in MTMs: the *Life* of Kāleb⁶⁶ and the *Acts* of Arethas mentioned already, deriving respectively from two different recensions of the

61 Brita 2010.

62 CAe 1532.

63 Fiaccadori 1993.

64 For details on the manuscript tradition of the *Life* of Pāṇṭalewon, see Brita 2008.

65 For an overview of the textual transmission of the *Life* of Pāṇṭalewon *zaṣomā't*, see Brita 2008, 271–292.

66 CAe 6507. The text is attested so far in a *codex unicus* and is still unpublished. Overviews were provided by Bausi 2010, 249–251, and Marrassini 2014, 112 and *passim*. An edition with translation is in preparation by Alessandro Bausi.

Arabic version of the *Acts of Arethas*, the first more ancient and close to the Greek version and the second more recent.⁶⁷ Compelling evidence reveals the complexity of the relations between the Ethiopic and foreign versions (mainly Arabic and Greek) of these hagiographic traditions.⁶⁸ The name of the protagonist, P̄anṭalewon, is attested only in the Ethiopic sources (except for the *Life of Kāleb*) and replaces the names *Zonaïos* and *Zaynūn* occurring in the Greek⁶⁹ and in one of the three Arabic recensions⁷⁰ of the *Acts of Arethas*, respectively. The recent hypotheses, based on philological evidence, proposed to explain the discrepancy of the name of the monk in the sources are not convincing.⁷¹ It is more reasonable to assume that the name P̄anṭalewon derives simply from the name of the homonymous martyr, a physician of Nicomedia, whose hagiography was also translated in Gəʿəz.⁷² The two P̄anṭalewon (the Ethiopian monk and the Byzantine martyr) are indeed celebrated on the same date (6 ṭəqəmt) in the Ethiopian liturgical calendar and their commemorative readings follow each other in the *Acts of the martyrs'* MTMs, when they are both present, although the two texts are unrelated.

The presence of foreign hagiographic motifs on the earlier examples of local hagiography is also variously recognisable in other texts. The *Homilies* of Libānos, Garimā⁷³ and the *Life of Zamikāʿel ʿAragāwi*⁷⁴ are influenced at different levels by the *Life of Gabra Krəstos*,⁷⁵ i.e. the Byzantine saint Alexis, translated into Gəʿəz and transmitted not only in the *Acts of the saints* and *Acts of the martyrs'* MTMs but also in smaller hagiographic MTMs. The material co-presence of the texts of both Aksumite and foreign saints in the same manuscript is the reason for, or perhaps the consequence of, such an influence.⁷⁶

67 Paolo La Spisa has recently published a valuable work containing the critical editions and translations of all Arabic recensions of the *Acts of Arethas*, cf. La Spisa 2021. An additional updated bibliography can also be found here.

68 For a general discussion on the textual relationship between the *Life of P̄anṭalewon zašomāʿt* and the related sources, see Brita 2010, 146–174; Marrassini 2011; Marrassini 2014, 160–170.

69 The Greek version of the *Acts of Arethas* was published by Marina Detoraki with a French translation by Joëlle Beaucamp, see Detoraki 2007, 179–285.

70 La Spisa 2021, 357, § 30 e 356–357, n. 128.

71 Fiaccadori 2006, 64–65; Detoraki 2007, 266, n. 189.

72 CAe 3158. Edition and Italian translation by Pisani 2006; see also Pisani 2015.

73 CAe 1285. Edited by Conti Rossini 1897 and translated by Ducati 1939.

74 CAe 1526. Edited by Guidi 1895 and translated by Van den Oudenrijn 1939.

75 CAe 1450. Cerulli 1969.

76 Marrassini 2005, 112; Brita and Gnisci 2019.

In some cases, the texts on local saints are extended versions of earlier shorter texts already circulating in the homiletic collections transmitted in MTMs and dated to the thirteen to fourteenth century. An instance is the homily in honour of the Aksumite saint Libānos (previously quoted regarding his *kidān*) in the short *Homily* of ʿAbbā Eləyās, bishop of Aksum on Maṭāʿ transmitted in the manuscripts Collegeville, MN, Hill Museum and Manuscript Library, EMLL 1763 and Collegeville, MN, Hill Museum and Manuscript Library, EMLL 8509;⁷⁷ the extended version of the *Homily* of Libānos⁷⁸ is also attested, among other manuscripts, in the MTM Collegeville, MN, Hill Museum and Manuscript Library, EMLL 7602 mentioned above. Another example is the *Homily* of Luləyānos, bishop of Aksum, on the Holy Fathers, to be read on the commemoration day of the Aksumite saint Garimā attested in the *codices trigemini*.⁷⁹ (1) Collegeville, MN, Hill Museum and Manuscript Library, EMLL 1763; (2) Collegeville, MN, Hill Museum and Manuscript Library, EMLL 8509; and (3) London, British Library, Or. 8192 and in manuscript Təgrāy, Bəherāwi Kəlləlāwi Mangəsti, ʿUrā Qirqos, UM-046.⁸⁰ Additional texts devoted to Aksumite figures are also transmitted in homiletic collections, such as the *Homily* on the Aksumite King ʿElla ʿAšbəha⁸¹ and the *Homily* on Frumentius,⁸² the first bishop of Aksum. Furthermore, the core of some of these short texts was apparently excerpted from Aksumite historical texts based on a Greek *Vorlage* and shaped in the form of liturgical readings.⁸³

77 CAe 1294. Edition and English translation by Getatchew Haile 1990. See also Bausi 2003, vol. 1, xi-xii and vol. 2, xvi-xix.

78 Edition and Italian translation by Bausi 2003.

79 Proverbio 2001, 518–519.

80 CAe 1286. Edition and English translation by Getatchew Haile 1985.

81 CAe 6394. Edition and English translation by Getatchew Haile 1981.

82 CAe 1612. Edition and English translation by Getatchew Haile 1979.

83 At least two cases can be mentioned. The first case, investigated by Alessandro Bausi, is the core of the *Acts* of Saint Peter of Alexandria excerpted from the *History of the Episcopate of Alexandria* preserved in the manuscript Təgrāy, Bəherāwi Kəlləlāwi Mangəsti, ʿUrā Qirqos, UM-039; the Gəʿəz version is the sole extant complete witness of the *History* since the Greek version is lost and only a portion is preserved in a Latin translation; see Bausi 2019, 71–74; Bausi and Camplani 2016, *passim*. The second case, investigated by Massimo Villa, concerns the *Homily* on Frumentius and its possible derivation from an Aksumite translation of the history of Aedesius and Frumentius in the version reported by Socrates Scholasticus, *Historia Ecclesiastica* I, 19. In this second case, the Gəʿəz version of Socrates’s account is missing and can only be supposed; see Villa 2017, 95–100.

4.5.1 A few examples of intertextuality: some textual and philological considerations

Some textual and philological features are discussed in the following paragraph in order to show how complex it is to trace the origin of the early texts on local saints. Various sources⁸⁴ were employed for their composition and their reception and adaptation in making sense or producing new meanings from them is a crucial matter for philologists. The relationship between the texts and their sources are convoluted to such an extent that it is often difficult to tell the different layers apart. Only a few examples will be given due to space constraints. I try to be as clear and understandable as possible in my exposition, so that the reader who is not familiar with the Gə'əz language can still follow the discussion.

Jonas Karlsson, in his recent and impressive PhD thesis, has dealt with a type of collection of Ethiopian antiphons, transmitted in a work labelled *Dəggwā*, largely widespread in Ethiopia because of its centrality in the liturgy.⁸⁵ To the best of my knowledge, this is the first (successful) attempt to systematise such material (or at least a part of it), whose importance for our understanding of the Ethiopian veneration practices is sometimes underestimated. Chapter 3 of his work is devoted to the study of the textual interrelationship between some of the texts of the antiphons and the *Lives* and *Acts* of various earlier Ethiopian saints.⁸⁶ With the aim of tracing the textual development of the antiphon corpus and the degree of fluctuation of the text over time, the author carefully compares the short texts of the antiphons with the longer hagiographic texts, highlighting not only points of contact but also divergences between the two textual traditions. He concludes that, among the case studies he analyses, not all texts follow the

84 I use the word 'sources' in the same acceptation as the one expressed by Cornelia Horn: '[T]he concept of "sources" used here is open to at least two differentiable, yet closely related, meanings. It may characterize a given text that serves as an immediate and direct text at the origins of at least one or several parts of another text, including direct citations. It is also an apt label with which to describe the role or function of a text through which that text witnesses to one or several traditions, which in their turn in oral or written form directly or through further mediation have contributed to the process of communicating ideas in and to the production process(es) of another text. In the second case, a text may still be understood to be a "source", even if its own precise wording is not present in the text to which it contributes. In that second instance, the "source" text may serve as the place of origin from which traditions, in whichever direction, traveled to the recipient text in question, and it may serve as a textual location from which our present-day knowledge receives information about the very existence of such process of transmission', cf. Horn 2017, 60.

85 Karlsson 2022.

86 Karlsson 2022, 332–675.

same development patterns. In particular, there might be cases in which the text of the *Life* of the saint gave birth to the antiphons, as in the case of the *Acts* of Pānṭalewon the Martyr, and cases in which the short text of the antiphon might be considered as the precursor of the larger hagiographic narratives dedicated to the saint, as in the case of the *Life* of Pānṭalewon *zaṣomā‘t*.⁸⁷ An interesting hypothesis that, if confirmed, would contribute to shedding light on the complex process of hagiographic composition practices. According to Karlsson hypothesis, the short text of the antiphons dedicated to Pānṭalewon *zaṣomā‘t* (and to other saints) may constitute a sort of germ which, through expansions and textual accretions, later developed into the *Life* of the saint. Having made a critical edition of the *Life* of Pānṭalewon during my PhD,⁸⁸ I would like to add some considerations to the arguments raised by Jonas Karlsson, with the aim of fostering a further reflection.

4.5.1.1 Old and new meanings. Some thoughts on the motif: *‘albāsihu za-melāt za-warada wəsta gannat*

Several antiphons dedicated to Pānṭalewon *zaṣomā‘t* contain a motif that, due to its frequent occurrence, appears to have been particularly meaningful in the tradition about the saint. The same motif is indeed also attested in the *Life* of Pānṭalewon. I, firstly, introduce both versions of the motif and then make some considerations.⁸⁹

Antiphon:

ጼና፡ አልባሲታ፡ ለእንጠለዎን፡ ከመ፡ ጼና፡ ስኅንን ። አልባሲታ፡ ዘሚላት ዘወረደ፡ ውስተ፡ ገነት፡

ṣenā ‘albāsihu la-Pānṭalewon kama ṣenā səḥin; ‘albāsihu za-melāt za-warada wəsta gannat

The scent of the garment of Pānṭalewon is like the scent of frankincense; his fine linen garment which descended into Paradise.⁹⁰

⁸⁷ Karlsson 2022, 566 and 570.

⁸⁸ Brita 2008, 273–352.

⁸⁹ I decided in the examples provided here to also give, when necessary, a transliteration of the Ethiopic text, unlike in the rest of the contribution. This is done to allow the reader who is not familiar with the Ethiopic script to follow the details.

⁹⁰ I report the transcription and translation of this antiphon given by Karlsson 2022, 567. In the antiphon, the motif is expressed by two sentences that here, for the sake of simplification, I

Life of Pāntalewon:

ጼኖ ፡ አልባሲከኒ ፡ ከመ ፡ ጼኖ ፡ ስኒን ፡ ወጸጣዕትከኒ ፡ ከመ ፡ ጼኖ ፡ ገነት ፡ ወአልባሲሁ ፡ ዘሜ
 ላት ፡ ዘወረደ ፡ ውስተ ፡ ገነት ፡ አውረደ ፡ ቃሎ ፡ ኅቤከ ፡ ወመንፈስ ፡ ቅዱስ ፡ ተናዘዘ ፡ ምስሌከ ፡
 ውስተ ፡ ማኅደርከ ፡ ወኅበርከ ፡ ጸብሐ ፡ ምስለ ፡ መላእክት ፡ መዓልተ ፡ ወሌሊተ ፡ ቀዊመከ ፡ ቅድ
 መ ፡ መንበሩ ፡ ለእግዚእከ ፡ እንዘ ፡ ሆሎከ ፡ በሥጋከ ፡ ዲበ ፡ ምድር ፡

šenā 'albāsikani kama šenā səḥin wa-šomā 'təkani kama šenā gannat wa-'albāsihu za-melāt za-warada wəsta gannat 'awrada qālo ḥabeka wa-manfas qəddus tanāzaza məseleka wəsta māḥdarka wa-ḥabarka šabho məsala malā'əkt ma'alta wa-lelita qawimaka qədma manbaru la-'Egzi'əka 'ənza halloka ba-šəgāka diba mədr.

The scent of your garments is like the scent of frankincense and [the scent of] your cell is like the scent of the Paradise. The One who descended into the garden, [whose] garments are [made] of purple, brought down his [of God] voice to you and the Holy Spirit consoled himself with you in your dwelling. You took part to his glorification, together with the angels, day and night; you were standing in front of the throne of your God while you were in your flesh on earth.⁹¹

Leaving aside the first sentence, *šenā 'albāsihu la-Pāntalewon kama šenā səḥin* (in the *Life of Pāntalewon: šenā 'albāsikani kama šenā səḥin wa-šomā 'təkani kama šenā gannat*), that is the re-elaboration of a quotation from Cant. 4:11,⁹² as it can be noticed from the passages quoted above, two different interpretations of the same (second) sentence have been proposed by Jonas Karlsson and me, lexical details apart ('fine linen' vs 'purple' and 'Paradise' vs 'garden'), to which I will come back later. Karlsson interprets the sentence '*albāsihu za-melāt za-warada wəsta gannat*' ('his fine linen garment which descended into Paradise') as related to the previous sentence, and, thus, considering the chain '*albāsihu za-melāt*' ('his fine linen garment') as the subject of the verb *warada* ('descended') resumed by the relative pronoun *za-* ('which') prefixed to the verb. In my

divide with a semicolon. These two sentences do not always occur together in the antiphons, being transmitted in various arrangements; cf. Karlsson 2022, 367, 373, 393, 395, 412, 413, 417, 420, 422, 430, 433, 440, 444, 525–526, 527 and 567.

91 The English translation is mine and it is based on the Italian translation that I proposed in my critical edition of the text, with some improvements that, in any case, do not alter the sense of the sentence: 'L'odore delle tue vesti è come l'odore dell'incenso, e anche [l'odore della] tua cella è come l'odore del Paradiso. Colui che è disceso con le sue vesti di porpora nel Paradiso ha portato la sua voce presso di te e lo Spirito Santo si è consolato con te nella tua dimora', cf. Brita 2008, 337, § 87.

92 ወጼኖ ፡ አልባሲከኒ ፡ ከመ ፡ ጼኖ ፡ ስኒን ፡ *wa-šenā 'albāsəki kama šenā səḥin* ('and the scent of your garment is like the scent of frankincense'), cf. Gleave 1951, 20–21; already in Karlsson 2022, 568.

translation ('the One who descended into the garden, [whose] garments are *made* of purple'), I link the same sentence to the following lines of the *Life* of Pāntalewon text instead, and, thus, consider the relative pronoun *za-* ('the One who'), prefixed to the verb, as the subject of the verb *warada* ('descended') and the chain 'albāsihu *za-melāt* ('[whose] garments are *made* of purple') as an anticipated asyndetic relative clause related to the relative pronoun *za-* prefixed to the verb and resumed by the cataphoric possessive pronominal suffix *-hu* ('of him').⁹³

The interpretation of this passage is certainly quite problematic for various reasons. When we have a look at the reading variants attested in the two manuscript traditions, we observe that the manuscripts transmitting the antiphons display a higher degree of fluctuation⁹⁴ compared with the *Life* of Pāntalewon.⁹⁵ This means that the sentence also sounded somehow odd to the ear of the scribes that copied the manuscripts. In fact, one cannot deny that the image of the 'garments descending into Paradise' is quite bizarre. The main problem in this sentence is to identify the subject of the verb *warada*, a third person masculine singular form. On the one hand (*Life* of Pāntalewon), we have the relative pronoun *za-* that agrees in both gender and number with the verb *warada* and, thus, works perfectly as the subject of the verb. On the other hand (antiphons), we have the broken plural form of an inanimate noun, 'albās-*i-hu*, that can take a singular verb agreement. In this regard, I would say that both interpretations appear to be correct. A second problem lies in the awkward expression *za-warada wasta gannat* ('that descended into Paradise') for which we would expect a different verb, such as **OC7** 'arga ('ascended') as – just to oversimplify –

⁹³ A synthesis of the different types of 'za-construction' in Gə'əz as well as its attestation in Epigraphic Gə'əz was offered in a precious contribution by Maria Bulakh, with further bibliography (Bulakh 2009).

⁹⁴ *Nāhu warada* ('behold, [his fine linen garment] has descended'); *warada* ('[his fine linen garment] descended'); *za-warada 'əm-samāyāt* ('[his fine linen garment] descended from heaven'); *za-waradat* ('[his fine linen garment] descended'), with the feminine instead of masculine form; cf. Karlsson 2022, 568, and individual antiphons.

⁹⁵ 'Albāsihu ('[the One who descended into the garden, whose] garments [are made of purple]'), without the *wa-* conjunction in manuscript 'A'; *wa-'albāsikani* ('also your garments [made of purple which descended into the garden]'), a clear *lectio facilior*: the second person masculine possessive pronoun *-ka* ('your') is introduced to align the text to the previous sentence *šenā 'albāsikani kama šenā səḥin wa-šomā'təkani kama šenā gannat* ('the scent of your garment is like the scent of frankincense and [the scent of] your cell is like the scent of the Paradise'), cf. Brita 2008, 233 and 309; cf. also Karlsson 2022, 569, n. 1329, who spotted a mistake in my apparatus, further corroborating my hypothesis of reconstruction: the *lectio* adopted in the critical texts reflects the reading of the majority of the manuscript families.

we all imagine the Paradise as a place located far above the sky.⁹⁶ A third, and crucial, problem is to find out to whom the *'albāsihu za-melāt* ('his garments made of fine linen/purple') belongs, thus, to whom the possessive personal pronoun *-hu* ('his') refers.

From my perspective, the short text of the antiphon lacks the general context and contains only a few details of the whole sentence, thus, limiting our understanding and, consequently, interpretation of the motif. On the contrary, the longer text of the *Life* of Pāṅṭalewon offers more details that may guide us to recognise the original intent and meaning of the episode narrated. From the enlarged picture offered by the text of the *Life* of Pāṅṭalewon, for instance, we understand that the motif is embedded in an explicit reference to the Trinity. The one '[whose] garments are [made] of purple' is without doubt Jesus Christ,⁹⁷ and the model that inspired the motif can be traced back to the sources narrating Jesus's *passio*. A preliminary investigation of some of these sources circulating in Gə'əz has allowed me to identify two possible interrelated sources as the place of origin of our motif: the unpublished episode of the Crucifixion transmitted in the *Ta'amməra 'Iyasus* ('The Miracles of Jesus'),⁹⁸ a work based largely on the Arabic apocryphal Gospel of John,⁹⁹ and the canonical Gospel of John.¹⁰⁰ In these two texts, the episode of Jesus's *passio*, indeed, contains a few details relevant not only to explain contextual features of our motif but also useful to

96 In my edition of the *Life* of Pāṅṭalewon I also translated the word *gannat* with the term *Paradiso* ('Paradise') but, in the light of new evidence, I had to reconsider this translation, cf. Brita 2008, 338, § 87.

97 Explicitly mentioned in the antiphon *Pāṅṭalewon mazmur ('əsmā la-'ālam) 028*, cf. Karlsson 2022, 527–528.

98 The *Ta'amməra 'Iyasus* (CAe 2382) is a work widespread in Ethiopia, translated from the Arabic version of the *Apocryphal Gospel of John* probably in the fourteenth century, with contributions from other sources, such as the *Infancy Gospel of Thomas* (translated in Gə'əz in the Aksumite period from a Greek model, cf. Voicu 1998), the *Protovangelium of James*, the *Gospel of Nicodemus*, the *Book of the Rolls*, and with the addition of original episodes composed in Gə'əz. The edition of the episode of the Crucifixion is not present in the partial edition of the *Ta'amməra 'Iyasus* published by Sylvain Grébaut in *Patrologia Orientalis* (the first thirty episodes) and in *Revue de l'Orient Chrétien* (three additional episodes), with a French translation. For a general overview and bibliographical references to the edited episodes of the collection, see Arras and van Rompay 1975; Witakowski 1995; Witakowski 2010; Tedros Abraha and Daniel Assafa 2010.

99 Editions and translation by Galbiati 1957; Moraldi 1991 (*non vidi*). See also Van Esbroeck 1975; Horn 2017.

100 CAe 1693. A critical edition has been published by Wechsler 2005.

clarify the interpretation of some of the terms attested therein.¹⁰¹ I quote in the following lines from these two works the passages that are pertinent to our discussion. As for the Gə‘əz texts, I use the manuscript London, British Library, Or. 654 containing the *Ta’amməra ’Iyasus* for the episode of the Crucifixion and Michael Wechsler’s edition for the Gospel of John; the English translation is mine.

Ta’amməra ’Iyasus:

ወእምዝ ፡ አምጽኡ ፡ ልብሰ ፡ ሚላት ፡ እምአልባሰ ፡ ነገሥት ፡ ወአልበስዎ ፡ ለእግዚእነ ፤ ወዓዲ ፡ አልበስዎ ፡ ላዕሌሁ ፡ ልብሰ ፡ አሮን ፤ ወወደዩ ፡ ዲቦ ፡ ርእሱ ፡ አክሊሊ ፡ ዘምክ ፤¹⁰² ወሐሩ ፡ ጎብ ፡ መካን ፡ ዘሀለወ ፡ ውስጥ፡፡ ታቦተ ፡ ስምዕ ፡ ወነሥኡ ፡ ጃዕፀ ፡ እምነ ፡ ዕፀው ፡ እለ ፡ ይጸ ውሩ ፡ ቦቱ ፡ ታቦተ ፤ ወዓበጥዎ ፡ ለብእሲ ፡ ዘይሰመይ ፡ ስምዖን ፡ ቀራናዊ ፡ ወአጸርዎ ፡ ይእተ ፡ ዕፀ ፤ ወሐሩ ፡ ውስተ ፡ ገንት ፡ እንተ ፡ ሀለወት ፡ እምሀገር ፡ አፍኦ ፡ ዘትሰመይ ፡ ጎልጎታ [...] ወተ ከልዎ ፡ ህዩ ፡ ለዕፀ ፡ መስቀል ፡ በማእከል ፡ ምድር ፡¹⁰³ [...] ወስቀልዎ ፡ ለእግዚእነ ፡ ኢየሱስ ፡ ክር ስቶስ ፡ ዲቦ ፡ ውእቱ ፡ ዕፀ ፡ መስቀል ፤¹⁰⁴

And after that, [the soldiers] conveyed a purple garment from the garments of the kings and clad Our Lord; in addition, they put on him the garment of ’Aron and put on his head a crown of thorns. They went to the place where the tabernacle of the martyr was and took one tree among the trees that buttressed the tabernacle. They compelled a man called Sam’on Qarenāwi to carry that tree and went in a garden called Golgotā, which was located out of the city. [...] They drove the tree of the Cross there, in the middle of the ground. [...] And they crucified Our Lord, Jesus Christ, on that wood of the Cross.

Three noteworthy details emerge from the passages quoted. Firstly, a ‘purple garment from the garments of the kings’ (*lābsa melāt ’əm’albāsa nagašt*) was employed to clothe Jesus.¹⁰⁵ Secondly, the purple garment was not taken off the body of Jesus.¹⁰⁶ Thirdly, Jesus, still wearing the purple garment, went with the

101 The episode is also present in the Gospels Mark (CAe 1882) 15 and Matthew (CAe 1558) 27 as well as in the *Acts of Pilate* (CAe 1890) and in the *Lamentation of Mary* (CAe 1750) with slightly different details.

102 Manuscript London, British Library, Or. 654, fol. 159^{rc}–159^{va}; for the parallel passage of the Arabic apocryphal Gospel of John, cf. Galbiati 1957, Chap. 45, v. 2.

103 Manuscript London, British Library, Or. 654, fol. 159^{va}; for the parallel passage of the Arabic apocryphal Gospel of John, cf. Galbiati 1957, Chap. 45, v. 3.

104 Manuscript London, British Library, Or. 654, fol. 159^{vb}; for the parallel passage of the Arabic apocryphal Gospel of John, cf. Galbiati 1957, Chap. 45, v. 4.

105 The reason for clothing Jesus with the purple of the kings was to mock him, cf. Matt. 27:28–31; Mark 15:17–20; John 19:2–5.

106 In the Gospels of Matthew and Mark, but not in John, the soldiers, after putting the purple garment on Jesus’s body, take them off and give him back his clothes before his crucifixion.

soldiers and Simon of Cyrene, who carried his cross, into a ‘garden’ (*wəsta gannat*) whose name is Golgotha. As it can be noticed, these elements are, so to say, summarised in the sentence under investigation: *’albāsihu za-melāt za-warada wəsta gannat* (‘The One who descended into the garden, [whose] garments are made of purple’). In the light of this evidence, it can be confidently assumed that, at least in the *Life* of Pānṭalewon, the construct *za-melāt* can be rendered as ‘purple’ and the word *gannat* as ‘garden’, instead of as ‘Paradise’. This might be different, as we will see, for the antiphons.

The three noteworthy details attested in the episode of the Crucifixion are also scattered in the Chapter 19 of the Gospel of John:

ወፀረሩ ፡ ሐራ ፡ አክሊለ ፡ ዘሥክ ፡ ወአስተቀጸልዎ ፡ ውስተ ፡ ርእሱ ፡ ወአልበስዎ ፡ ሚላት ።¹⁰⁷

They [the soldiers] wove a crown of thorns and put it on [lit. ‘in’] his head; and clad him of purple.¹⁰⁸

ወቦ ፡ ገዥ ፡ ውስተ ፡ ውእቱ ፡ መካን ፡ ኀበ ፡ ሰቀልዎ ፡ ወውስተ ፡ ደእቲ ፡ ገዥ ፡ ዝኅረ ፡ ሐዲስ ፡ ዘአልቦ ፡ ዘተቀብረ ፡ ውስቲቱ ። ወቀበርዎ ፡ ህየ ፡ ለኢየሱስ ፡ እስመ ፡ ዐርቦሙ ፡ ውእቱ ፡ ወቅሩብ ፡ መቃብሩ ።¹⁰⁹

There was a garden in that place where they crucified him and, in that garden, [there was] a fresh sepulchre in which no one had been buried. They buried Jesus there, since it was their [of the Jews] Friday [i.e. the Parasceve] and his tomb was nearby.

It can be added that, also in the canonical Gospel of John, the episode of the soldiers taking off the purple garment (*melāt*) from Jesus’s body is missing.

Coming back to the main point of the discussion, it is clearly evident that the motif *’albāsihu za-melāt za-warada wəsta gannat* has its roots in the textual traditions related to Jesus’s *passio* and, therefore, the subject of the motif must be identified with Jesus Christ; at least in origin. My impression is that the way the sentence is tailored and syntactically structured in the two textual traditions, i.e. the *Life* of Pānṭalewon and the *Dəggwā*, reflects two different aims and meanings. In the *Life* of Pānṭalewon, the stress of the sentence is on *’awrada qālo ḥabeka* (‘brought down his voice to you’), so, the head of the sentence is

¹⁰⁷ John 19:2, cf. Wechsler 2005, 112.

¹⁰⁸ In Matt. 27:28: **አልበስዎ ፡ ከሌሚዳ ፡ ዘለይ ፡ ’albasəwo kalamedā za-lay** ‘[the soldiers] clothed him of a scarlet chlamys’, cf. Zuurmond 2001, 286–287 (A text = B test). According to the *Acts of Pilate*, Pilate was also dressed with purple garments before being hanged on the cross: **ወአልበስዎ ፡ ልብስ ፡ ሚላት wa’albasəwo ləbsa melāt** ‘et lui firent revêtir un vêtement de pourpre’, cf. Beylot 1993, 640 (text) and 641 (translation), § 17

¹⁰⁹ John 19:41–42, cf. Wechsler 2005, 117.

the constituent *za-warada* ('the One who descended'), the main verb is *'awrada* ('brought down'),¹¹⁰ and the *za*-construction *'albāsihu za-melāt* ('[whose] garments are [made] of purple') is the relative that is functional to the identification of Jesus Christ. Whereas, in the antiphons, the stress of the sentence is on *warada wəsta gannat* ('descended into Paradise'), so, the head of the sentence is the constituent *'albāsihu za-melāt* ('his fine linen garment') and the main verb *warada* ('descended'). It could be added that, from a textual point of view, in the *Life* of Pantałewon, the garments of the saint are never mentioned, unlike the 'voice of the Father who descended', respectively, on the dwelling of the saint, or on his mount, or on him.¹¹¹ Being quite familiar with the rhetoric of the *Life* of Pantałewon text, I can confidently admit that the absence of celebrative passages devoted to the garments of Pantałewon can only mean that the *'albāsihu za-melāt* were not perceived as belonging to the saint, unlike in the *Dəggwā*.¹¹²

An alternative explanation to Karlsson's hypothesis then could be that the motif was originally present in the *Life* of Pantałewon and, at some point, it was excerpted and inserted in the antiphons of the *Dəggwā*. Here, it lost its original meaning and assumed a new one. The fluctuation of the reading variants detected by Karlsson in the manuscripts of the *Dəggwā* might be symptomatic of its problematic reception when compared to the greater stability attested in the manuscripts of the *Life* of Pantałewon. In this transposition, the *za*-construction *'albāsihu za-melāt* underwent a sort of process of crystallization in the antiphons of the *Dəggwā*, probably due to the anticipated position of the asyndetic relative clause in the *Life* of Pantałewon but also to the loss of the second part of the sentence *'awrada qālo ḥabeka*, that is, the reference to the voice of God. In losing its original syntactic function, the expression *'albāsihu za-melāt* became the head of the sentence in the new context and, as a consequence, the possessive pronominal suffix *-hu* ('his') which originally referred to Jesus Christ was reinterpreted as referring to the saint Pantałewon. In this process, a residuum of

110 All witnesses of the *Life* of Pantałewon agree on this point, except one, the manuscript Təgrāy, Dag^wa Tamben, Dur Ambā Səllässe, DAS-002, which displays the *lectio* **ወአውረደ ፡ ቃሉ ፡ ንኪክ ፡ wa-'awrada qālo ḥabeka** ('and brought down his voice to you'). This manuscript is not included in the critical edition because it is among the unpublished witnesses that I discovered after 2008.

111 There are all in all nine occurrences of this motif, cf. Brita 2008, 300–302 (text), 333–334 (translation), §§ 46–53.

112 The only probable mention of his garment is, as we have seen, in the quotation from Cant. 4:11. Everything belonging to the saint is celebrated and praised in the text: his cell, his mount, his beauty, his scent. Furthermore, a detailed description of the body of the saint is given as well as the dimensions of his cell, but not a word about the way he was dressed.

the previous meaning remained in a certain measure in the following antiphon, where Jesus Christ is mentioned:

ጼፍ ፡ አልባሲሁ ፡ ለአባ ፡ ጳጳሳዊ ፡ ከመ ፡ ጼፍ ፡ ስጊን ፡ አልባሲሁ ፡ ዘሚላት ፡ ዘወረደ ፡
ወ-ስተ ፡ ገነት ፡ በመስቀሉ ፡ ክርስቶስ ፡ ገብረ ፡ መድኃኒት ፡ ቆ

ṣenā 'albāsihu la'abbā Pāṇṭalewon kama ṣenā səḥin 'albāsihu za-melāt za-warada wəsta gannat bamasqalu Krəstos gabra madḥanita.

The scent of the garment of 'Abbā Pāṇṭalewon is like the scent of frankincense, his fine linen garment which descended into Paradise. Through his cross, Christ effected salvation!¹¹³

At last, an interesting aspect mentioned by Karlsson deserves to be underlined: the same motif is also found in a contemporary *mazmur* hymn for the saint Gabra Manfas Qəddus.¹¹⁴ This can be possibly considered a further reflex of the crystallization process.¹¹⁵

4.5.1.2 Textual interconnections

Additional considerations may be adduced to problematise the hypothesis that the composition of the *Life* of Pāṇṭalewon may have been developed from the antiphons of the *Dəggwā* dedicated to Pāṇṭalewon. As has already been mentioned, an important section of the *Life* of Pāṇṭalewon is based on written sources related to the military campaign of King Kāleb to South Arabia, and particularly on the *Life* of Kāleb. In addition to the considerations already made

¹¹³ Karlsson 2022, 527.

¹¹⁴ Karlsson 2022, 567, n. 1322.

¹¹⁵ Out of curiosity, I made a search in YouTube and came across quite a number of videos of contemporary performances of the *mazmur* hymn for Gabra Manfas Qəddus mentioned by Jonas Karlsson. What I find interesting is that, although the motif was originally connected with the veneration of Pāṇṭalewon *zaṣomā't*, I was not able to find any single video performing the hymn for Pāṇṭalewon. I copy here a few of these links for the reader who is interested in hearing the *mazmur* hymn (and eventually singing it, after all this disquisition it will not be so difficult: it is enough to replace the name Pāṇṭalewon with Gabra Manfas Qəddus). In the first video the wording of the motif is the following: *ṣenā 'albāsihu la-Gabra Manfas Qəddus kama ṣenā səḥin 'albāsihu za-melāt za-warada wəsta gannat* ('the scent of the garment of Gabra Manfas Qəddus is like the scent of frankincense; his fine linen garment which descended into Paradise'), while in the second and in the third *wəsta gannat* ('in the Paradise') is replaced by *wəsta samāyāt* ('in heaven'), which rhymes with *za-melāt* ('of fine linen'). (1) <https://www.youtube.com/watch?v=j1gi-6-3F0w>; (2) <https://www.youtube.com/watch?v=GUMqbjmw1qc>; (3) <https://www.youtube.com/watch?v=kdHZOhjP6bM>.

in Subsection 4.5, I present only one relevant passage that is parallel to the three texts introduced.¹¹⁶ I use my edition for the *Life* of Pāntalewon, the edition of Karlsson for the *Dægḡwā*¹¹⁷ and a preliminary edition of the *codex unicus* of the *Life* of Kāleb that Alessandro Bausi has prepared in view of his edition of the text.

Life of Kāleb:

ወበከዩ ፡ ወጸርኙ ፡ ወሰአሉ ፡ ኀበ ፡ እግዚአብሔር ፡ አምላኮሙ ፡ ወአስተብቀኑ ፡ {n.l. ወ}ተማሕ
 ፀኑ ፡ ኀቤሁ ፡ ። ወመጽአ ፡ ቃል ፡ እምሰማይ ፡ ገሃደ ፡ ወሰምዕዎ ፡ ከኑሎሙ ፡ ወይቤ ፡ ገብርኤል ፡
 ገብርኤል ፡ ገብርኤል ፡ ወዕእ ፡ አሐዱ ፡ መኀከሰ ፡ እምሰብእ ፡ ኢትዮጵያ ፡ ወቦቲ ፡ ምስሌሁ ፡
 ማዕተብ ፡ ዘኀጺኝ ፡ ወዓርገ ፡ እማእከለ ፡ በዋጽያት ፡ ወተመጠወ ፡ ስልሔ ፡ አሐዱ ፡ ፈረስ ፡ በፀ
 ጋመ ፡ እዲሁ ፡ ወወግአ ፡ ከርሃ ፡ በከተማ ፡ በትረ ፡ ማዕተብ ፡ እንተ ፡ ምስሌሁ ፡ ወበረረት ፡
 ወሰተ ፡ ከርሡ ፡ ፈረስ ፡ ወረገዎ ፡ ፈረስ ፡ ሶቢሃ ፡¹¹⁸

[The soldiers] wept, cried out and prayed to the Lord, their God, and besought [him] and entrusted themselves to him. And a voice came manifestly from the sky and everyone heard it, and it says: ‘Gabrə’ēl, Gabrə’ēl, Gabrə’ēl’. A monk departed from the land of Ethiopia and having with him a standard of iron, rose from the middle of the rafts,¹¹⁹ took the <tail>¹²⁰ of a horse with his left hand and speared his abdomen with the tip of the pole of

116 I exclude the passages that are also shared with the Ethiopic *Acts* of Arethas, since I discussed extensively them in Brita 2010, 271–292.

117 Karlsson 2022, 542–549.

118 *Gadla Kāleb*, § 37c–d in the preliminary edition by Alessandro Bausi.

119 The term በዋጽያት ፡ *bawāṣəyāt* is, as has already been noted by Paolo La Spisa, a calque of the Arabic term بواصي *bawāṣī* (broken plural of بصي), a loanword from Persian بوزی, cf. La Spisa 2021, 167, n. 247 and 171, n. 254. The Gə’əz form *bawāṣəyāt* is a regular plural of the Arabic broken plural. I decided to translate it here with the English term ‘rafts’ instead of ‘ships’, firstly, to differentiate it from the term አሕማር *’ahmār* ‘ships’ (broken plural of ሐምር) also present in the text of the *Life* of Kāleb and, secondly, considering the development of the textual plot. La Spisa also translates it with *scialuppe* (‘rafts’), cf. La Spisa 2021, 171, n. 254.

120 The text in this point is unclear. The *codex unicus* of the *Gadla Kāleb* displays the reading ስልሔ *səlḥe* preceded by an erased letter difficult to reconstruct. The term *səlḥe* is not attested in the Gə’əz lexica, neither is the root ስለሐ *salaḥa* (or ስልሐ). Considering the context in which the term occurs in the text, some very preliminary, even though not decisive, observations can be made. The closest semantically (but not morphologically) related term is recorded in Wolf Leslau: ሰላሂ *salāhi* (‘horsefly’), cf. Leslau 1991, 499. One could then guess that the term derives from the same root as *salāhi* with a possible meaning of ‘horse tail’. An alternative hypothesis could be that the root is ስሐለ *saḥala* (‘to sharpen’) instead, and that the word *səlḥe* underwent metathesis of the second and third radical. The root is well attested in Gə’əz (cf. Dillmann 1865, 327; Leslau 1991, 493) as well as in other semitic languages, cf. Leslau 1991, 493 (see particularly the metathesis occurring in Hebrew: *šəlah* ‘javelin’). With approximatively the same meaning, the verb በሉኅ *balḥa* (‘to be pointed’) and the name ብሉኅ *bələḥ* (‘tip, cusp’) also occur in

the standard which he had with him; and it [the pole] penetrated deep into the abdomen of the horse and the horse then kicked him.¹²¹

Life of Pantañewon:

ወኢያእመሩ ፡ አግብርተ ፡ ንጉሥ ፡ ዘገብረ ፡ እግዚአብሔር ፡ አላ ፡ ሐዘኑ ፡ ወርኅቡ ፡ ወጸርጉ ፡ ወጸለዩ ፡ ኅብ ፡ እግዚአብሔር ፡ ወቦ ፡ እለ ፡ ጸርጉ ፡ በጸሎተ ፡ ጳጳሳዊዎን ፡ ዘጸማዕት ፡ ወእግዚአብሔር ፡ ሰምዐ ፡ ጸሎቶም ፡ ወተሰምዐ ፡ ዝነገር ፡ ከመ ፡ መካከሉ ፡ መጽአ ፡ ፍጽመ ፡ ወአኅዘ ፡ ዘነቦ ፡ ፈርሰ ፡ ወወግኦ ፡ በማዕተብ ፡ ወይቤሉ ፡ ገብርኤል ፡ እስመ ፡ ከማሁ ፡ ስሙ ፡

The servants of the king ignored what happened to their lord [the king] but [they] were grieved and hungry and they cried out and prayed to the Lord. And there were those that cried out with the prayer of Pantañewon of the cell and the Lord heard their prayer. It was heard this discourse: how a monk came to the forefront and held the tail of a horse and speared it with [the pole of] the standard. And they said: ‘Gabra’el!’ because that was his name.¹²²

Dəggwā:

አስተብቀኑዎ ፡ ኅቤሁ ፡ ወመጽአ ፡ ቃል ፡ እምሰማይ ፡ ሰምዐ ፡ ከሎሎም ፡ ወይቤ ፡ ዝሃደ ፡ ገብርኤል ፡ ገብርኤል ፡ ገብርኤል ፡

They beseeched him, and from heaven came a voice [which] they all heard, openly saying: ‘Gabriel, Gabriel, Gabriel!’¹²³

The passage parallel to the three texts shows that the episode of the monk piercing the horse in the *Life* of Pantañewon can only be explained through its pres-

Gə‘əz (cf. Dillmann 1865, 488) and በልሂ *balhe* (‘to be pointed, sharp’) and በልሔ *balhe* (‘to be pointed, sharpened, well-whetted’) in Tigrinya (cf. Kane 2000, 1087a–b and 1088b–1089b). In this acceptance, the term might hint at the sharpen tip of the iron pole of the standard that the monk later stuck into the horse’s abdomen and, consequently, one can suppose a corruption in the text. In any case, for the time being and for the sake of brevity, I render the term as ‘tail’ in the translation based on the readings attested both in the *Life* of Pantañewon (see in the text above) and the first Arabic recension of the *Acts* of Arethas (فتناول بئنب فرس ‘afferrò [...] la coda di un cavallo’), cf. La Spisa 2021, 170 (text) and 171 (translation), § 37b. *Coda* (‘tail’) is also in the Italian translation of this passage of the *Gadla Kāleb* made by La Spisa 2021, 171, n. 254, who does not provide an explanation for his choice. This simplification is only functional for the aim of the present article. I am, of course, aware that this is not the best choice and that a further and deeper reflection is needed to understand the text better or, eventually, to restore it. I am confident that Alessandro Bausi will be able to provide a better explanation in his edition of the text.

121 The English translation is mine.

122 Brita 2008, 316 (text) and 343–344 (translation), §§ 125–126.

123 Karlsson 2022, 546.

ence in the *Life* of Kāleb, being missing in the *Dəggwā*. This means that the text of the *Life* of Kāleb or an earlier text translated from Arabic and used for the redaction of both the *Life* of Kāleb and the *Life* of Pāntalewon must have circulated independently from the antiphons. The author(s) of the *Dəggwā* certainly knew these textual traditions and made use of them for the composition of antiphons dedicated to Pāntalewon. One important aspect must be emphasised: in the *Life* of Kāleb, the monk is never identified as Pāntalewon of the cell, and the fact that this text was used for the composition of antiphons dedicated to Pāntalewon only means that the monk, patron of the Nāgrān military expedition, had already been identified as Pāntalewon when the antiphons were composed.

4.6 ‘Parchment saints’: the perception of MTMs in the authentication of sainthood

The question about how the process leading to the official recognition of saints functioned in late antique and early medieval Ethiopia will be considered under two perspectives: for foreign saints and local saints. The validation of foreign saints was, in all probability, not needed, since they were already recognised as such when their hagiographies were translated into Gə‘əz. The situation is different for local saints. Procedures comparable with the modern concept of saints’ canonisation process¹²⁴ are not known for late antique and early medieval Ethiopia, but they must have been performed by adopting a series of measures (composition of hagiographic texts; manuscript production, circulation and use; church construction; consecration of *tābots*;¹²⁵ and others) taken

124 A fundamental work on canonisation procedures in Europe remains the three volumes published by Vauchez 1981.

125 A *tābot* (pl. *tābotāt*) is a blessed portable altar tablet, made of wood or stone, used for the consecration of the Eucharist, Coptic in origin. It is considered a holy artefact and is kept in the *sancta sanctorum* (*maqdas*) of the church, where only the regular clergy are allowed to enter. The *tābots* can be dedicated to saints, angels, God, Mary, Jesus Christ, the Trinity or the Holy Spirit. They can be engraved with decorations, crosses, figures and short inscriptions, usually the name of the dedicatee, cf. Heldman 2010, with additional bibliographical references. Churches can possess more than one *tābot*, but the name of the church always derives from the main *tābot* in use, which is considered the embodiment of the person to whom is dedicated and ensures her/his presence during the liturgical celebrations. In an important contribution devoted to the Ethiopian altars, Emmanuel Fritsch explains the presence of more than one *tābot* in Ethiopian churches in the light of veneration practices. Evidence on the ‘multiplication of *tābotāt*’ in Ethiopian churches of the Lästā region is attested already in the thirteenth century,

on the initiative of local ecclesiastical authorities, monastic communities and royal power. One cannot exclude that the local bishops, appointed by the Egyptian metropolitan and sent to Ethiopia from the Patriarchate of Alexandria, could have played a central role in this process, being personally involved in the composition of the texts. The claimed authorship of the first texts composed on local saints, at least, seems to point in this direction. The composition of the *Life* of Panṭalewon, for instance, is attributed to ‘the Orthodox, who was appointed bishop of Aksum’.¹²⁶ Similarly, the *Homily* of Libānos is ascribed to ‘the blessed and saint bishop ’Abbā Elyās’;¹²⁷ the *Homily* on the Holy Fathers to ‘the blessed and saint bishop Luləyānos of Aksum’¹²⁸ or to the ‘blessed and saint bishop ’Elyās¹²⁹ of Aksum’;¹³⁰ and the *Homily* of Garimā to ‘Yoḥannəs, bishop of Aksum’.¹³¹ On the other hand, one must also admit that the attribution of texts to illustrious authors recalls a pattern well attested in the ancient homiliaries, where several works are claimed to be written by renowned authors. Regarding the texts about Aksumite saints, it is still difficult to ascertain whether their authorship was real or pseudo-epigraphic and, despite the relevance of such information, in this context, the answer would not change its aim: conferring authority to texts and facilitating their circulation.

In any case, no centralised institution responsible for the authentication of sainthood was present in Ethiopia at that time. The evidence collected so far lead one to consider the assumption that hagiographic manuscripts were perceived as agents in substantiating the holiness of the protagonists of their texts, contributing to spread their *fama sanctitatis* throughout the country. The co-

but it is only starting from the fifteenth century that it becomes the norm. According to the scholar, this phenomenon in Ethiopia ‘was a sequel to a movement in the Coptic Church whereby people wanted to respond to their felt need to dedicate churches to more saints. Unable to build new churches because of adverse circumstances, they erected new altars dedicated to these saints’, cf. Fritsch 2012, 454 and *passim*. It is interesting to note that the ‘multiplication of *tābotāt*’ in Ethiopian churches has a parallel in the ‘multiplication of hagiographic texts’ occurring in the same period, as we have seen, which reveals that they are the consequence of a ‘multiplication of saints’ to be venerated and, at the same time, the evidence of a cultural and religious change in progress.

126 Brita 2008, 293 (text) and 327 (translation), § 1.

127 Bausi 2003, vol. 1, 24 (text) and vol. 2, 28, § 2.

128 According to manuscript Collegeville, MN, Hill Museum and Manuscript Library, EMLL 1763. See Getatchew Haile 1985.

129 Probably the same author of the *Homily* of Libānos.

130 According to manuscripts Collegeville, MN, Hill Museum and Manuscript Library, EMLL 8509 and London, British Library, Or. 8192.

131 Conti Rossini 1897, 141 and 149.

presence of new hagiographies about local saints and old hagiographies about foreign saints – already officially benefitting from their *fama sanctitatis* – must have facilitated the circulation and the promotion of the liturgical commemoration of the former. The production, dissemination and liturgical use of hagiographic MTMs must, therefore, have contributed to the official recognition of the local saints, spread their fame and fostered their commemoration beyond the local communities, where their cult was initially promoted.

The sacral value assigned to hagiographic manuscripts and their central role in the liturgical commemoration of saints must have acted as an agent in perceiving them as institutional objects capable of testifying the sainthood of the figures described therein. A sort of official device for the official recognition of saints. Texts were apparently included in (and excluded from) these MTMs as soon as the commemoration of their protagonists was introduced (or ceased) in the country. This process explains the progressive translation of texts and the continuous reshaping and revision of the collections. The inclusion of hagiographies on Ethiopian saints of foreign origins reveals, on the one hand, the progressive emergence of the local hagiography and, on the other hand, the effort to make the veneration of the local saints official. Furthermore, the advantage of the editorial innovation introduced by the *Synaxarion* made it possible to increase the number of hagiographies about local saints and, consequently, their commemoration. The MTMs were widespread in the main monasteries and churches (as is witnessed by the number of copies still extant), so that the names of those saints had the possibility to circulate widely throughout the country and be fixed in the collective memory through the ritual reading.

Hence, these MTMs will not be considered as a heterogeneous combination of individual texts but rather as a coherent result of a project planned and realised on the basis of specific material and religious demands and readapted each time to specific liturgical needs and veneration practices.

5 Performing (with) manuscripts as a social function

The reading of the manuscripts during the liturgical commemoration of the saints fulfils a social function. The repetitive reading of and listening to hagiographic texts do not only contribute to the diffusion of the saint's memory and veneration but also to anchor them to a perfect model of life and virtues. This model, to which society is implicitly called to aspire, is instilled in the ceremo-

ny's attendants by the exemplary life of the saint and the sacrifice of the martyr. It proposes a moral example and, simultaneously, advocates the adoption of a set of edifying virtues. These teachings are codified variously in narrative form, but most of the time they are unwritten and rather experienced through the saint's bodies (e.g. fasting, ritual weeping, privation of sleep, perpetual prayer, corporal punishment, death)¹³² and souls (e.g. obedience, patience, acceptance, forgiveness, piety, endurance, humility, love, courage). As observed by Derek Krueger,

as a cultural performance, ascetic practice deployed power over the subject to produce identities conforming to established ideals. Preaching exhorted Christians to emulate the virtues of biblical exemplars. [...] Performances of fasting, vigilant prayer, and resistance of demonic temptation presented a visible spectacle, directed toward the laity, toward other ascetics, toward the ascetic self, or even God, but always depending on an audience for meaning. Ascetic achievement was a text to be read.¹³³

The function of these experienced virtues transmitted to the Christian communities as *text to be read* was to educate the individuals not towards a subjective but a universal moral code, offered by the life and sacrifice of Christ and followed by the saints (and, therefore, certified) to be adopted by each member of society. This contributed to shape habits and behaviours in daily life, propagate an ethics of respect, altruism, obedience and sacrifice, and submissively accept adverse and unpleasant experiences as God's will. The ones who adopted a different moral code instead, following alternative models of virtues experienced through the behaviour of Satan and his demons (pervasively present and carefully described in the hagiographies), are destined to have an awful life and an even worse death, with no possibility of salvation.¹³⁴

132 For a preliminary discussion of these themes in Ethiopian hagiography in a comparative perspective, see Brita 2019.

133 Krueger 2004, 194.

134 These arguments may sound quite naïve or simplistic to the reader who is not familiar with the Christian edifying literature, to which hagiography also belongs. In fact, the current perception of these works is culturally too distant for conceiving their meaning and scope in the late antique and medieval period. In order to be properly understood, the reception of this literary genre should be contextualized and brought back to the mentality of that time. Hagiographies were addressed to a simple public, not used to the abstract theological debates dominating Christian thought (especially in the Oriental churches). The stylistic choice of an intelligible language and straightforward metaphors was addressed to a public (mostly uneducated) who had difficulty abandoning old beliefs and needed to be persuaded with concrete examples, drawn from a familiar everyday life in which, through a sentiment of identification, they could feel indirectly protagonists.

The liturgical ritual possesses an essential role in transmitting this model. As remarked by Nienke Vos,

It is important to view the liturgy as including and perpetuating rituals that have a stabilizing function. As such, the liturgy is conservative: the language incorporated in it is familiar to those who participate. The notion of repetition is significant: the community returns time and again to the same stories, songs, formulae, and rituals. This creates a setting of stability and a sense of safety: one knows what to expect. In this way, the liturgy has the potential to become an anchor in people's lives [...]. Thus, in hagiographic texts, the liturgical wording functions as a hermeneutical key to the stories of the saints. By extension, this wording enables the reader to understand not only the fate of the protagonist but also his or her own fate. As the life of the saint is illuminated by the liturgy, so is the life of the text's recipient, because the context of the liturgy generated meaning on two levels. First, it offers a paraenetic model and encouragement for life on earth. Secondly, it creates hope and comfort based on the promise of a life to come.¹³⁵

6 Smaller MTM forms: shaping the Ethiopian hagiographic and ritual identity

The creation of a local hagiography is sporadic in the fourteenth century, but becomes more substantial in the following centuries. In concomitance with the increasing of the local hagiographic production, as mentioned above, the use of the large MTMs transmitting hagiographic collections, such as the *Gadla Samā'tāt* and the *Gadla Qəddusān*, started to decrease in favour of the diffusion of different MTM types, apparently more suitable to cope with the proliferation of the hagiographic texts in progress. These MTMs, smaller in size, offer various arrays of hagiographic collections, consisting of a few texts (usually fewer than a dozen). Aside from the study of some individual texts, the thousands of MTMs of this type have never been the object of systematic research in a broader perspective, so crucial for understanding hagiographic, liturgical and veneration practices spread through the country at different times of the Ethiopian Christian history. A first and inexhaustive scrutiny of this material allows one to preliminarily group these MTMs based on clusters of texts they transmit: (1) texts on foreign saints already circulating in the large MTMs;¹³⁶ (2) texts on both for-

¹³⁵ Vos 2017, 50–52.

¹³⁶ Manuscripts: Collegeville, MN, Hill Museum and Manuscript Library, EMLL 430, EMLL 1344, EMLL 1934, EMLL 4002; Paris, Bibliothèque nationale de France, d'Abbadie 45, d'Abbadie 60, d'Abbadie 183, Éthiopien 133, Éthiopien 134; Ṭānāsee 170. The list of manuscript provided here

eign and local saints;¹³⁷ (3) texts on exclusively local saints;¹³⁸ (4) texts on both foreign or local saints combined with non-hagiographic texts;¹³⁹ and (5) a set of texts on individual saints, both foreign and (mostly) local.¹⁴⁰

The design of these manuscripts offers, in terms of text arrangement and patterns, more room for the accommodation of the individual hagiographies, enabling people to not only copy the single texts from the large MTMs but also enlarge them and include additional textual units, such as miracles and poetic compositions devoted to the saints (*salām* and *malkəʿ*). Furthermore, some of these manuscripts also include a series of illuminations portraying the most representative episodes and miracles selected from the *Lives* of the saints. The ‘parchment saints’ of these smaller MTMs are not only the foreign saints and the local saints of foreign origin of the large MTMs but also Ethiopian-born saints who, within a few centuries, exceed the former. This new creation possesses an intrinsic revolutionary character: Ethiopian women and men, kings, intellectuals and charismatic figures who had promoted monastic practice and intellectual debates were recognised as saints for the first time – on the basis of the ideological canon previously received through hagiographic MTMs – and became, in their turn, the main characters of new narratives fixed in MTMs and used in ritual and devotional practices.

and in the following footnotes is not exhaustive; it only aims at providing a concrete example of some of these MTMs per type.

137 Manuscripts: Collegeville, MN, Hill Museum and Manuscript Library, EMLL 208, EMLL 1960, EMLL 2610; London, British Library, Or. 696, Or. 700, Or. 702, Or. 709, Or. 711; Paris, Bibliothèque nationale de France, d’Abbadie 14, d’Abbadie 46; d’Abbadie 126, Éthiopien 132; Ṭānāsee 164. A further division of this group could be made between MTMs transmitting text on (1) local saints of foreign origin unknown outside Ethiopia and (2) local saints of Ethiopian origin, for which see Marrassini 2005.

138 Manuscripts: Collegeville, MN, Hill Museum and Manuscript Library, EMLL 4; London, British Library, Or. 701; Paris, Bibliothèque nationale de France, Éthiopien 136, Éthiopien 137. The texts collected in some MTMs of this group are about monks belonging to the same monastic lineage, manuscripts: London, British Library, Or. 695, Or. 705, Or. 728; Paris, Bibliothèque nationale de France, d’Abbadie 88, d’Abbadie 177.

139 Manuscripts: Collegeville, MN, Hill Museum and Manuscript Library, EMLL 5; London, British Library, Or. 694, Or. 730; Paris, Bibliothèque nationale de France, d’Abbadie 29, d’Abbadie 54, d’Abbadie 91, d’Abbadie 94, d’Abbadie 103, d’Abbadie 123.

140 London, British Library, Or. 707, Or. 710, Or. 716, Or. 717, Or. 718, Or. 719, Or. 721, Or. 723, Or. 724, Or. 725, Or. 726, Or. 727, Or. 729, Or. 770; Paris, Bibliothèque nationale de France, d’Abbadie 36, d’Abbadie 43, d’Abbadie 56, d’Abbadie 59, d’Abbadie 61, d’Abbadie 89, d’Abbadie 139, Éthiopien 135, Éthiopien 343.

7 The timing of the *tazkār*: the annual and the monthly commemoration of the saints

The saints in Ethiopia are celebrated both on their *dies natalis*, i.e. the main commemoration that occurs once a year, and each month on the same day of the annual commemoration. If, for instance, the main celebration of a saint falls on 5 August, then the monthly celebration takes place on the 5th of each month. The whole hagiographic text is read on the day of the main *tazkār* and only a portion on the day of the monthly commemoration. This element is substantiated in the MTMs, once again, by reading indications, in the form of paracontent, consisting of the name of the month written in the margins of the pages, in correspondence with the beginning of the text's portion to be read during the monthly commemoration or even in its textual segmentation in distinct sections subsequently. It is not clear when the monthly commemoration of the saints was introduced in Ethiopia. Reading indications for performing the text on the monthly commemoration already appear in manuscripts dated to the end of the fifteenth century. This practice is still performed in Ethiopia today, together with a number of devotional ritual practices involving the use of hagiographic manuscripts.



Fig. 8: Reading of the *Gadla Ṣādqān Zadagʷe* at the annual *tazkār* of the Sts Ṣādqān Zadagʷe. ʾĒndā Ṣādqān Zadagʷe (Təgrāy, Ethiopia). Photograph by Antonella Brita (February 2017).

It can be presumed that the progressive diffusion of small MTM forms mirrors a cultural change in the perception of Ethiopian sainthood, implying (1) a transformation in the authentication of holiness, where the miracles assume an increasing importance as evidence of the elevation to sainthood – as is witnessed by the composition and the insertion of sections of miracles in the MTMs; and (2) a transformation in the liturgical commemoration practices, consisting of the introduction of the monthly commemoration of the saints, occurring on the same day of the annual commemoration but each month. The progressive emergence of smaller MTMs possibly coincides with a change in the ritual function of hagiographic works that, for this reason, needed to be accommodated in a different manuscript form. An interesting aspect of this process concerns the composition and addition of miracles to hagiographies of foreign saints copied from the larger to the smaller MTMs. These miracles (usually post-mortem) are set in Ethiopia, although these saints have never had any previous connection with the country. One might claim that the power of holiness goes beyond borders established by human beings. In actual fact (and without summoning metaphysical powers), this facet can be considered to be the reflection of the lively assimilation of foreign elements which characterises the Ethiopian culture in many aspects and mostly in literature, where translated texts were always actively received and transformed to be adapted to the local culture. The composition of the Ethiopian miracles has a double-sided connotation: (1) a literary meaning, i.e. the active reception of a model assimilated, digested and repurposed in a customised form (a similar example is provided by the *Miracles of Mary's* collection, translated in Gə'əz and enriched with Ethiopian miracles);¹⁴¹ and (2) a cultural meaning, i.e. the Ethiopianization of the foreign saints, a process implying a cultural assimilation of the foreign saint to the local culture and, simultaneously, a change in the Ethiopians' perception of foreign saints, whose hagiographies were first used as a model to shape the Ethiopian devotional and ritual culture and subsequently remodelled based on reinterpreted cultural canons. The effects of this course sometimes moved beyond the expected consequences. The *Life* of one of the most venerated Ethiopian-born saints, Takla Haymānot, was translated into Arabic and sent to the Egyptian patriarchate in Alexandria, contributing to spread the fame and veneration of this Ethiopian saint in the Coptic Church:¹⁴² a so far unique case in Gə'əz literature.

141 Cerulli 1943; Balicka-Witakowska and Bausi 2010; Reule 2022.

142 Nosnitzyn 2000.

8 Performing (with) hagiographic manuscripts in contemporary Ethiopia

8.1 Reading of the manuscript on the saints' *tazkār*

The contemporary liturgical celebrations of the saints allow one to witness the actual practices and the way hagiographic manuscripts are used. The general rules are the same throughout the country, but some features may vary according to specific procedures in place in churches, districts or regions.

The description which follows is based on field research I carried out in February 2017 and October 2018 in the area of Aksum (Təgrāy, north Ethiopia), where I had the opportunity to attend some ceremonies for the commemoration of the saints and interview Qes Ḥaylu Walda Giyorgis, a scribe and member of the regular clergy of Māryām Şəyon cathedral, the beating heart of Ethiopian Christianity. In the area of Aksum, the ceremonies for the celebration of the saints' *tazkār* are characterised by various readings and singings of texts transmitted in manuscripts, which are performed by the officiants partly inside and partly outside the church. All the singing and reading, including the *Life* of the saint, are regulated by the beginning of the liturgy of the mass (*qəddāse*), which takes place: (1) on Mondays to Fridays before Easter between 1:00 and 3:00 p.m. and for two months after Easter between 6:00 and 8:30 a.m.; (2) on Saturdays between 8:00 and 10:30 a.m.; and (3) on Sundays between 6:00 and 8:30 a.m. This means that all the readings must be concluded before the start of the *qəddāse*. Accordingly, they begin very early in the morning during the weeks before Easter, whereas on Saturdays, Sundays and in the six weeks after Easter they begin in the night. The officiants read part of the following manuscripts inside the church: the Gospel, the *Zemā*, the *Mazgab*, the *Miracles of Mary*, the *Miracles of Jesus* and the *Kidān*. Then the priests, along with the people attending the ceremony, move outside the church, into an area called the *ʾawda məḥrat* ('court of mercy'), where the reading of the hagiographic manuscripts is performed. The reason for reading the manuscript outside the church is apparently due to a specific ground, that is, to allow everyone who wishes to hear the *Life* of the saint to take part in the reading and, above all, the faithful who, for various motivations, are banned from entering the church, for instance, people who have committed severe crimes or are divorced. Saints are egalitarian and inclusive; they do not discriminate against anyone.



Fig. 9: Reading of a section of the the *Gadla P̄anṭalewon zaṣomā't* at the monthly *tazkār* of St P̄anṭalewon *zaṣomā't*. 'Endā 'Abbā P̄anṭalewon (Təgrāy, Ethiopia). Photograph by Antonella Brita (February 2017).

Both the celebration of the annual and monthly *tazkār* takes place only in the church dedicated to the saint, where a *tābot* of the saint is present. As already mentioned, on the annual *tazkār*, the whole manuscript containing the *Life* of the saint is read, whereas on the monthly one, only a portion of the manuscript, selected according to the monthly reading indication, is read. In addition, the officiant can optionally spell the names of other saints celebrated on the same day. The officiant initially reads a portion of the manuscripts in the Gə'əz language and then he (or some other priests) translates or paraphrases its words into the local spoken language (Tigrinya, in this case). This is due to the fact that nowadays laypeople do not understand Gə'əz, the classical language of Ethiopia that survives only in the liturgy of the Ethiopian Orthodox Tawāḥədo Church.

After reading the text, the officiant stands with the manuscript in his hands and the faithful attending the ceremony move towards him to receive his blessing. He blesses people using the manuscript and props the manuscript against their foreheads or against their backs while they bow in front of it. Then the people kiss the manuscript, being a devotional object that embodies the saint. The faithful holding water bottles in their hands approach the officiant soon after the reading of the hagiographic text and place the open bottle near the

mouth of the priest who blows inside the bottle (according to the procedure described in Section 3).



Fig. 10: Blessing of the faithful with the manuscript of the *Gadla Šādqān Zadagʷe* at the annual *tazkār* of the Sts Šādqān Zadagʷe. ʿĪndā Šādqān Zadagʷe (Təgrāy, Ethiopia). Photograph by Antonella Brita (February 2017).

8.2 Healing rituals: manuscripts as agents of the saints' charisma

Hagiographic manuscripts are also used in contexts different from the liturgy in contemporary Ethiopia, i.e. in healing and protective rituals. Similar to the rest of the Christian world, saints in Ethiopia are also considered protectors and healers. In addition to the proper saint physicians, such as Cosmas and Damian or Pantaleon of Nicomedia, all the saints possess a thaumaturgical power that they can use to the benefit of the people who believe in them. This charisma (*barakat*) is granted to them by God in virtue of their exemplary life and for having overcome the limits of human nature through ascetical practice.¹⁴³ Each

¹⁴³ Brita 2019.

saint in Ethiopia has one (or even more than one) charisma and can use it in favour of the people who address to them. In practical terms, the charisma of individual saints are detectable either from specific miracles they have performed or specific episodes of their *Life*, both recorded and transmitted in manuscripts. There are saints who are able to handle the weather conditions, others that can heal specific diseases or cure infertility, and many others could be listed. Saint Zamikā'el 'Aragāwi, for instance, has the power to heal people who have been poisoned by being bitten by a snake. The charisma attributed to him possibly originates from a passage of his *Life* detailing how he was able to reach the top of a high mountain, where he chose to dwell: he ordered a big snake that appeared to him in the sky to lower its tail and used it as a rope to climb up the mountain.¹⁴⁴ In actual practice, the charismas of the saints are released during specific healing rituals in which the manuscripts transmitting their hagiography are involved.

In these rituals, the hagiographic manuscripts have a central role in the performance. In principle, depending on the kind of ritual, manuscripts can be rubbed on the body of the patient, put under the pillow in case the patient is confined to bed, carried on the back of women like a child to cure infertility,¹⁴⁵ or rubbed on the belly of women in labour. Protective scrolls can, for instance, be worn by pregnant women, in correspondence to their womb, to protect them from abortion and their children from cot death. In this case, the ritual is not performed when the scroll is worn but when it is produced. Any sort of illness is generally ascribed to attacks by demons in traditional Ethiopian society. The aim of the ritual is to defeat the demons, and the manuscript is the most powerful medium, besides holy water and prayer, to do that. The saint makes genuine use of their power by interceding through the manuscript, and the manuscript assures the presence of the saint at the exact moment in which it is needed.

What follows is the brief description of one of these rituals reported to me in November 2016 by 'Abbā Surāfel 'Asaffā, a monk from the monastic community of Dabra Madarā ('Adwā, Təgrāy), a monastery founded by the monk 'Abbā Garimā. In fact, the ritual involves precisely the saint 'Abbā Garimā, who has, among other charismas, the power to heal fields affected by parasites. I suppose that this charisma derives from at least two famous miracles of the saint. In the first miracle, Garimā sows seeds of wheat that germinate and ripen in a few hours. The wheat is collected and partly used for the Eucharistic sacrifice and

144 Guidi 1895, 63–68; tr. Van den Oudenrijn 1939, 45–49.

145 Krzyżanowka 2015, 130–131.

partly given to the poor.¹⁴⁶ In the second miracle, very similar to the previous one, Garimā plants a vine shoot under a rock and the shoot germinates and bears fruit on the same day.¹⁴⁷

The ritual is performed to heal fields when the crop does not grow as it should. The farmers address the monastery of Garimā and ask for a healing ritual. Two priests and three deacons from the monastery go to the field, which is the setting for the ritual, bringing with them (1) the manuscript containing the *Life* of Garimā, (2) a processional cross, (3) incense, (4) a censer, (5) the ceremonial garments, (6) holy water, and (7) at least one processional umbrella to protect the manuscript from the sun or rain. After a sequence of prayers (it is always the same in this kind of ritual), one of the priests starts to read from the manuscript the *Life* of the saint. Then, the priests and the deacons take the manuscript in procession clockwise around the field three times. During the procession, the manuscript is kept in the hands of one of the priests; the last deacon in line sprinkles the holy water on the field (the *ṣabal*, ‘the soil collected from the monastery of the saint’, is sometimes added to the holy water); the second priest lets the smoke of the incense rise over the field using his right hand and, simultaneously, holds the processional cross in his left hand. After the procession, they perform the *burāke*, a ritual blessing formula, usually transmitted orally, that is created and adapted each time according to the circumstances of the ritual. The ceremony can be repeated if the first attempt does not achieve the desired results. Once the farmers harvest the healed field, they offer a portion of the crop to the monastery of Garimā as a token of gratitude.

9 Final thoughts

In consideration of the assumed role of the manuscript in the authentication of holiness in late antique and medieval Ethiopia, the circulation of the hagiographic MTMs must have contributed to the diffusion of the saints’ memory and veneration throughout the country. The distribution of the MTMs containing the *Acts of the saints* and, even more, *Acts of the martyrs* and *Synaxarion* stands in direct proportion to the importance of these collections. Each monastery possessed at least one copy.

146 Conti Rossini 1897, ll. 346–355; tr. Ducati 1939, 128. Concerning the intertextuality of this miracle among the hagiographic texts about the Nine Saints, see Brita 2010, 68–69. See also Noslitsin 2016, 88–89.

147 Conti Rossini 1897, ll. 557–565; tr. Ducati 1939, 146. See also Mersha Alehegne 2016.

The documentation collected and examined so far, allows a preliminary identification of at least four phases in the genesis of the formation and transmission of the ‘parchment saints’.

The first phase (from the thirteenth to fourteenth century onwards) attests the accomplished acquisition of a corpus of texts about foreign saints translated into Gə‘əz and transmitted in MTMs, with a peak of dissemination occurring between the fourteenth and sixteenth century. The *fama sanctitatis* of these saints was already officially and universally ascertained and their hagiographies, already used for their liturgical commemorations in other Christian countries (and in other languages), were also read in Ethiopia during the liturgical celebrations.

The second phase (from the end of the fourteenth century onwards) displays the progressive inclusion in these MTMs of hagiographies about local saints. Unlike the foreign saints, these local saints were not blessed with an acknowledged *fama sanctitatis*. It can be presumed that the insertion of their hagiographies in MTMs transmitting texts about saints universally recognised aimed at the authentication and acceptance of their sainthood and the promotion of their liturgical veneration beyond the boundaries of their respective local communities.

The third phase (from the sixteenth century onwards) can be considered a further implementation of the previous phase: the translation, from Arabic into Gə‘əz, of the second recension of the *Synaxarion* accommodated in MTMs with a less rigid material structure (short texts which, in solely two volumes, enabled the coverage of the liturgical celebrations of the saints for each day of the whole liturgical year) allowed the association of a great number of local saints to the foreign saints, thus, elevating the former to sainthood. The introduction of the *Synaxarion* into the liturgy made the recognition of a wide number of local saints possible (although some of them were and are only remembered by their name and their commemoration date); different versions of the *Synaxarion* were produced, each of them including both ‘famous’ and ‘less famous’ saints, contributing to the legitimisation of local cults. Even nowadays, in remote areas, specific versions of the *Synaxarion* exist including saints only venerated at a local level that are evidence of local veneration practices. This evidence supports the hypothesis that the production and liturgical use of some specific manuscripts contributed to the official authorisation to holiness.

The fourth phase (from the sixteenth to seventeenth century onwards) gradually sees the diffusion of smaller MTMs forms, although sporadic evidence

of some of this type of MTMs witnessed their emergence already in the fifteenth century or earlier.¹⁴⁸ The flexibility of this manuscript format permits each manuscript to host not only the hagiography but also additional texts devoted to the saints, such as miracles and poetic compositions (*salām, malkāʿ*). There are hagiographies on both local and foreign saints in these MTMs, integrating the latter into the local culture.

The hagiographies of the Aksumite saints were initially included in manuscripts also containing foreign hagiographies. The co-presence of new texts alongside those already known for a long time probably aimed at facilitating the circulation and liturgical use of the former. This process of diffusion implied that the foreign hagiographies deeply influenced the local hagiographies on the Aksumite saints, which were created out of the medieval adaptation of late antique traditions. No written evidence about these saints survived from the ancient period, if there were ever any at all. An example of this process is provided by the *Life* of the saint Pāṅṭalewon *zaṣomāʿt*.

The study of the extension of the veneration practices connected to the individual saints in late antique and medieval Ethiopia is only at its beginning. The comparison between the ancient manuscript sources and the observation of the contemporary set of conditions reveals some interesting hagiographic phenomena that need a deeper investigation to be understood in their entire diachronic evolution. (1) For instance, there are saints who were commemorated in the Middle Ages quite extensively – as the spatial distribution of MTMs transmitting their hagiographies reveals – but that nowadays are commemorated only in the areas where the monasteries built in their name are found (e.g. Pāṅṭalewon *zaṣomāʿt*). (2) There are saints who have always been largely commemorated, from the early medieval period till now (e.g. Qirqos). (3) There are saints whose commemoration has never been extensive – their hagiographies, attested only in MTMs, are very rare – and, at a certain point, ceased to exist (e.g. ʾAbākluz, James the Intercisus). (4) And there are saints whose commemoration does not follow a continuum, instead, it is attested in the medieval period and, after a break of several centuries, was revitalised in recent times, becoming pervasively observed (e.g. ʾArsimā). Other examples could be mentioned.

In conclusion, the process of writing, (re-)elaborating, assembling, structuring, copying and performing hagiographic texts within MTMs aims at creating institutional devices, namely, specific kinds of manuscripts, to be used for ritual purposes and conveying evidence of authorised sainthood. These manuscripts collect more hagiographies, each with peculiar characteristics, which offer an

148 See Brita forthcoming.

exemplary and perfect model of life and behaviour to which it is possible to aspire, through imitation and perseverance. The liturgical use of these MTMs – explained through paracontents – performs a social function: the repetitive ritual reading, listening and experiencing of the saints' charisma make the *exempla* part of the collective self-consciousness and memory and continuously reconfirm their importance for the benefit of the members of the community. The transmission of these manuscripts, thus, provides a complex of shared edifying virtues, builds up a shared moral code among the members of the community, which is instrumental in establishing and perpetrating the religious laws in ritual form, and in safeguarding the social equilibrium.

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Abbreviations

CAe = *Clavis Aethiopica*. The CAe is being developed in cooperation with the project 'Beta maṣāḥəft: Manuscripts of Ethiopia and Eritrea (Schriftkultur des christlichen Äthopiens und Eritreas: eine multimediale Forschungsumgebung)' <<https://betamasaheft.eu/>> and is available online at <<http://betamasaheft.eu/works/list>>.

E Ae = *Encyclopaedia Aethiopica*, 5 vols, Wiesbaden: Harrassowitz Verlag, 2000–2014. Vols 1–3 edited by Siegbert Uhlig; vol. 4 edited by Siebert Uhlig [with the collaboration of Alessandro Bausi]; vol. 5 edited by Alessandro Bausi.

Manuscripts

Asmara,

Biblioteca del Centro di Studi Etiopici, Pavoni Social Center,
two manuscripts without shelfmark

Collegeville, MN,

Hill Museum and Manuscript Library, Ethiopian Manuscript Microfilm Library,
4, 5, 208, 430, 1344, 1763, 1934, 1960, 2610, 4002, 7602, 8509

London,

British Library,

Or. 654, 694, 695, 696, 700, 701, 702, 705, 707, 709, 710, 711, 716, 717, 718, 719, 721,
723, 724, 725, 726 727, 728, 729, 730, 770 and 8192

Paris,

Bibliothèque nationale de France,

d'Abbadie 14, 29, 36, 43, 45, 46, 54, 56, 59, 60, 61, 88, 89, 91, 94, 103, 123, 126, 139, 177,
183

Éthiopien 132, 133, 134, 135, 136, 137, 343

Rome,

Biblioteca dell'Accademia Nazionale dei Lincei e Corsiniana,
Fondo Conti Rossini 26
Fondo Conti Rossini 88

Təgrāy, 'Aksum,

Māryām Şəyon,
MaySe-001

Təgrāy, Bəḫerāwi Kəllələwi Mangəsti,

'Urā Qirqos,
UM-039
UM-046

Təgrāy, Dagw'a Tamben,

Dabra 'Abuna 'Abiya 'Əgzi',
AAE-001
Dur Ambā Şəllässe,
DAS-002

Samen, Gondar,

Dāgā 'Əştifānos,
Tānāsee 164 (= Dāgā 'Əştifānos 53)
Tānāsee 170 (= Dāgā 'Əştifānos 59)

Vatican City,
Biblioteca Apostolica Vaticana,
Fondo Cerulli Etiopico 198

References

- Arras, Victor and Lucas van Rompay (1975), 'Les manuscrits éthiopiens des "Miracles de Jésus" (Comprenant l'Évangile de l'enfance selon Thomas l'Israélite)', *Analecta Bollandiana*, 93/1–2: 133–146.
- Balicka-Witakowska, Eva and Alessandro Bausi (2010), 'Tä'ammärä Maryam', in *EAE*, vol. 4: O–X, 789b–793b.
- Bausi, Alessandro (2002), *La versione etiopica degli Acta Phileae nel Gadla Samā'tāt* (Annali dell'Istituto Universitario Orientale di Napoli, Suppl. 92), Naples: Università degli Studi di Napoli 'L'Orientale'.
- Bausi, Alessandro (2003), *La 'Vita' e i 'Miracoli' di Libānos*, 2 vols (Corpus Scriptorum Christianorum Orientalium, 595–596: Scriptorum Aethiopicum, 105–106), Louvain: Peeters.
- Bausi, Alessandro (2010), 'The Massacre of Najrān: The Ethiopic Sources', in Joëlle Beaucamp, Françoise Briquel-Chatonnet and Christian J. Robin (eds), *Juifs et chrétiens en Arabie aux V^e et VI^e siècles: Regards croisés sur les sources* (Monographies, 32: Le massacre de Najrān, 2), Paris: Association des amis du Centre d'histoire et civilisation de Byzance, 241–254.
- Bausi, Alessandro (2016), 'Ethiopic Literary Production Related to the Christian Egyptian Culture', in Paola Buzi, Alberto Camplani and Federico Contardi (eds), *Coptic Society, Literature and Religion from Late Antiquity to Modern Time. Proceedings of the Tenth International Congress of Coptic Studies, Rome, 17–22 September 2012 and Plenary Reports on the Ninth International Congress of Coptic Studies, Cairo, 15–19 September 2008*, 2 vols (Orientalia Lovaniensia Analecta, 247), Leuven: Peeters, vol. 1, 503–571.
- Bausi, Alessandro (2017), 'Il Gadla 'Azqir', *Adamantius*, 23: 341–380.
- Bausi, Alessandro (2018), 'Translations in Late Antique Ethiopia', in Franco Crevatin (ed.), *Egitto crocevia di traduzioni* (ΔΙΑΛΟΓΟΙ 1), Trieste: EUT Edizioni Università di Trieste, 69–99.
- Bausi, Alessandro (2019), 'A Few Remarks on the Hagiographical-Homiletic Collections in Ethiopic Manuscripts', in Jost Gippert and Caroline Macé (eds), *Homiletic Collections in Greek and Oriental Manuscripts. Proceeding of the Conference 'Hagiographico-Homiletic Collections in Greek, Latin and Oriental Manuscripts – Histories of Books and Text Transmission in a Comparative Perspective'*. Centre for the Study of Manuscript Cultures, Universität Hamburg, 23–24 June 2017 = *manuscript cultures*, 13: 63–80.
- Bausi, Alessandro and Alberto Camplani (2016), 'The History of the Episcopate of Alexandria (HEpA): Edition minor of the Fragments Preserved in the Aksumite Collection and in the Codex Veronensis LX (58)', *Adamantius*, 22: 249–302.
- Bausi, Alessandro and Alessandro Gori (2006), *Tradizioni orientali del 'Martirio di Areta': La prima recensione araba e la versione etiopica. Edizione critica e traduzione* (Quaderni di Semitistica, 27), Florence: Università di Firenze.
- Beylot, Robert (1986), 'La version éthiopienne de "L'Histoire de Besoy"', *Revue de l'Histoire des Religions*, 203: 169–184.
- Beylot, Robert (1993), *Martyre de Pilate* (Patrologia Orientalis, 45/4 [204]), Turnhout: Brepols.

- Brita, Antonella (2008), *I racconti tradizionali sulla cristianizzazione dell'Etiopia: il 'Gadla Liqānos' e il 'Gadla Paṅtalēwon'*, PhD dissertation, Università degli Studi di Napoli "L'Orientale".
- Brita, Antonella (2010), *I racconti tradizionali sulla cristianizzazione dell'Etiopia. Il ciclo agiografico dei Nove Santi* (Studi Africanistici. Serie Etiopica 7), Naples: Università degli Studi di Napoli "L'Orientale".
- Brita, Antonella (2015), 'Agiografia e liturgia nella tradizione della Chiesa etiopica', in Luciano Vaccaro and Cesare Alzati (eds), *Popoli, Religioni e Chiese lungo il corso del Nilo* (Storia Religiosa Euro-Mediterranea, 4), Vatican City: Libreria Editrice Vaticana, Gazzada, Fondazione Ambrosiana Paolo VI, 515–539.
- Brita, Antonella (2019), 'L'immagine trascendentale del santo come strumento di potere nell'agiografia etiopica', in Pierluigi Valsecchi (ed.), *Persona, trascendenza e poteri in Africa / Person, Transcendence and Powers in Africa. I Dies Academicus della Classe di Studi Africani in commemorazione di Gianfranco Fiaccadori* (Africana Ambrosiana, 2), Milan: Biblioteca Ambrosiana, 83–110.
- Brita, Antonella (forthcoming), 'Titles as Fluid Entities – Some Examples from Ethiopic Multiple-text Manuscripts', in Antonella Brita, Michael Friedrich and Janina Karolewski (eds), *Titles, Labels, and Names of Multiple-text Manuscripts*.
- Brita, Antonella and Jacopo Gnisci (2019), 'Hagiography in Gə'əz', in Jacopo Gnisci (ed.), *Treasures of Ethiopia and Eritrea in the Bodleian Library, Oxford* (Manar al-Athar Monograph, 5), Oxford: University of Oxford, 59–69.
- Bulakh, Maria (2009), 'Nota genitive za- in epigraphic Geez', *Journal of Semitic Studies*, 54: 393–419.
- Cerulli, Enrico (1943), *Il libro etiopico dei Miracoli di Maria e le sue fonti nelle letterature del Medio Evo latino*, Rome: Dott. Giovanni Bardi Editore.
- Cerulli, Enrico (1969), *Les vies éthiopiennes de Saint Alexis l'homme de Dieu* (Corpus Scriptorum Christianorum Orientalium, 298–299: Scriptorum Aethiopicorum, 59–60), Louvain: Peeters.
- Ciotti, Giovanni, Michael Kohs, Eva Wilden, Hanna Wimmer and the TNT Working Group (2018), 'Definition of Paracontent', *CSMC – Occasional Papers*, 6 <DOI 10.25592/uhhfdm.9813>.
- Colin, Gérard (2002), *La version éthiopienne de l'histoire de Bsoy* (Patrologia Orientalis, 49/3 [219]), Turnhout: Brepols.
- Conti Rossini, Carlo (1897), 'L'Omelia di Yoḥannes, vescovo di Aksum, in onore di Garimā', in *Actes du XI Congrès des Orientalistes. Section Sémitique*, Paris: Ernest Leroux, 139–177.
- Conti Rossini, Carlo (1938), 'La Passione del martire Arsenofis e dei suoi compagni nella versione etiopica', *Orientalia*, n.s. 3: 193–214 and 319–332.
- Detoraki, Marina (2007), *Le Martyre de saint Aréthas et de ses compagnons (BHG 166): Édition critique, étude et annotation par Marina Detoraki; traduction par Joëlle Beaucamp; appendice sur les versions orientales par André Binggeli*, in Joëlle Beaucamp, Françoise Briquel-Chatonnet and Christian Robin (eds), *Le massacre de Najrân: Religion et politique en Arabie du Sud au VI^e siècle* (Monographies, 27: Le massacre de Najrân, 1), Paris: Association des amis du Centre d'histoire et civilisation de Byzance.
- Dillmann, Christian Friedrich August (1865), *Lexicon linguae aethiopiae, cum indice latino: Adiectum est vocabularium tigre dialecti septentrionalis compilatum a W. Munziger*, Leipzig: T. O. Weigel.
- Ducati, Bruno (1939), *La grande impresa di Amda Sion re d'Etiopia, romanzo storico del XIV secolo. I miracoli di Abbā Garimā, omelia del XV secolo. Tradotti dalla lingua originale*, Milan: Garzanti Editore.

- Elagina, Daria (2013), *Textkritische und manuskriptologische Verarbeitung der äthiopischen Version des Martyriums von Petros, Bischof von Alexandria (311 n. Chr.)*, MA thesis, Universität Hamburg.
- Fiaccadori, Gianfranco (1993), 'Aethiopica Minima. IV. EMLL 7602: il 'Libro dei Santi' di Tullu Guddo', *Quaderni Utinensi*, 7/13–14 (1989), 145–164.
- Fiaccadori, Gianfranco (2006), 'Gregentios in the Land of the Homerites', in Albrecht Berger (ed.), *Life and Works of Saint Gregentios, Archbishop of Taphar: Introduction, Critical Edition and Translation* (Millennium-Studien, 7), Berlin: De Gruyter, 48–82.
- Finneran, Niall (2009), 'Holy Waters: Pre-Christian and Christian Water Association in Ethiopia. An Archaeological Perspective', in Terje Ooestigaard (ed.), *Water, Culture and Identity: Comparing Past and Present Traditions in the Nile Basin Region. Nile Basin Research Programme*, Bergen: University of Bergen / BRIC Press, 165–187.
- Fritsch, Emmanuel (2012), 'The Altar in the Ethiopian Church: History, Forms and Meanings', in Bert Groen, Steven Hawkes-Teeple and Stefanos Alexopoulos (eds), *Inquiries into Eastern Christian Worship. Selected Papers of the Second International Congress of the Society of Oriental Liturgy, Rome, 17–21 September 2008* (Eastern Christian Studies, 12), Leuven: Peeters, 443–510.
- Galbiati, Iohannes (1957), *Iohannis evangelium apocryphum arabice: In lucem edidit, latine convertit, praefatione et commentario instruxit Iohannes Galbiati* (Antiquitatis Christianae ex Oriente monumenta), Milan: In aedibus Mondadorianis.
- Getatchew Haile (1979), 'The Homily in Honour of St. Frumentius Bishop of Axum (EMML 1763 ff. 84v–86r)', *Analecta Bollandiana*, 97/3–4: 309–318.
- Getatchew Haile (1981), 'An Anonymous Homily in Honour of King Ella Aṣbeḥa of Aksum: EMLL 1763 ff. 34v–35v', *Northeast African Studies*, 3/2: 25–37.
- Getatchew Haile (1985), 'The Homily of Luleyanos, Bishop of Aksum, on the Holy Fathers', *Analecta Bollandiana*, 103/3–4: 385–391.
- Getatchew Haile (1990), 'The Homily of Abba Eleyas Bishop of Aksum, on Mätṭa', *Analecta Bollandiana*, 108: 29–47.
- Gleave, Hugh Craswall (1951), *The Ethiopic Version of the Song of Songs critically edited*, London: Taylor's Foreign Press.
- Guidi, Ignazio (1895), "'Il Gadla 'Aragawi'", *Atti della Reale Accademia dei Lincei. Memorie della Classe di scienze morali, storiche e filologiche*, s. 5^a/2, 54–96.
- Heldman, Marilyn E. (2010), 'Tabot', in *EAE*, vol. 4: O–X, 802a–804a.
- Horn, Cornelia B. (2017), 'Apocrypha on Jesus' Life in the Early Islamic Milieu: From Syriac into Arabic', in Miriam L. Hjälml (ed.), *Sense of Scriptures, Treasures of Tradition: The Bible in Arabic among Jews, Christians and Muslims* (Biblia Arabica, 5), Leiden: Brill, 58–78.
- Kane, Thomas Leiper (2000), *Tigrinya–English Dictionary*, vol. 1, Kensington, MD: Dunwoody Press, McNeil Technologies, Inc.
- Karlsson, Karl Jonas (2022), *The Diachronic Development of the Dəggwā: A Study of Texts and Manuscripts of Selected Ethiopic Antiphon Collections*, PhD thesis, Universität Hamburg.
- Krueger, Derek (2004), *Writing and Holiness: The Practice of Authorship in the Early Christian East* (Divination: Rereading Late Antique Religion), Philadelphia: University of Pennsylvania Press.
- Krzyżanowka, Magdalena (2015), 'The Gädlä Kiro in Ethiopian Religious Practices: A Study of Eighteen Manuscripts from Eastern Təgray', in Denis Nosnitsin (ed.), *Veneration of Saints in Christian Ethiopia. Proceedings of the International Workshop 'Saints in Christian Ethiopia:*

- Literary Sources and Veneration*, Hamburg, 28–29 April 2012 (Supplement to *Aethiopica*, 3), Wiesbaden: Harrassowitz, 95–136.
- Kur, Stanisław and Denis Nosnitsin (2007), ‘Kidān’, in *EAE*, vol. 3: *He–N*, 394a–395a.
- La Spisa, Paolo (2021), *Martyrium Arethae Arabice: Le versioni arabe del Martirio di Areta (BHG 166). Edizione critica e traduzione annotata* (Aethiopistische Forschungen, 86), Wiesbaden: Harrassowitz.
- Leslau, Wolf (1991), *Comparative Dictionary of Ge'ez (Classical Ethiopic): Ge'ez–English / English–Ge'ez, with an Index of the Semitic Roots*, Wiesbaden: Harrassowitz.
- Marrassini, Paolo (2005), ‘The “Egyptian Saints” of the Abyssinian Hagiography’, *Aethiopica*, 8: 112–129.
- Marrassini, Paolo (2011), ‘Frustula nagranitica’, *Aethiopica*, 14: 7–32.
- Marrassini, Paolo (2014), *Storia e leggenda dell’Etiopia tardoantica: Le iscrizioni reali aksumite. Con un’appendice di Rodolfo Fattovich, ‘La civiltà aksumita: aspetti archeologici’ e una nota editoriale di Alessandro Bausi*, ed. Alessandro Bausi (Testi del Vicino Oriente Antico, 9: Letteratura etiopica, 1), Brescia: Paideia Editrice.
- Mersha Alehegne (2010), ‘Tāzqar’, in *EAE*, vol. 4: *O–X*, 881b–882b.
- Mersha Alehegne (2016), ‘Orature on Literature: The Case of Abba Gärīma and His Gospel’, *Aethiopica*, 19: 52–60.
- Moraldi, Luigi (1991), *Vangelo arabo apocrifo dell’apostolo Giovanni da un manoscritto della Biblioteca Ambrosiana*, Milan: Jaca Book.
- Nosnitzyn (Nosnitsin), Denis (2000), ‘Zur Literaturgeschichte der Vita des heiligen Tāklā Haymanot: Die arabische Fassung’, *Afrikanistische Arbeitspapiere*, 62: 93–112.
- Nosnitsin, Denis (2016), ‘The Old Chants for St. Gärīma: New Evidence from Gär’alta’, *Scrinium: Journal of Patrology and Critical Hagiography*, 12: 84–103.
- Nosnitsin, Denis (2018), ‘Ancient Chants for ‘Abba Yoḥanni: Text Variance and Lost Identity’, in Vermondo Brugnatelli and Mena Lafkioui (eds), *Written Sources about Africa and Their Study: Le fonti scritte sull’Africa e i loro studi* (Africana Ambrosiana, 3), Milan: Bulzoni, 287–311.
- Pereira, Francisco Maria Esteves (1902), ስምዕ : ዘቅድስት : እምራይስ # *Martyrio de santa Eme-rays (ama Heraei): Versão ethiopia segundo o Ms. orient. 686 do Museu Britannico publicada por F.M.E.P.*, Lisbon: s.n.
- Pereira, Francisco Maria Esteves (1903), *Martyrio do Abba Isaac de Tiphre. Versão ethiopia Segundo o ms. eth. n. 179 de A. d’Abbadie publicada por F.M.E.P.*, Lisbon: s.n.
- Pereira, Francisco Maria Esteves (1907), *Acta martyrum* (Corpus Scriptorum Christianorum Orientalium: Scriptorum Aethiopicum, 2/28), Rome: Excudebat Karolus De Luigi / Paris: Carolus Poussielgue Bibliopola / Leipzig: Otto Harrassowitz [repr. as Corpus Scriptorum Christianorum Orientalium, 37–38: Scriptorum Aethiopicum, 20–21, 1969].
- Pisani, Vitagrazia (2006), *La versione etiopica degli ‘Atti di Pantaleone’ martire di Nicomedia*, MA thesis, University of Naples “L’Orientale”.
- Pisani, Vitagrazia (2015), ‘Pantaleone di Nicomedia in Etiopia: Il GädI e la tradizione manoscritta’, in Rafał Zarzeczny (ed.), *Aethiopia Fortitudo ejus: studi in onore di Monsignor Osvaldo Raineri in occasione del suo 80° compleanno* (Orientalia Christiana Analecta, 298), Rome: Pontificio Istituto Orientale, 355–380.
- Proverbio, Delio Vania (2001), ‘Un frammento copto dell’omelia cattedrale L di Severo di Antiochia (In Leontium II)’, *Augustinianum*, 41: 517–520.
- Raineri, Osvaldo (2001), ‘Passione di Atanasio di Clisma’, *Orientalia Christiana Periodica*, 67: 143–156.

- Raineri, Osvaldo (2009), *Vita del santo monaco etiopico Malke'a Krestos (sec. XVI–XVII): Edizione del testo etiopico e traduzione italiana* (Patrologia Orientalis, 51/3 [228]), Turnhout: Brepols.
- Reule, Dorothea (2022), 'Encoding the Ethiopic Miracles of Mary', *Journal of the Text Encoding Initiative*, 15 <doi.org/10.4000/jtei.3816>.
- Ricci, Lanfranco (1947), 'Studi di letteratura etiopica ed amarica: I. Gli Atti di Tēwofilos, Pātrīqā e Damālīs. II. Le Divagazioni di Zanab etiopico', *Rassegna di Studi Etiopici*, 6/2: 162–188.
- Simon, Iohannes (1931), 'Passio S. Abraham Lapidicae ex apographo aethiopico', *Analecta Bollandiana*, 49: 313–352.
- Tedros Abraha and Daniel Assafa (2010), 'Apocryphal Gospels in the Ethiopic Tradition', in Georg Frei and Jens Schröter (eds), *Jesus in apokryphen Evangelienüberlieferungen: Beiträge zu außerkanonischen Jesusüberlieferungen aus verschiedenen Sprach- und Kulturtraditionen* (Wissenschaftliche Untersuchungen zum Neuen Testament, 254), Tübingen: Mohr Siebeck, 611–653.
- Van den Oudenrijn, Marc-Antoine (1939), *La vie de saint Mikā'el Aragāwī, traduite de l'éthiopien, avec introduction et notes*, Fribourg: Imprimerie St-Paul.
- Van Esbroeck, Michel (1975), 'À propos de l'Évangile apocryphe arabe attribué à Saint Jean', in *Mélanges offerts au R.P. Henri Fleisch, S.J.*, vol. 1 = *Mélanges de l'Université Saint-Joseph*, 49: 597–603.
- Vauchez, André (1981), *La sainteté en Occident aux derniers siècles du Moyen Age d'après les procès de canonisation et les documents hagiographiques* (Bibliothèque des Ecoles française d'Athènes et de Rome, 241), Rome: Ecole française de Rome.
- Villa, Massimo (2017), 'Frumentius in the Ethiopic Sources: Mythopoeia and Text-critical Considerations', *Rassegna di Studi Etiopici*, 3rd ser., 1 (48): 87–111.
- Villa, Massimo (2018), 'La Passio etiopica di Sofia e delle sue figlie Pistis, Elpis e Agape: tradizione manoscritta e ipotesi di Vorlage', *Orientalia Christiana Periodica*, 84/2: 469–488.
- Villa, Massimo (2021), 'Greek Gods and Christian Martyrs: Text-critical Remarks on the Ethiopic Passio of Anicetus and Phothius (12 taḥśas)', *Rassegna di Studi Etiopici*, 3rd ser., 5 (52): 201–233.
- Voicu, Sever J. (1998), 'Verso il testo primitivo dei Παῖδικὰ τοῦ κυρίου Ἰησοῦ "Racconti dell'infanzia del Signore Gesù"', *Apocrypha*, 9: 7–85.
- Vos, Nienke (2017), 'Communion of Saints: The Function of Liturgical Scenes in Hagiographic Texts', in Paul van Geest, Marcel Poorthuis and Els Rose (eds), *Sanctifying Texts, Transforming Rituals. Encounters in Liturgical Studies* (Brill's Studies in Catholic Theology, 5), Leiden / Boston: Brill, 31–54.
- Wechsler, Michael G. (2005), *Evangelium Iohannis Aethiopicum: Textus* (Corpus Scriptorum Christianorum Orientalium, 617: Scriptorum Aethiopicum, 109), Louvain: Peeters.
- Wimmer, Hanna, Dmitry Bondarev, Janina Karolewski and Vito Lorusso (2015), 'A Heuristic Tool for the Comparative Study of Manuscripts from Different Manuscript Cultures', *CSMC – Occasional Paper*, 3 <DOI 10.25592/uhhfdm.9799>.
- Witkowski, Witold (1995), 'The Miracles of Jesus: An Ethiopic Apocryphal Gospel', *Apocrypha: Revue Internationale des Littératures Apocryphes*, 6: 279–298.
- Witkowski, Witold (2010), 'Tä'amməra Iyäsus', in *EAe*, vol. 4: O–X, 788a–789b.
- Zuurmond, Rochus (2001), *Novum Testamentum Aethiopicum: The Synoptic Gospels, III: The Gospel of Matthew* (Aethiopistische Forschungen, 55), Wiesbaden: Harrassowitz Verlag.

Heidi Buck-Albulet

Performing *Renga* with Manuscripts

Abstract: In contrast to what is commonly regarded as ‘literature’ or ‘poetry’, *renga* (‘linked verse’) is not only composed in a group, but ‘performed’ by its members. This performance, which follows certain rules, involves the production of manuscripts, which have been subject to certain rules themselves in the course of history. Focusing on *renga* in Classical Japanese, this paper outlines the process behind both a pre-modern and a contemporary *renga* session and describes how manuscripts are created and used in these procedures and in which larger performative and ritual contexts these actions are embedded. Finally, an examination is made of the extent to which Western concepts of ‘performance’ from performance theory are applicable to these procedures and what traditional Japanese terminology is available to describe them.

1 Prologue

The following account by a member of a *renga* circle will give the reader an impression of what a *renga* performance is like:

The meeting started at 2 p.m. on 25 May 2008, a Sunday. As lots of participants were present, they were divided into two groups (*za*) by lot. I was put into the group in which Ari-kawa Yoshihiro,¹ curator of the Inochi no tabi Museum, was acting as the master (*sōshō*). The group consisted of nine people (later there were ten). The first verse (*hokku*) was composed by Professor Shimazu:

あらはれて樹々縁濃し祇の園

*Araharete / kigi midori koshi / kami no sono*²

Appearing [before one’s eyes] / trees have become a lush green / Gion’s garden.

1 People’s names are stated here according to the Japanese convention of using the family name first.

2 *Kami* is not written as 神 (‘god’, ‘deity’) here, but as the character *gi* 祇 from Gion 祇園, the deity revered at the shrine. The reading is indicated by reading aids (*furigana*) in Kuroiwa 2016, 30, as it was probably in the notes taken at the *renga* session. The romanisation used here respects the fact that historical orthography is used in *renga*. *Araharete* (‘appeared’) is pronounced *arawarete* in Modern Japanese.

This *hokku* praises the view of the trees around the shrine wetted by the rain of the previous day so their greenness had become even more beautiful and enjoyable. The second verse by Master Arikawa was this one:

天の恵みに勢ふ早苗田

ame no megumi ni / kihofu³ sanaeta

Blessed by heaven / competing to prosper / fields with rice seedlings.

The second verse can be seen as taking up the word *araharete* ('to appear') and interpreting the rain (*ame*) as 'heaven's blessing' (*ame no megumi*). The third verse was by Tomiko-san:

時鳥遥かな空を翔くるらん

hototogisu / haruka na sora wo⁴ / kakuru ran

A cuckoo / seems to cross / the distant sky.

By introducing the cuckoo, a bird associated with summer, a new world is being drawn. This adding of new verses that link up appropriately to the previous verse was continued by every member, each person composing one verse until everyone had had their turn.

The sixth verse of the first sheet recto was by Kensei-san:

せまる夕暮れ秋まだ暑し

semaru yūgure / aki mada atsushi

Approaching dusk / autumn is still hot.

Yoshiko-san added the seventh verse:

望月の光すがしく身にうけて

mochizuki no / hikari sugashiku / mi ni ukete

The full moon's / light feels fresh / on my body.⁵

2 Introduction

Renga 連歌 ('linked verse') is a type of poetry that is created in groups by the participants taking turns at contributing verses of 17 (5-7-5) and 14 (7-7) syllables or, more precisely, morae.⁶ The term also denotes the act of creating or

³ *Kihofu* is pronounced *kiou*.

⁴ *Wo* is pronounced *o*.

⁵ Kuroiwa 2016, 30. The *renga* session was conducted at Susa Jinja Shrine in Yukuhashi (Fukuoka prefecture, Kyūshū). The text has been divided into paragraphs and translated into English by myself.

⁶ Japanese is a mora-based language. Put simply, a mora is a short syllable. In phonology, it has repeatedly been described as a time unit (for a history of the concept, see Kubozono 2015) and a 'unit that measures syllable weight' (Kubozono 2015, 3). Japanese morae have a CV (consonant-vowel) structure. This structure is represented by the *hiragana* and *katakana* syllabaries.

‘linking’ poems.⁷ What Kuroiwa Atsushi describes in the quotation above are the activities of people who have assembled with the purpose of creating a poem together in a joint activity. The narrative indicates – albeit only in a small note (‘first sheet recto’) – that this involved the production of manuscripts. This paper will explore what ‘performing *renga*’ means and what place manuscripts have in such ‘performances’. The main focus will be on contemporary practice, based on a research trip I conducted in the summer of 2018.⁸ First of all, an introduction to the basic rules of *renga* composition will be provided here, along with a short history of the genre and brief description of traditional and modern paper formats. Next, I will outline the basic elements of a pre-modern and a contemporary *renga* meeting. Since there are many different types of *renga* and the way in which the sessions were carried out (and still are) varies accordingly, this can only be done as a model abstraction. A closer look will be taken at the submission of verses, which is the most important part of the procedure. There are basically two ways of adding verses in contemporary *renga* circles: an oral and a written procedure. My paper concludes with some reflections on what ‘performing’ means in general and what equivalent concepts exist in Japan.

3 *Renga*: both poetry and performance

A *renga* poem starts with the first verse, or *hokku*, usually contributed by the guest of honour, often the host of the party in pre-modern Japan. Nowadays, it may be an important member of the circle or the master (*sōshō*) himself.⁹ The *hokku* is a ‘long verse’ of seventeen morae to which another person adds the second verse, or *wakiku*. A *wakiku* is a ‘short verse’ of fourteen morae. Together these two verses create a ‘poetic world’ in which the participants of the circle can immerse and enjoy its beauty.¹⁰ The third verse is produced after the *wakiku*, this time creating a mental image together with the second verse; the first verse

7 NKD, *s.v. renga*.

8 During this field trip, many people I met in Osaka, Sakai, Tokyo, Tsukuba, Yamaguchi, Gujō Hachiman (Gifu) and Yukuhashi (Fukuoka) were very supportive of my work. Although they are too numerous to be named here, I would nevertheless like to express my sincere gratitude to all of them. Most of this paper was completed by February 2022, so I have only been able to touch on the field research I carried out later (in the spring of 2023).

9 On the role of the *sōshō*, the master who directs the session, see below and Buck-Albulet 2020, 7.

10 The description in this paragraph follows that in Kido 2001.

has now become obsolete. Following this method, a constant chain of images is created, while the poem as a whole does not express a consistent theme or content. The linking (i.e. adding) of suitable verses¹¹ is repeated several times, yielding poems of various lengths. The most common forms consist of thirty-six verses, forty-four (which is called a *yoyoshi* 世吉 poem), a hundred verses (called a *hyakuin* 百韻, i.e. fifty pairs containing of seventeen and fourteen morae), a thousand and ten thousand verses. In modern Japan, forty-four is the most common form for a neoclassical *renga* poem, while the thirty-six-verse form, or *kasen*, is generally used for *renku* (modern *renga*).¹² Shorter forms like half a *kasen* or half a *yoyoshi* are produced as well. A twelve-verse form is used in children's *renga*.

Apart from the alternation of long and short verses mentioned above, the poem and the composing process are subject to different sets of rules and conventions:

1. Poetic rules and genre norms (*shikimoku* 式目): the basic 'grammar' of *renga* consists of a 'classification of poetic motifs' or semantic categories (*budate*),¹³ rules about how many verses with the same motif may appear in a row (*kukazu*, or 'number of verses'), and rules about how many verses certain motifs have to be separated by until they can be used again (*kusari*). Moreover, each verse is related to one of the four seasons of the year or is designated as being in a fifth category, *zō* 雑, a 'seasonless verse' (lit. 'miscellaneous'). The seasons are subject to the same kind of restrictions as poetic motifs.¹⁴ Another basic requirement in traditional or 'neoclassical' *renga* is that the wording of the poetry should be similar to the classic courtly language of *waka* poetry and that historical orthography should be used. Neologisms, foreign words and words in Sino-Japanese reading (*onyomi*) are largely avoided in neoclassical *renga*; they are allowed to some degree in

¹¹ Although each verse has to be an independent unit, two adjacent verses (the first and second, second and third, etc.) are linked together, thereby creating a succession of constantly changing images. The linking was and is governed by principles of combination known as *tsukeai* ('adding to each other') and *yoriai* (lit. 'approaching each other', i.e. 'association'), which have changed over time just like other rules and conventions.

¹² See n. 15 below.

¹³ Amongst other things, such poetic categories can include shining things (*hikari mono*), time (*jibun*), things that rise (*sobiki mono*, e.g. mist), things that fall (*furimono*, e.g. rain and snow), hills and mountains (*sanrui*), plants (*shokubutsu*) or humans (*jinrin*).

¹⁴ 'Spring' has to be continued for three verses, for example, but it can only be continued for a maximum of five.

the inner part of the *renga*, though. These restrictions do not apply in *renku*, or what may be called ‘modern *renga*’.¹⁵

2. Implementing rules (*sahō* 作法): pre-modern *renga* sessions were much more ritualised than they are today; many books were written describing rules for conducting the circles (*kaiseki sahō*) and rules on decorum (*reigi sahō*). As in the past, a typical *renga* circle these days consists of a master (*sōshō*) who guides the performance, a scribe (*shuhitsu*) who records the poem as it emerges, and the group of poets who create the poems (*renjū* or *renju*). Pre-modern rule books put special emphasis on rules describing the actions of the scribe (*shuhitsu sahō*), amongst other things.¹⁶ Implementation rules and rules of decorum are by no means obsolete in contemporary *renga* performances, but they are less ritualised than they used to be.
3. Rules for recording a poem (*kaishi kakiyō* 懷紙書様): during a *renga* session, the record of the verses has a fixed form that closely follows a precedent template¹⁷ established for the *hyakuin* (the hundred-verse *renga*) sometime after it emerged as a standard form in the early thirteenth century. In *renga* and *haikai* rule books, the regulations became more and more detailed in the early modern period (from the seventeenth century onwards).¹⁸

4 A brief history of *renga*

The genre of linked poetry in Japan developed over an impressive time span of one millennium. It began as short linked verse (*tanrenga*), in outer form a *waka* (lit. ‘Japanese poem’, a 31-mora poem) that is divided into two parts, yielding a long verse and a short one. Longer forms developed in the eleventh and twelfth century, with a hundred verses, or *hyakuin*, eventually becoming the standard.¹⁹ *Renga* spread to virtually every level of society, with circles being held at the

¹⁵ *Haikai no renga*, a variant that split off from classical *renga* in the sixteenth century, and its modern counterpart, the *renku*, do not have this kind of lexical restriction. However, in contemporary Japan, there are also circles such as the one around the author and Akutagawa Prize winner Taki Shūzō 高城修三 who call their poetry *renga*, but allow for modern vocabulary and orthography.

¹⁶ The instructions included the way the scribe should enter the room and prepare his brush, ink, inkstone and paper, the order in which he had to write the paratexts, and how he should hold the paper while writing, for example.

¹⁷ The details of the template will be described below.

¹⁸ Hiroki 2023.

¹⁹ The first mention of a *hyakuin* dates back to 1200. See Hiroki 2010, 245.

emperor's court, the houses of local warrior nobles and in educated commoners' homes. The art in its classical form especially flourished in the five hundred years between the thirteenth and seventeenth century, but it continued to be practised until the middle of the nineteenth century and to a lesser degree until the beginning of the twentieth century before it was finally abandoned in most parts of Japan – albeit with the exception of a small parish in the city of Yukuhashi on the island of Kyūshū.²⁰ A revival movement was started from this parish in the 1980s, which led to *renga* being practised again in many places in Japan. Today, many circles are in contact with one another, and participants of one circle also often attend the sessions held by other circles (especially in the case of annual sessions).

It goes without saying that *renga* poetry was subject to changes over such a long period and that the genre has developed several forms and varieties as a literary work and performative practice that cannot be covered in this short paper. Suffice it to say that the *haikai no renga*, which developed from the end of the sixteenth century onwards, was mainly practised by the bourgeoisie and the merchant class and is now practised in its modern form, *renku*, these days.²¹ In this paper, I will take up the contemporary neoclassical form of *renga* consisting of forty-four verses and will occasionally refer to a medieval model with the *hyakuin* as a standard.

5 Manuscripts

In pre-modern *renga*, the scribe was the only person who had a brush, ink, paper and a small desk and he was the only one who recorded the verses that were submitted to him orally by the participants.²² The written artefacts that were

²⁰ See Buck-Albulet 2020. One of the few practitioners upholding the tradition (apart from the aforementioned poets in Yukuhashi) was Yamada Yoshio (1875–1958), a professor at Tōhoku University who taught *renga* to his disciples. Whether there were other minor exceptions remains a topic for future research. See Buck-Albulet 2020, 13.

²¹ Classical *renga*, on the other hand, was mainly practised by the samurai class and in shrines and temples. Another form of linked verse practiced in pre-modern Japan was a mixed Sino-Japanese form called *wakan renga* (see Hasegawa 2006).

²² Clean copies were also made according to what kind of *renga* or *renga* session took place. Some were written on lavishly decorated *kaishi* (for dedicating to a deity, for example), scrolls (for archiving outstanding poems) or booklets, depending on their purpose or the occasion for which they were created. Research on these aspects is still pending, as is the question of when

produced during the sessions are called *renga kaishi* 連歌懷紙 (*kaishi* literally means ‘chest paper’), a term that actually refers to the sheets of paper used for recording the contributions, but by extension it denotes the manuscript itself as well. The sheets were approximately 36 × 52 cm in size and were folded lengthwise once, yielding a writing surface of about 18 × 52 cm. The text was written vertically on the outer part (Fig. 1)²³ of the folded paper and the fold was on the lower side. When unfolded, the text on the lower part was upside down.

Four sheets of a traditional *kaishi* were needed for a hundred-verse poem, which was the standard in pre-modern *renga*. Two sheets are used for a 44-verse *renga*, the standard form in contemporary Japan. The structure is as follows in both cases: the first sheet recto and the last sheet verso each have eight verses on them, while all the other pages contain fourteen.²⁴ After a pre-modern session, the *kaishi* was bound with thread and folded twice to create three parts (*mitsu ori*). It is interesting to note that once this structure was established, it began to influence the ‘grammar’ of *renga*, too. There were rules that determined that certain words were not to appear on the same sheet (*orikirai*) or on the same page (*omote o kirau*), for example.²⁵

With few exceptions,²⁶ traditional *kaishi* are not generally used any more in contemporary *renga* sessions. Like the other participants, the scribe uses a kind of form to record the poem, which will be explained shortly. Traditional *kaishi* are only written on formal occasions, for aesthetic reasons or to make a donation to the deities. The *kaishi* sheet shown in Fig. 2 is a record of such a ‘votive *renga*’ written by a professional calligrapher. A contemporary *renga* poem written on a traditional *kaishi* is a clean copy of the record written on the spot in most cases.

the participants began to make records themselves, as they do in modern circles (see Hiroki 2006b on this point).

23 For a description of this *kaishi* and a transcription, see Ozaki 2005, esp. 81–83.

24 The ‘last sheet’ corresponds to the fourth sheet of a *hyakuin* and the second sheet of a *yoyoshi*.

25 Mitsuta 1993, 147–148.

26 One of the exceptions that I witnessed was at Kumano Shrine in Yukuhashi at the first of four *renga* sessions held at the annual Gion festival. As will be explained below, the scribe acting at this session wrote an official record on a paper roll, using a modern roll of endless paper for the purpose. Moreover, on 2 April 2023, I took part in a modern *renga* session directed by Taki Shūzō. During this session, the scribe also made a record on traditional *kaishi* paper, using a brush and ink. This may be due to its more festive setting (it was not a regular exercise meeting, but a ‘cherry blossom’ or *hana no moto renga* meeting).



Fig. 1: First sheet recto of a *hyakuin renga*, dated to Genroku 元禄 3 (1690). The size is 18.9 × 48.9 cm. The thread has loosened. Courtesy of the Prefectural Library, Yamaguchi. Photo: Heidi Buck-Albulet, 2018.

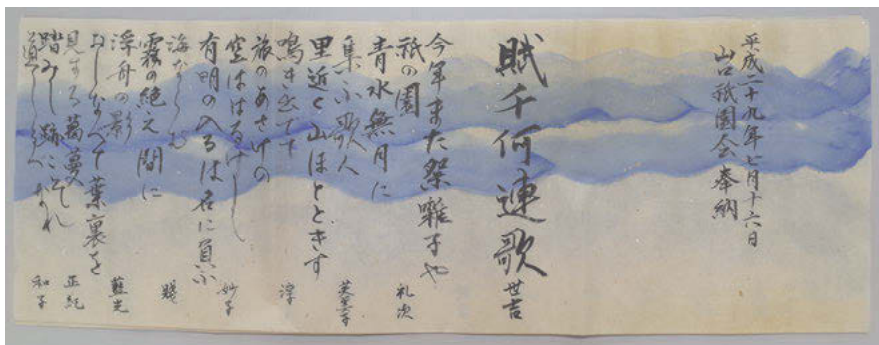


Fig. 2: Modern *renga kaishi* written by the calligrapher Suyama Fumiko 陶山英美子 in 2017. Clean copy of the annual Gion votive *renga* in Yamaguchi. Courtesy of Suyama Fumiko.

In contemporary *renga*, all of the participants – including the master and scribe – make a written record of all the verses. This has led to the introduction of new types of manuscripts. A new form sheet developed by Mitsuta Kazunobu that is also called *kaishi* is now used by every member of the group to make a record (see Fig. 3).²⁷ Paper strips called *tanzaku*²⁸ are additionally employed to make drafts and submit verses.

²⁷ The form sheet has simpler precedent which came into use by the time Hamachiyo Kiyoshi (1924–2000), a professor at Kyōto Women’s University, acted as a *sōshō*, and may be traced

8	7	6	5	4	3	脇	発句	
	月							花月 季
								初 折 表
								光物 時分 聲物 降物 山類 水辺 動物 植物 人倫
								居所 衣裳 旅
X	X	X	X	X	X			名所
X	X	X	X	X	X	X	X	恋
X	X	X	X	X	X	X	X	述懷
X	X	X	X	X	X			神祇
X	X	X	X	X	X			釈教
								作 者

賦
連
歌
世
吉
座

Fig. 3: Detail of the form sheet developed by Mitsuta Kazunobu as printed in Yukuhashi shi bunka isan kasseika jikkō iinkai 2014. Courtesy of Mitsuta Kazunobu. The detail represents the first sheet recto of a traditional *yoyoshi kaishi*. The crossed-out fields refer to poetic topics that are not allowed at this point.

back to a table used by Yamada Yoshio (1873–1958) in his study of a classical masterpiece *renga*. Mitsuta’s innovation mainly consists in the systematisation of the poetic rules and their depiction on the pre-printed form. Simpler form sheets are also used in *renga* circles and in Taki Shūzō’s modern *renga* circles.

28 Both *kaishi* and *tanzaku* were previously used in *waka* poetry.

The ‘Mitsuta form’ as printed in *Minna de yomō renga* (2014) consists of a table that depicts the 8-14-14-8 scheme on two pages.²⁹ The pre-printed fields³⁰ define the basic components of the poem: placeholders on the right-hand side for inserting the title, date and place of writing and for specifying what kind of *renga* meeting was held. The first row contains the number of the verse for each column, the second row indicates where the fixed places are for the verses with the ‘cherry blossom’ and ‘moon’ motifs,³¹ and the third row is for recording the season of the year appearing in each verse. A larger row is intended for the verse itself. Beneath that, there are seventeen lines in which the semantic categories employed in each verse can be marked or inserted (some fields are crossed out, though, to indicate that the respective thematic category is not possible at that point). The last row is for recording the name of the respective poet. The second sheet contains a table for the tally summarising the number of verses each poet has contributed. The tally is announced orally by the scribe and the participants write it down in their own table. As will be explained shortly, the tally reflects the competitive element in *renga*, but is actually more a matter of convention. However, there were (and still are) cases in which the names of the poets are not recorded. There is no tally in this case.

6 Performance

6.1 A model pre-modern *renga* session

The following is a description of what a pre-modern *renga* session held at the home of a local ruler may have been like.³²

This medieval model *renga* party was preceded by planning, a fixing date and time and sending invitations to participants, the *renga* master and the

²⁹ Yukuhashi Shi Bunka Isan Kasseika jikkō iinkai 2014.

³⁰ Some circles use a slightly modified form with fewer pre-printed sections. The description above is based on the template that is included in Yukuhashi Shi Bunka Isan Kasseika jikkō iinkai 2014.

³¹ Two cherry-blossom verses and three moon verses are required for a *yoyoshi*. They have their fixed places in the poem and thus also in the manuscript, although variations are possible.

³² The locations (*ba*) of the *renga* varied, depending on the participants’ social class or which social group they were hosted by. In the medieval era, the venues were monasteries and shrines, purpose-built buildings (called *renga kaisho*) or residences of local rulers who had the financial resources to enable them to host large events, as in the example above.

scribe.³³ An important part was the preparation of the venue (*shitsurai*, lit. the ‘rites of the room’),³⁴ which may have included decorating and arranging the room according to the season, among other things. The preparations also included providing food and drink, and paper, of course. Preparations of this kind were often the task of an official ‘commissioner’ (*bugyō*), especially between the fourteenth and sixteenth century.³⁵ It was very common to begin the sessions with a ‘first round’ (*ichijun*) in which each participant contributed a verse until everyone had had their turn. After that, the session changed to a competitive process (*degachi*), with the participants vying for their own verses to be accepted in the emerging poem. The first round was often practised before the actual *renga* meeting took place, which means that the first few verses of the *renga* were not composed at the meeting place itself, but wherever the invited participants decided to work on them. In this case, a messenger was sent to the homes of the invited guests with a box containing a paper sheet and collected a verse from each person. This box was called *ichijun bako*, or the ‘box of the first round’.³⁶

In the manuscript/text containing the finished poem, the verses of the first round do not differ from the other verses; they are simply part of the poem. However, some information can be deduced from the names of the authors, like whether a first round was being written following the ‘one after the other’ principle (which seems to have been very common). Sometimes the names of the poets were replaced by numbers or were not recorded at all after the first round. There are also contemporary examples of this.

During the session, the scribe had a central role to play and his (or her)³⁷ actions were highly ritualised. At the beginning of the gathering, for example, he had to bring his desk into the room (a step called *bundai sabaki*, or ‘handling the desk’)³⁸ and then seat himself next to the *renga* master. He then prepared the

33 Hiroki 2010, 18.

34 Initially, the term *shitsurai* referred to some kind of interior design or architecture that developed in the Heian period (794–1192). For details of the room arrangements and venues used in various eras, see Hiroki 2004, 444–465; Hiroki 2006a, 149–190.

35 For details, see Carter 1993, 5, and Hiroki 2010, 217.

36 Hiroki 2010, 43.

37 The above wording was chosen for the sake of gender-sensitive language. An examination of the role of women in *renga*, especially their apparent underrepresentation in pre-modern *renga*, is beyond the scope of this paper (it will be taken up in a separate study, though). For a brief summary, see Okuda 1995.

38 The term *bundai sabaki* was probably used from the Early Modern Period (1600–1868) onwards.

ink (*sumi* 墨) by rubbing an inkstone (*suzuri* 硯) and arranged the brushes (*fude* 筆) according to detailed instructions in the rule book.

During the gathering, the scribe was much more than just a mere recorder of the poems: he presented the first verse, or *hokku*, at the beginning (this was usually composed by the guest of honour), chanted it and then wrote it down on the paper.³⁹ He then wrote the title (or topic) of the poem (*fushimono*) on the *kaishi*,⁴⁰ which was also done in a ritualised way. The scribe listened to every contributed verse, discussed it with the *renga* master, and if the verse was accepted, he wrote it down and then recited it to announce it to the group. When writing the verses, the scribe would hold the *kaishi* in one hand (two folded sheets, one inserted into the other)⁴¹ and only put it down on the desk again after recording the respective verse. There was also a fixed pattern for the oral presentation of the verse and its ‘reception’ by the scribe. In the case of a ‘long verse’ with a 5-7-5 morae structure, the participant recited the first text segment of five morae, the scribe repeated them and then the participant recited the remaining two text segments of seven and five morae, after which the scribe repeated the whole verse.⁴² A similar practice can still be seen in contemporary *renga* in Yukuhashi.

When the *renga* poem was completed (*manbi*), the scribe added paratexts like the date and a tally of the verses (*kuage* 句上げ).⁴³ He then stitched two holes in the right-hand margin of the *kaishi*, bound them with thread (*koyori* 紙縫 or *mizuhiki* 水引) and laid the *kaishi* down on the desk.

After binding the paper, the whole *renga* was recited again⁴⁴ to get an impression of the entire work. Then the scribe folded the bundle into three parts (*mitsu ori* 三つ折) with two folds and laid it down on the desk. Other actions followed the meeting in some cases. In a votive linked-poetry session, for example (*hōraku renga* or *hōnō renga*), the whole work was recited before the deities in a dedication ceremony held in a temple or shrine. The manuscript (or proba-

39 Hiroki 2006a, 198; Hiroki 2010, 18.

40 First, he wrote the character *fushi* 賦, then the *hokku* and finally the *fushimono*. Hiroki 2006a, 257.

41 Hiroki 2006a, 254.

42 Hiroki 2006a, 256–259.

43 The tally lists the number of verses submitted by each participant. Some circles stopped recording the name of the respective poets after the first round, which is why there is no tally to be found on the *kaishi*.

44 Tsurusaki Hiro'o mentions a *renga* being read out loud a day after the session. See Tsurusaki 1988, 3.

bly a clean copy of it) was then stored there.⁴⁵ The *kaishi* also had an afterlife in non-religious sessions: at meetings conducted as an exercise, for example, it could be given to a master to be corrected. If the game character was the primary purpose of the gathering, the manuscript could be used for referees or jurors to award points. *Kaishi* with poems considered precious were sometimes cut along the horizontal fold and transformed into a scroll to store them, while other *kaishi* were cut into pieces and then glued to folding screens for decoration.

6.2 A model *renga* session today

As in pre-modern Japan, many *renga* circles in contemporary Japan are associated with a shrine or temple.⁴⁶ A contemporary *renga* session is preceded by various preparations, depending on whether it is a monthly or an annual meeting, for example, the latter usually being held in conjunction with a festival.⁴⁷ In some modern *renga* circles like the monthly one held at Kumata Shrine in Osaka, the roles of the scribe and master are entrusted to experienced members of the group on a rotational basis. Because many contemporary *renga* poets are less experienced than their pre-modern predecessors, a *renga* session may last anything between three and five hours, even though the standard length of a modern poem is only forty-four verses rather than a hundred. It is also quite common for a *yoyoshi* to take two or more sessions to be completed. As in pre-modern *renga*, a ‘first round’ is sometimes held before the actual session. However, in our digital era, the scribe or *renga* master no longer sends a messenger to the participants’ homes to pick up each person’s verse. Rather, he or she collects the verses by using modern media like the telephone, email or instant messaging (this is called *bun’in* 文韻, lit. ‘written rhyme’ in Japanese). The reason for collecting a first round in advance may be to shorten the procedure, but

45 There is a debate among Japanese researchers about whether the manuscript written during the session in pre-modern *renga* was also used for the dedication ceremony and storage or whether a clean copy of it was made for this purpose. See Hiroki 2006b; Koyama 2014.

46 This is due to the fact that *renga* has become so important as a votive practice. As I have argued in Buck-Albulet 2020 (see especially 8 and 28–30), this is probably the main reason why the practice still exists.

47 In present-day Japan, many *renga* circles are associated with a shrine (and some of them with a temple), but there are also circles that meet in a secular environment like the one at Hirano Library in Osaka (a branch of Osaka Municipal Central Library). In pre-modern Japan, there were circles at shrines and temples as well as ‘secular’ circles that were held for various reasons. The difference between religious and ‘secular’ is not always obvious, however.

it is probably also done to ensure that everyone contributes at least one verse to the collective poem. The verses are contributed one after the other, as in first rounds in the pre-modern period.⁴⁸ Even in sessions where the group produces all the verses in presence (i.e. all members are present in the meeting), the first round can involve the members composing verses one after the other before they switch to the competitive part. However, if the scribe or *renga* master notices towards the end of the *renga* session that there is a participant who has not submitted a verse yet, he or she may specifically request one from that person, who may then be helped by the other members; as competitive as *renga* can be, nobody gets left behind or left out.⁴⁹ Although the aim of *renga* is to create a balanced literary product, achieving a social balance is important for the performance as well. This unique combination of competition and cooperation is one of the most fascinating aspects of *renga*. Once the poem has been completed, the scribe announces the tally, if there is one,⁵⁰ and then recites the whole *renga*. In the case of a votive *renga*, the whole poem is recited to the deities in a subsequent ceremony. Sometimes the recitation is shortened to the first sheet recto due to time constraints, though.

6.3 Submitting verses in contemporary Japan

In contemporary Japan, two types of procedure can be distinguished in terms of the method by which verses are submitted by the participants. Basing my conclusions on observations that I made when I took part in fourteen *renga* meetings in Japan in the summer of 2018, I propose to distinguish two basic methods that the participants employed to present their verses during a session. I will call them the ‘vocal style’ and ‘*tanzaku* style’ for the time being.⁵¹

48 There are also *renga* circles that basically do the entire sessions following the ‘one-by-one’ principle. I attended one of them at Kashiwara Jingū Shrine (Nara prefecture; see below, n. 56).

49 It is not unusual for a verse to be accepted once the master has made some corrections to it.

50 As in pre-modern *renga*, some circles do not record the name of the poets after the first round. This is regarded as an expression of the group’s collaborative spirit, even though the contributions are still provided competitively. No tally is kept in such cases.

51 The terms are not very accurate because the participants may also use *tanzaku* to make drafts in the vocal-style procedure, while in the *tanzaku* style, there is a vocal element as well: the selected verses are read out from the *tanzaku* or *kaishi* by the scribe.

6.3.1 The vocal style

The vocal style of presenting verses is employed in the *renga* circles in Yukuhashi and Dazaifu, for instance.⁵² In Yukuhashi, there is a set procedure for interaction between the participants and the scribe, which is laid down in the ‘procedural rules’ of the Imai *renga*:

The linking verses are to be spoken in a clear voice. In long verses, the first five syllables are provided, and after the scribe has taken them up, the whole verse is read out again. In the case of the short verse, the first seven syllables are provided and then the whole verse is repeated again.⁵³

If a verse gets accepted, the scribe writes it down. In the four Gion *renga* sessions that I observed in July 2018, the scribe used draft paper to make an initial record of what the participant ‘dictated’ and then a Mitsuta form and a roll of paper on which he wrote the verses again as soon as they had been accepted (see Fig. 4). This notation on the paper roll could be seen as a neoclassical form of the traditional *kaishi* style.⁵⁴ It was also the text written on this paper roll that *renga* master Arikawa Yoshihiro used to recite the poem before the deities after the session.

The participants may use *tanzaku* or other formats of paper to make drafts and they also use a Mitsuta form to record the accepted verses.

The procedure thus involves two kinds of dictation, i.e. the transfer from speech to writing: first of all, ‘dictation’ to the scribe (and, by extension, to the whole circle) by a participant offering his⁵⁵ verse, and, second, ‘dictation’ to the whole circle by the scribe when he announces the accepted verse. Both types may include comments about the orthography of difficult words. If spectators are present, they may also record the verses on a form for themselves.

⁵² <https://yukuhashi-kankou.jp/en/seasonal_tourism/summer/186/> (accessed on 31 Jan. 2022). The vocal style was also practised in the *renga* circle led by Taki Shūzō that I attended on 2 April 2023.

⁵³ Imai Gion *Renga no Kai* 2011, 8. ‘Taking up’ means repeating them vocally. Translation by Heidi Buck-Albulet.

⁵⁴ See Buck-Albulet 2020.

⁵⁵ The participants are only men in this special case. The annual Imai Gion festival votive *renga* in Yukuhashi consists of four sessions, in each of which half of a 44-verse *renga* is composed. Women are not allowed to take part in the first two sessions, probably for reasons of tradition; they are not even allowed to enter the venue during the session. They are permitted to watch it from outside, however. See Buck-Albulet 2020, 11.



Fig. 4: A scene from *kane oroshi no renga* 鉦おろしの連歌 (‘gong-beating *renga*’) in Yukuhashi in July 2018. The *kane oroshi no renga* is the first of four *renga* sessions during the Imai Gion festival. The beating of the gong and a drum after the session announces the beginning of the festival. This tradition is said to have started in 1530 and has continued to this day. The circle is practicing the vocal submission of verses. Master: Arikawa Yoshihiro 有川宜博, scribe: Takatsuji Yasutami 高辻安民. Photo: Heidi Buck-Albulet, 2018.

6.3.2 The *tanzaku* style

When I attended sessions personally in 2018 and 2023, *tanzaku*-style *renga* was being practised at most of them: at the monthly *renga* sessions held at Kumata Jinja Shrine 杭全神社 and the Hirano Library (branch of the Municipal Central Library in Osaka), at the Gion festival votive *renga* sessions in Yamaguchi,⁵⁶ at the annual Myōken Hōraku *renga*⁵⁷ in Gujō Hachiman (Gifu prefecture), at Nanshūji Temple in Sakai, at Zuiganji 瑞巖寺 Temple in Ibigawachō (Gifu prefecture) and at Kashiwara Jingū 檣原神宮 Shrine in Kashiwara (Nara prefecture). This style of *renga* was also employed at the *renga* conventions held for secondary-school pupils at Jōkiji Temple in Yukuhashi and at a practice session conducted at Nanshūji Temple in Sakai, Osaka prefecture, during the Miyoshi festival in 2018. The monthly circle meeting at Hirano Library in Osaka will be taken up below. Members of the same circle occasionally used to hold less for-

56 Yamaguchi Gion Kai Hōnō Rengakai 山口祇園会奉納連歌会.

57 Takigi Nō Kurusu Sakura Jōen Kinen Myōken Hōraku Renga 薪能くるす桜上演記念 妙見法楽連歌 (‘*Renga* for the commemoration of the performance of the Takigi Nō “Kurusu cherry blossom” and for a votive *renga* to Myōken’).

mal ‘circles’ occasionally at Kirekita Elementary School in Osaka for educational purposes; there they also made use of *tanzaku*. After the outbreak of the Corona pandemics, some circles suspended their meetings or took to conducting *renga* online (or partly online), collecting verses via email or messenger services.⁵⁸ In a *renga* circle conducted in 2021 at Hirano Library in Osaka, for instance, only ten out of forty-four verses were made at a face-to-face meeting: four on 2 July and 6 August and two on 9 September. All other verses were made in a ‘remote mode’.⁵⁹



Fig. 5: A *renga* circle at Kumata Shrine, Osaka in July 2018. A participant is just handing her *tanzaku* to the scribe. Photo: Heidi Buck-Albulet, 2018.

The procedure followed in the *tanzaku* style is that any participant who wishes to submit a verse writes it down on a strip of paper (a *tanzaku*) and then hands it over to the scribe and the master, who both check the draft (Fig. 5). Several proposals may be submitted each time, but only the best one is picked. The scribe then announces (i.e. dictates) the selected verse to the participants along with the poet’s name. At the *renga* circle in Kumata Shrine in Osaka, I noticed that the previous verse was always read out first and then the new one, the rea-

⁵⁸ See Buck-Albulet 2021, 172–173.

⁵⁹ I would like to thank Taniguchi Junko for this information.

son being that two verses always form a set. There is an additional element in *renga* circles following the *tanzaku* style that I observed in 2018 (with the exception of the monthly circle at Kumata Shrine): the participant whose verse has been selected is asked to write it again on a bigger strip of paper and then put it⁶⁰ on a wall or whiteboard or write it directly on the whiteboard together with his or her name. As the poem grows on the members' sheets, it also grows on the wall or whiteboard (see Fig. 6).



Fig. 6: Display of *tanzaku* at the *renga* gathering in Yamaguchi, 15 July 2018. Photo: Heidi Buck-Albulet, 2018.

⁶⁰ Jap. *ku no haridashi* ('posting the verses'). See Yukuhashi Shi Bunka Isan Kasseika Jikkō Iinkai 2014, 64.

Two special forms of the *tanzaku* style should be mentioned at this point. A didactic form of *renga* is practised in the *renga* circle held at the Hirano Library branch of Osaka Municipal Central Library (大阪市立平野図書館). The master and the scribe project the participants' *tanzaku* on the wall with a document camera together with a slightly modified Mitsuta form sheet and discuss how the proposed verses fit (or do not fit) into the poem, and then they explain the reasons for choosing a verse to be the next link (see Fig. 7).



Fig. 7: The didactic style at Hirano Library (branch of Osaka Municipal Central Library). Kiyono Yoko 清野洋子 (*sōshō*) and Taniguchi Junko 谷口順子 (scribe) are explaining which of the proposed verses are to be used for the next link. Photo: Heidi Buck-Albulet, 2018.

A unique style of conducting a *renga* session is practised at the annual children's *renga* in Osaka, an event that also takes place at Hirano Library. It is a modern form of 'straw-hat linked verse' (*kasagi renga*):⁶¹ children passing by to

⁶¹ An open form of *renga* where everybody passing by and still 'wearing a straw hat' may take part. *Kasagi renga* has particularly flourished since the fourteenth century, taking over features of the 'renga beneath the cherry tree' (*hana no moto renga*), which was popular in the Kamaku-

borrow books are given a *tanzaku* and are asked to write a verse on it. The *tanzaku* are collected and arranged by the adults, i.e. the organisers, to form a poem. The verses are then written on a whiteboard together with the name of the child. It is interesting to note that the ‘linking’ is not done by the little poets in this case, but by the adults combining the *tanzaku*.

Finally, *tanzaku* strips made of precious paper are used to write single verses of *renga*, for instance to donate the poem to a temple or shrine as an offering.⁶²

6.3.3 Comparing the two styles

As it will have become clear from the description above, none of the procedures are entirely in writing or entirely oral; they are all mixed forms. There is a clear difference between the oral and the *tanzaku* style, however, in terms of their temporal structure and the group’s shared experience. In the oral-style procedure, only one participant can speak at a time. In order to submit a verse, he (or she) has to indicate his intention by raising their hand or making another gesture.⁶³ The proposal he makes is heard by every member of the circle and thus creates a common aural experience. Verses are submitted one after the other this way until an acceptable verse is chosen. A verse may also be rejected orally or ‘returned’ for further improvement and then submitted again and finally accepted.

In contrast, several submissions may be made at the same time in *tanzaku*-style *renga*. Since the verses are submitted on *tanzaku* strips, i.e. in written form, the participants do not know about each other’s contributions.⁶⁴ If several submissions are made, the *sōshō* and scribe put the *tanzaku* on the table side by side and select the best verse. The scribe then reads out the winning verse from

ra period (1185–1333) in front of temples and shrines. Both varieties tended to have the character of a folk art. See Hiroki 2010, 67 and 239.

⁶² In pre-modern *renga*, the *hokku* of a thousand-verse *renga* (a *senku* consisting of ten *hyakuin*) was sometimes written on precious *tanzaku* strips and used as a votive gift to deities in temples or shrines rather than the whole work. See Tsurusaki 2010, 66–68.

⁶³ In the unique ‘*renga* on the float’ (*shajō renga*) in Yukuhashi, which is also a *kasagi renga* and part of the Gion festival *renga* in summer, people would come forward to the microphone. In pre-modern sessions, a fan was used to indicate one’s willingness to submit a verse. See Buck-Albulet 2021, 170.

⁶⁴ The didactic style used at Hirano Library in Osaka is an exception as the *tanzaku* are displayed to everyone by means of a document camera. This is for didactic reasons.

the *tanzaku* along with instructions as to which words must be written in *kanji*.⁶⁵ At the *renga* circle held at Kumata Shrine, the scribe always reads the preceding verse first. This is because two consecutive verses always form a semantic unit, as mentioned above.

The aural experience is shorter in *tanzaku*-style *renga*, but there is an additional shared visual experience in circles that ‘display’ clean-copy *tanzaku* on a wall or whiteboard.

7 What does ‘performing *renga*’ mean?

Before we sum up what it might mean to ‘perform’ *renga*, it is necessary to consider some Japanese concepts that can be regarded as being equivalent to the English notions of ‘performing’ and ‘performance’.

Japanese researchers have described *renga* as an ‘art of the place’ (*za no bungei* 坐の文芸 or *ba no bungei* 場の文芸), i.e. an art that requires several people to meet at a given time and place. This point can hardly be emphasised enough: *za* and *ba* mean much more than just a physical location. *Za* refers to the location and, at the same time, to the social union of the group⁶⁶ also connoting the values associated with it, for example acting together with ‘one mind and one heart’,⁶⁷ with the common spirit shared by all participants to create a work of art together. *Za* is therefore the place of a collective, supra-individual activity and experience as well. The time and venue of a *renga* session both influence the content of the first verse (the *hokku*) considerably as it is the only verse in the poem to refer to the real world or the actual circumstances in which the performance takes place,⁶⁸ while the contents of the other verses are basically fictional.⁶⁹ So apart from the date at the far right, the *hokku* is the point at which – possibly – the time and place of the meeting can be deduced, like in the

65 Some words may be written either in Kanji or in *kana*. There may be reasons for the poet to prefer one or the other. Writing words in *kana*, for instance, can increase the possibility of ambiguous reading and thus enhance the possibilities for the next link. Moreover, unusual readings for Kanji may also be used. Orthography is therefore an important part of poetic expression.

66 Hiroki 2004, 444.

67 This expression is from Kaneko Kinjirō, quoted in Hiroki 2004, 216.

68 The second verse is also affected by the situation to some degree as it has to respond to the *hokku*.

69 However, I have noticed several times that verses alluded to current events as well. This ambiguity is possible because it is actually an essential part of poetry.

example above. If there is a painting on the *kaishi*, it will also refer to the season mentioned in the *hokku*. Paratexts in contemporary manuscripts often provide more detailed information about the meetings. While many pre-modern *kaishi* only include a date, contemporary *kaishi* often record the place and sometimes the occasion of the meeting. Sometimes they bear the names of the master and scribe as well.

There are two more terms that describe essential features of the art: *yoriai bungei* 寄り合い文芸 (the ‘literary art of interaction’) and *tsukeai bungei* 付合文芸⁷⁰ (the ‘literary art of adding to each other’). The term *bungei* itself deserves some attention. There has been considerable debate among researchers as to whether *renga* should be seen as a ‘literary art’ (*bungei*), i.e. an art based on language, or rather as a *geinō* (‘performing art’).⁷¹ *Bungei* literally means ‘literature and the arts’. It refers to ‘literature’, but also to other arts and crafts and to scholarship.⁷² *Geinō*, in contrast, is a broad term that includes stage arts and traditional performative arts like the tea or incense ceremony and others that are not usually enjoyed individually, but in a group.⁷³ Initially, *geinō* referred to ‘a variety of faculties in arts and crafts that must be acquired by nobles and cultivated people’.⁷⁴ Arts of this kind include, according to NKD,

literary arts such as poetry and calligraphy, singing and dance music (*kabu onkyoku*) such as court music, *sarugaku* [a form of theatre performance], *kagura* and *saibara*, and games such as *kemari* (*shūkiku*) [a kind of kickball], horseback archery and Go [the board game].⁷⁵

As we can see from this description, the term *geinō* does not only refer to an art that is practised, but like the Latin term *ars*, it implies the notion of skill as well.⁷⁶

⁷⁰ *Tsukeai bungei* is a term coined by Miyata Masanobu in 1997 (Miyata 1997). *Tsukeai* also refers to the connecting of two verses or the special quality that makes this connection.

⁷¹ According to Hayashiya Tatsusaburō, author of *Chūsei geinōshi no kenkyū* (‘Studies of medieval performing art history’), one should not see *renga* as *bungei* (literature, literary art), but as a *geinō* (performing art). See Shimazu 1990, 248.

⁷² See NKD, s.v. *bungei*.

⁷³ Pettersson et al. 2011, 119. Also see <<https://www.omotesenke.jp/list2/list2-3/list2-3-2/>> (accessed on 22 April 2020).

⁷⁴ See NKD, s.v. *geinō*.

⁷⁵ See NKD, s.v. *geinō*. The concept is embedded in the idea of the six arts (Chin. *liu yi*, Jap. *rikugei*) that were to be mastered by the educated: rites, music, archery, chariotry, calligraphy, and mathematics.

⁷⁶ More terms include *kōgyō* 興行, which can mean ‘to conduct’ a stage performance or a Buddhist mass, for example.

In the past, other performative arts like *nō* or the tea ceremony were often undertaken before or after a *renga* session. They are not entirely uncommon these days either: at the Myōken Shrine festival in Gujō Hachiman, for example, the *renga* session is conducted the day before a *nō* performance and the recitation of the *renga* shortly before that.

Research, especially in the West, has prioritised *renga* as a literary product (*bungei*) over *renga* as a performative art (*geinō*).⁷⁷ At the same time, the text produced has been prioritised over its material carrier, the written artefact. Aspects of performance and material culture, especially manuscripts, have largely gone unnoticed. The fact that the structure of the *kaishi* also had an impact on the poems has escaped the attention of many scholars.⁷⁸

What, then, does ‘performing *renga*’ mean in terms of Western notions? How ‘performative’ is *renga* in the sense of the concept developed by Erika Fischer-Lichte?⁷⁹ As is well known, the verb ‘to perform’ and its noun form, ‘performance’, have at least two basic meanings. In German, these are indicated by two similar words, *ausführen* and *aufführen*, meaning ‘to carry out’ and ‘to perform on stage’ (to enact) respectively. Both meanings are relevant for *renga*.

I hope to have shown that features of performativity like the ‘co-presence of corporeal bodies’, ‘staging’, ‘actualisation’, the ‘physical side of language’ (e.g. voice) and ‘stress on materiality of the medium’⁸⁰ all apply to the making of a *renga* poem. The participants do not only conduct the *renga*, but in a sense they also stage it and are both actors and spectators. Hiroki Kazuhito has called this the ‘collective performative character’ of *renga*, or *shūdanteki engekisei* 集団的演劇性.⁸¹ In some cases, real spectators may also be present who do not participate in the poetry-making themselves, but simply watch it as it takes place.⁸² It might not be particularly interesting to watch from outside (at least if one does not know the rules), but there is certainly a great deal going on between the participants and the texts they exchange and share. Whenever the poets use

77 Ebersole 1983 and Horton 1993 are two of the rare examples of Western research on the performative aspect.

78 On rules based on the structure of the *renga* manuscripts, see Buck-Albulet 2021.

79 See Fischer-Lichte 2012, among others. In addition to Fischer-Lichte’s approach from the perspective of theatre studies, other disciplines have also discussed very heterogeneous concepts of ‘performance’, like speech-act theory (John Austin and John R. Searle), generative grammar (Noam Chomsky) and gender studies (Judith Butler).

80 Pfister 2001, 497–498.

81 Hiroki 1998, 128.

82 This seems to have been the case in the early game-like forms of *renga* that flourished from the middle of the thirteenth to the middle of the fourteenth century. See Hiroki 1998.

words to create mental images, they engage in a dialogue with one another, the dynamics of which are fascinating at several levels, ranging from textual performance⁸³ to various kinds of human interaction. Unlike poetry in general, which is basically considered to be the expression of authentic emotions, *renga* is considered fiction and could therefore be described as a kind of ‘persona poetry’ in the sense that the verses are written from the viewpoint of a fictive lyrical subject.

Moreover, *renga* may be embedded in much larger performative settings like annual festivals in the context of which other arts or rituals are performed. As mentioned above, in the case of religious *renga* (*hōraku renga* or *hōnō renga*), the session is followed by a ceremony in which the poem is recited from a manuscript before the deities and a *kaishi* is dedicated to them and stored at the respective shrine or temple (see Fig. 8).



Fig. 8: Tsurusaki Hiro'o reciting a *renga* poem at the votive ceremony at the Myōken Jinja Shrine festival in August 2018. Photo: Heidi Buck-Albulet, 2018.

⁸³ Regarding the concept of textual performance, i.e. what is ‘staged’ in the text, see Herberichs and Kiening 2008, 9–21; Bers and Trilcke 2017; Schneeberger 2018; and among others. As for the ‘performativity of images’, see Wulf and Zirfas 2005. Ancient rhetoricians also knew about textual performance; Hempfer and Volbers 2014, 83, refer to Quintilian’s *Institutio oratoria*, for example (IX, 2, 43).

The recollections by Kuroiwa quoted above show that unlike the case of an individual poet sitting at his desk, the making of a linked poem is a chain of actions and events that can be related in a narrative, just like the passes in a football match or the moves made in a chess championship ('Carlsen opened the game with a "semi-move" 1. e2–e3').⁸⁴ *Renga* is a performance, game, play,⁸⁵ ritual and poetry in one.

As we have seen above, *kaishi*, forms and *tanzaku* are all necessary tools in *renga* performances. Traditional manuscripts have been the material carriers on which the literary products have come down to us. Because of their material (paper quality), visual quality (painting, calligraphy) and structural qualities (the 8-14-14-8-verse scheme), they can develop their own aesthetics and agency. Once the 8-14 pattern of distributing verses on the pages was established, it not only started to influence the content of the poem, but it also gave rise to a method of text organisation that persisted, although traditional *kaishi* largely ceased to be written during the sessions. Terms for the pages of traditional *kaishi* have become terms for the 'parts of speech' of *renga*: 'first sheet recto' (*shoori omote*) as mentioned by Kuroiwa above has become a synonym for 'the first eight verses', for instance. While the act of composing is based on the poetic side of creativity, writing on the *kaishi* allows handwritten, calligraphic and pictorial creativity to be expressed. The act of composing, the recitation and the manuscript with the poem written in it can jointly serve as a gift to the deities.

Gary Ebersole has criticised research on *renga* for focusing on the poetry aspect alone and stated that the performance of it was more important than the resulting literary product in pre-modern *renga*.⁸⁶ I would not go as far as that personally. Rather, the weighting might have been and still is different due to time, circumstances and whatever kind of *renga* was involved. To gain an understanding of the whole picture of this art, however, one should not underestimate any of the main elements – the performance, the literary product or the written artefact. *Renga* challenges 'conventional' taxonomies of art and litera-

84 <https://ruchess.ru/en/news/report/ex_fischer_s_testamento/> (accessed on 24 June 2020). For parallels to Shōgi (Japanese chess), see Mitsuta 1998, 96. For a discussion of the performativity of games and play, see Wulf 2014, 139–146.

85 I deliberately use both terms, 'game' and 'play'. The meanings of both overlap, but while 'game' may be competitive or cooperative (in both cases structured by rules), 'play' can reflect the notion of 'staging' something or 'role play'. As I have tried to explain above, *renga* is a game, but it contains elements of a play, too. See Horton 1993 and Tsurusaki 1987 on the subject as well.

86 See Ebersole 1983.

ture. One of the reasons for this is surely the importance of the performance, that is, the creation process and its social setting.

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References

Primary sources

Hyakuin renga, dated to Genroku 元禄 3 (1690). In the possession of the Prefectural Library of Yamaguchi.

Modern *renga kaishi* written by the calligrapher Suyama Fumiko 陶山芙美子 in 2017. Clean copy of the annual Gion votive *renga* in Yamaguchi. In the possession of Imahachimangū Shrine, Yamaguchi.

Secondary sources

Bers, Anna and Peer Trilcke (2017), *Phänomene des Performativen in der Lyrik: Systematische Entwürfe und historische Fallbeispiele*, Göttingen: Wallstein.

Buck-Albulet, Heidi (2020), ‘The Revival of Renga Poetry in Contemporary Japan’, *Japanica Humboldtiana*, 20: 5–37.

Buck-Albulet, Heidi (2021), ‘Temporality in Renga’, *Asiatische Studien*, 75: 163–193.

Carter, Steven (1993), *Literary Patronage in Late Medieval Japan*, Ann Arbor: University of Michigan.

Ebersole, Gary L. (1983), ‘The Buddhist Ritual Use of Linked Poetry in Medieval Japan’, *The Eastern Buddhist*, 14/2: 50–71.

Fischer-Lichte, Erika (2012), *Performativität: Eine Einführung*, Bielefeld: transcript Verlag.

Hasegawa, Chihiro 長谷川千尋 (2006), ‘Wakan renga ryakushi’ 和漢聯句略史, in *Kokubungaku kenkyūshitsu* 国文学研究室 and *Chūgokubungaku kenkyūshitsu* 中国文学研究室 (eds), *Kyōto daigaku zō Sanetaka jihitsu Wakan renga yakuchū* 京都大学蔵実隆自筆和漢聯句譯注, Tokyo: Rinsen Shoten, 19–36.

Hempfer, Klaus W. and Jörg Volbers (2014), *Theorien des Performativen: Sprache – Wissen – Praxis. Eine kritische Bestandsaufnahme*, Bielefeld: transcript Verlag.

Herberichs, Cornelia and Christian Kiening (eds) (2008), *Literarische Performativität: Lektüren vormoderner Texte*, Zürich: Chronos.

- Hiroki, Kazuhito 廣木一人 (1998), 'Refarensu/renga no shūdanteki engekisei' レファレンス/連歌の集団的演劇性, *Kokubungaku* 国文学, 43/14: 128–133.
- Hiroki, Kazuhito 廣木一人 (2004), *Rengashi shiron* 連歌史試論, Tokyo: Shintensha.
- Hiroki, Kazuhito 廣木一人 (2006a), *Renga no kokoro to kaiseki* 連歌の心と会席, Tokyo: Kazama Shobō.
- Hiroki, Kazuhito 廣木一人 (2006b), 'Renju wa hikki yōgu o motte ita ka? Renga kaiseki oyobi haiseki no jissai' 連衆は筆記用具を以ていたか: 連歌会席及び俳席の実際, *Aoyama go-bun* 青山語文, 36: 38–49.
- Hiroki, Kazuhito 廣木一人 (ed.) (2010), *Renga jiten* 連歌辞典, Tokyo: Tōkyōdō Shuppan.
- Hiroki, Kazuhito 廣木一人 (ed.) (2023), 'Renga (Haikai) kaishi no kakiyō no seiritsu' 連歌 (俳諧) 書様の成立, *Kinsei bungaku kenkyū* 近世文学研究, 7: 1–37.
- Horton, Mack H. (1993), 'Renga Unbound: Performative Aspects of Japanese Linked Verse', *Harvard Journal of Asiatic Studies*, 53/2: 443–512.
- Imai Gion Renga no Kai 今井祇園連歌の会 (2011), *Heisei no renga 2* 平成の連歌 2, Tokyo: Seiun Insatsu.
- Kido, Saizō 木藤才蔵 (2001), 'Renga' 連歌, in *Nihon dai hyakka sho* 日本大百科全書 (online edition, JapanKnowledge).
- Koyama, Junko 小山順子 (2014), 'Gotsuchimikado Tennō no wakan renku gokaishi kō' 後土御門天皇の和漢聯句御会懷紙考, *Kokugo kokubun* 国語国文, 83/12: 24–42.
- Kuroiwa, Atsushi 黒岩淳 (2016), *Renga no ibuki: Tsunagari, hirogaru gendai no renga* 連歌の息吹つながり、ひろがる現代の連歌, Hiroshima: Keisuisha.
- Kubozono, Haruo (2015), *Handbook of Japanese Phonetics and Phonology*, Berlin: De Gruyter.
- Mitsuta, Kazunobu 光田和伸 (1993), 'Renga shikimoku: Tanoshinde tsukuri, yonde tanoshimu tame ni' 連歌式目: 楽しんで作り、読んで楽しむために, in Kumata Jinja (ed.), *Hirano hōraku renga: Kakō to genzai*, Osaka: Izumi Shoin, 146–154.
- Mitsuta, Kazunobu 光田和伸 (1998), 'Renga kara haikai e – mata wa haikai kara renga e' 連歌から俳諧へ – または俳諧から連歌へ, *Kokubungaku* 国文学, 43/14: 92–97.
- Miyata, Masanobu 宮田正信 (1997), *Tsukeai bungeishi no kenkyū* 付合文芸史の研究, Osaka: Wasen Shoin.
- NKD = *Nihon Kokugo Daijiten* (2007), online edition available through JapanKnowledge Lib.
- Okuda, Isao 奥田勲 (1995), 'Chūsei bungaku ni okeru onna: Renga sakusha ni josei wa naze inai ka (Chūsei bungaku ni okeru onna 'shinpojiumu')' 中世文学における女 連歌作者に女性はなぜいないか (中世文学における女<シンポジウム>), *Chūsei bungaku* 中世文学, 40: 3–9.
- Ozaki, Chika 尾崎千佳 (2005), 'Abe ke renga kaishi shūsei' 安倍家連歌懷紙集成, *Yamaguchi gaku no kōchiku* やまぐち学の構築, 1: 37–92.
- Pettersson, Anders, Gunilla Lindberg-Wada and Margareta Pettersson (2011), *Literary History: Towards a Global Perspective*, 2 vols, Tübingen: De Gruyter.
- Pfister, Manfred (2001), 'Performance/Performativität', in Ansgar Nünning (ed.), *Metzler Lexikon der Literatur- und Kulturtheorie*, 2nd edn, Stuttgart: Metzler.
- Shimazu, Tadao 島津忠夫 (1990), *Nō to renga* 能と連歌, Tokyo: Izumi Shoin.
- Tsurusaki, Hiro'o 鶴崎裕雄 (1987), "'Rengakai' no ba' <連歌会>の場, *Kokubungaku: Kaishaku to kyōzai no kenkyū* 国文学解釈と教材の研究, 23/7, 117–121.
- Tsurusaki, Hiro'o 鶴崎裕雄 (1988), *Sengoku no kenryoku to yoriiai no bungei* 戦国の権力と寄合の文芸, Osaka: Wasen Shoin.
- Tsurusaki, Hiro'o 鶴崎裕雄 (2010), 'Kumata Jinja no renga' 杭全神社の連歌, in Kansai daigaku naniwa – Ōsaka bunka isan kenkyū sentā 関西大学なにわ 大阪文化遺産学研究センター

- (ed.), *Gosōken 1150 nen kinen Kumata Jinja hōmotsu sen* 御創建一一五〇年記念 杭全神社宝物選, Tokyo: Kumata Jinja, 66–68.
- Schneeberger, Sandra (2018), 'Textual Performativity', in Jürg Glauser, Pernille Hermann and Stephen A. Mitchell (eds), *Handbook of Pre-Modern Nordic Memory Studies: Interdisciplinary Approaches*, Berlin: De Gruyter, 421–426.
- Wulf, Christoph (2014), *Bilder des Menschen: Imaginäre und performative Grundlagen der Kultur*, Bielefeld: transcript Verlag.
- Wulf, Christoph and Jörg Zirfas (2005), *Ikonomie des Performativen*, Munich: Fink.
- Yukuhashi Shi Bunka Isan Kasseika Jikkō linkai 行橋市文化遺産活性化実行委員会 (ed.) (2014), *Minna de yomō renga* みんなで詠もう連歌, Tokyo: Yukuhashi.

Laura Albiero

Liturgical Practice in the Light of Medieval Liturgical Books

Abstract: This paper explores liturgical practice involving medieval liturgical books used by the Latin Church and considers their materiality and use. Starting from a general definition of liturgy, liturgical practice and liturgical books, it analyses medieval books as ‘containers’ of texts which prescribe ritual actions, it examines practices involving liturgical books and it acknowledges artisanal traditions in the making of liturgical manuscripts.

1 Introduction

Performance has a central place in the understanding of ceremonies and rituals in the field of liturgical studies.¹ In fact, liturgy can be defined as a set of religious practices which unfold at a specific time and place. It involves people – the clergy and laymen – as well as liturgical objects, including books, and it is performed in ceremonies and rites that involve moves, gestures and voices. During the Middle Ages, rituals in the Latin Church shaped the basic structure of society and moulded the identity of each individual and, indeed, the community as a whole. The study of liturgical performance can therefore help us understand medieval social structures and relations.²

In its original sense of *λειτουργία*, ‘liturgy’ referred to a public service or a performance involving a number of people (ministers³ and laymen). It encompassed the Mass, the Office and other kinds of ritual practices celebrated in a Christian community, such as baptisms, marriages, funerals and processions. Devotional practices like privately reading the Gospel or the hours should not be considered liturgical *strictu sensu*. However, their derivation from liturgical practices places them in the frame of the liturgical domain to the extent that they share – at least partially – the same books, content and actions. This inter-

¹ See Harper 2018.

² On the relations between society and liturgical practice in the Middle Ages, see Palazzo 2000; Buc 2001.

³ During the Middle Ages, ministries were distinguished in major orders comprising priests, deacons and sub-deacons and in minor orders, e.g. exorcists, lectors, acolytes and porters.

action had a huge impact on Christian book production, and liturgical books display specific features that are closely connected with their function, their use and their users and that reflect a particular practice.

In the field of liturgical studies, a practice is an action that is structured and organised within a specific temporal and special context. The liturgical calendar regulates the ritual time frame, which is organised in periods (based on the principal feasts like Christmas and Easter), in weeks, with a weekly liturgical structure based on the recitation of the psalter, and in hours, which include the Mass, the daily and night Office and other occasional ceremonies. In this sense, there is a liturgical norm that regulates when and how a ceremony has to be performed. This does not mean that the liturgical practice is the same for each religious institution, though. In fact, 'liturgical use' changes according to the tradition that has been adopted by a diocese, a cathedral, a collegiate, a monastery or a religious order; practices differ in terms of their prayers and lectures, in their chants and melodies, in the order of actions and in the ministers and places that are involved.⁴ Consequently, specific liturgical books were designed and copied to provide support for local liturgical performances.

Practice can be seen in a variety of perspectives within the liturgical framework: on one hand, liturgical ceremonies could be regarded in their 'choreographic' aspect, which implies the use of books as guides on the text and music, while, on the other hand, liturgical books are the result of a practice that defines their shape and the organisation of their content according to their function within and outside the ritual performance. This article intends to investigate the place of liturgical performance in relation to liturgical manuscripts by looking at three main aspects: the making of liturgy as prescribed in liturgical books, the use of the books themselves within a liturgical action and the strategies employed in making liturgical manuscripts.

2 Liturgical practice in manuscripts

Liturgical manuscripts do not just contain texts that are supposed to be read or sung, but also include a series of prescriptions about how to perform liturgy as

⁴ This surprising differentiation is not only due to the stratigraphic and local development of liturgies, but to the precise intention of marking an identity by the choice of a specific set of texts and melodies.

well. These rubrics⁵ concern the clergyman involved, the specific movements and gestures that they have to make and the words they have to say. Actions like benedictions, genuflexions, signs of the cross or walking in processions and even writing are contemplated in the universe of liturgical gestures; voices are important to the extent that they express the *verbum*, or holy word, which is either proclaimed or sung. Rubrics also indicate the time when a particular service has to be held and to how manage collisions between feasts.

The *Ordines romani* are among the most ancient documents of the Latin Church⁶ and contain prescriptions or directions regarding liturgical functions, namely Mass, baptism, the ordination of the clergy, the Holy Week and the dedication of the church. They were written between the sixth and tenth century and left traces in the ordinals and pontificals that were copied from the tenth and eleventh century. The *Ordines romani* reflect the state of the Franco-Roman liturgy before the tenth century and are valuable witnesses of early liturgical practice. They describe in detail how the ordinals should be performed and provide particulars about the ministers, specific places to be used in or outside the church, liturgical vestments and the objects that needed to be employed during such ceremonies. Of all the liturgical books in use, the Gospel was the object of particular veneration.

The *Ordo romanus primus*, describing the papal Mass, assigns the epistolary to the sub-deacon and the Gospel book to the archdeacon.⁷ The deacons have to prepare the evangeliary for the reading, but it is the acolyte that has to put the book on the lectern (two acolytes have to put it there if the book is very big).⁸ The sub-deacon is responsible for opening and closing the Gospel book, while the deacon is to read it. Before doing so, the deacon has to kiss the book and raise it while two sub-deacons burn incense and fumigate the book. At the same

5 Rubrics are prescriptive texts that were added to liturgical books and sometimes collated in proper sections. The name 'rubric' derives from the Latin word *ruber* ('red') since these texts were usually written in red ink.

6 Andrieu 1946.

7 'Apostolum autem subdiaconus qui lecturus est sub cura sua habebit, Evangelium archidiaconus' ('the sub-deacon will care about the epistolary, which he is supposed to read, and the archdeacon [will do the same with] the Gospel'), Andrieu 1946, 73.

8 'Et parat evangelium qui lecturus est [...] et si necesse fuerit propter maiora evangelia, duobus acolythis super planetas tenentibus parat evangelium. Quo facto, acolythus evangelium usque ante altare in presbyterio, precedente eum subdiacono sequente, qui eum de super planeta illius suscipiens, manibus suis honorifice super altare ponat' (literally, 'he who will read it prepares the Gospel [...] and if necessary for the bigger Gospels, with two acolytes holding it over the chasuble, he prepares it'), Andrieu 1946, 77.

time, two acolytes carrying candlesticks come to the ambo and the deacon and sub-deacons pass between them.⁹ At the end of the gospel reading, the book is placed in a case and sealed.¹⁰ The Pope only touches the evangeliary to kiss it in an act of reverence after the introit antiphon.¹¹ The great importance attached to the Gospel book¹² during Mass is also reflected in the practice of copying short excerpts from the Gospel to put them in amulets or in using the Gospel to cure illnesses.¹³ The *Ordines romani* are not the only prescriptive liturgical texts, however.

Derived from the *Ordines romani* is the *Liber ordinarius* (or ordinal),¹⁴ a guide for the celebration of rituals which is adapted to the distinctive uses of every single church or religious order. Like the *Ordines*, the ordinal does not display the texts of the prayers and lessons in their entirety; it only contains the rubrics with the incipits of the texts that have to be read out loud. This kind of book states the exact sequence of texts and actions, but it cannot be used alone in the Mass or the Office. Sometimes rubrics are far longer, especially when a series of complex actions have to be performed. An example taken from the ordinal of the Mathurins de Fontainebleau (Paris, BnF, Latin 9970, fol. 8^r, thirteenth century), where the rubrics point to the antiphons, readings, hymns and prayers and give the incipit of each text, will make the structure of this type of book clearer:

In adventu ad vesperas antiphona super psalmos 'Benedictus', capitulum 'Et venturus est', ymnus 'Conditor alme', versus 'Rorate celi', antiphona ad Magnificat 'Ecce nomen', oratio 'Excita domine potentiam tuam'. Postea memoria de sancto Augustino et de sancto Maturino. Memoria vero de trinitate intermittitur usque ad octavam Epiphaniae.

9 'Deinde venit ante altare et, osculatis evangeliis, levat in manus suas codicem et procedunt ante ipsum duo subdiaconi regionarii levantes tymiamaterium de manu subdiaconi sequentis, mittentes incensum, et ante se habentes duo acolytos portantes duo cereostata; veniens ad ambonem dividuntur ipsi acolyti' ('then he comes to the altar and once the Gospel has been kissed, he raises the book in his hands and two regional sub-deacons walk before him, taking the thurible from the hand of the sub-deacon who follows him, spreading the incense, and with two acolytes carrying two candles before him; once the acolytes are at the altar, they separate'), Andrieu 1946, 87–88.

10 'Deinde ponitur in capsula, ut sigilletur' ('then it is put in a case and sealed'), Andrieu 1946, 89.

11 'Et surgens pontifex osculat evangelia et altare et accedit ad sedem et stat versus ad orientem' ('and rising, the Pope kisses the Gospel and the altar and goes to the chair and stands facing the East'), Andrieu 1946, 83.

12 On reverence to the Gospel book, see Gussone 1995; Join-Lambert 2006; Heinzer 2009.

13 Calhoun 2019.

14 For an overview of the type of book, see Martimort 1991 and Caspers and van Tongeren 2015.

In Advent at vespers, antiphon on psalms ‘Benedictus’, short reading ‘Et venturus est’, hymn ‘Conditor alme’, verse ‘Rorate celi’, antiphon for the Magnificat ‘Ecce nomen’, prayer ‘Excita domine potentiam tuam’. Then [do] the memory¹⁵ of St Augustine and of St Maturinus, but interrupt the memory of the Trinity until the Epiphany’s octave.

In ordinals, prescriptions usually refer to particular texts for a given liturgical time and they mostly serve to regulate the increasing number of overlapping feasts in the liturgical calendar. Ordinals were basically created to provide a guide for the intricate jungle of major and minor feasts, newly canonised saints, changes in the importance of feasts and local solemnities. Some of its rubrics migrated in later missals and breviaries and formed a series of prescriptions known as *Ordo missae* and *Ordo officii*. Gestures, actions and moves are not only described, but represented by images. For example, the elevation of the host or of the priest’s soul frequently appears as the opening illustration of the missal,¹⁶ and the benediction of the church is often found at the beginning of the formula for the dedication.

The dedication of the church – one of the most complex and fascinating rituals of the Latin liturgy – is usually copied in the pontifical,¹⁷ the liturgical book that contains all the ceremonies to be performed by a bishop. The whole ceremony, which starts the day before with the enclosure of the relics, involves the bishop, the clergy and the laypeople in such a manner that each action is strictly organised and has to be performed at a specific time and place. What is particular about this ritual is the specific interaction between the ritual practice and the writing gesture at the moment the new church is consecrated. In this part, the bishop and the clergy are in the church while the lay people are waiting outside; this secret ritual implies the prostration of the bishop on the ground while the clergy is singing, the processional benediction of the internal walls with the holy water, and the enclosure of the relics in the altar. Then the bishop writes two series of alphabets with his crosier, one in Latin letters and the other in Greek, going from the right occidental corner to the left oriental one and from the right oriental to the left occidental one.¹⁸ This action is exemplified in a series of letters in several pontificals, sometimes written in an X shape, as in An-

15 The memory consists of a prayer and an antiphon for the aforementioned saints, to be added to the prayer and the antiphon of the day.

16 For an example, cf. the fifteenth-century manuscript Paris, Bibliothèque de l’Arsenal, 621, fol. 1’.

17 See Andrieu 1938–1941; Vogel and Elze 1963–1972.

18 This practice appears for the first time in the *Ordines romani* from the ninth century and is of non-Roman origin; the reason for using the Latin and Greek alphabets has been put in relation to the meaning of the letters and words as the foundation of the faith; see Treffort 2010.

gers, Bibliothèque municipale, 477 (fol. 9^v)¹⁹ copied in Angers in the ninth century, which has two series of Latin letters.

The writing is perceived as a ritual action, which was not necessarily the case for scribes writing a book, even if it was a liturgical one.²⁰ Patricia Stirnemann has shown that there is a close relationship between this particular action in the church dedication and how children learn the alphabet:²¹ they memorise the sequence of letters in the common order, then in the inverted order, and then they regroup the two edges, starting from the first and last letter and moving to the centre. The alphabets traced by the bishop not only represent the various levels of understanding, but they also reflect a learning practice that dates from Late Antiquity.

Manuscripts play a huge role in transmitting traces of medieval liturgical practices to us. The extremely large number of prescriptions and rubrics served as a basis for the development of liturgical actions, but most of all, the *Ordo missae* and the *Ordo officii* provided essential instruments for what could be called ‘time management’. As we know, the liturgical year is based upon a series of feasts, either fixed-date feasts like Christmas, Epiphany and the feasts of saints or moveable-date feasts (Sundays, Easter, Pentecost, etc.). Their interaction sometimes caused issues if two important feasts fell on the same day. Moreover, the development of the Sanctoral Cycle in the Late Middle Ages caused several problems in managing liturgical ceremonies.

Let us look at the beginning of the liturgical year now for an example of this kind of concern. If the first Sunday of Advent falls on 30 November when the feast of St Andrew occurs, it has to be decided whether the daily Mass and Office should be that of the Sunday or that of St Andrew and which feast should prevail over the other one. In these cases, more than one solution may be proposed, depending on the importance of each feast: the less important one may be suppressed or moved to the following day, or some element of one feast and of the other could be performed in the same ceremony.

The breviary of Sens (Paris, BnF, Latin 1028), for example, has an *Ordo officii* which takes any possible scenario into account. The manuscript was copied during the last quarter of the thirteenth century and the rubric begins with a

¹⁹ This manuscript is not a pontifical, but a collection of computational and astronomical texts.

²⁰ It should be noted that the *Admonitio generalis* (23 March 789) stated that the copying of liturgical books should be entrusted to mature men rather than young ones, who might corrupt them. Boretius 1883, 60.

²¹ Stirnemann 2011.

series of situations that change the configuration of the Advent period from one year to another:

In anno quo Natalis die dominica euenit sunt quatuor septimane in adventu, et in tertia septimana fiunt ieiunia de quatuor temporum, quarta scilicet feria et sexta et sabbato; et in tertia feria tertie septimane erit festum sancte Lucie et feria secunda illius septimane ad matinum primum responsorium 'Ecce apparebit' secundum 'Bethleem'.

In the year when Christmas falls on a Sunday, there are four weeks in Advent, and in the third week there is the fasting of the Four Times, namely on Wednesday, Friday and Saturday, and on Tuesday of the third week there is the feast of Saint Lucy and on Monday of the same week the first responsory of matins is 'Ecce apparebit', the second is 'Bethleem'.

So, if Christmas falls on a Sunday, then Advent lasts four full weeks, Advent Sundays are on 27 November and 4, 11 and 18 December, and the feast of St Lucy (13 December) falls on the Tuesday (*feria tertia*) of the third week. This third week of Advent is one of four weeks spread over the year with a special penitential liturgy called *Quatuor tempora*, where fasting is prescribed on Wednesday, Friday and Saturday. The calculation is then made by considering the possibility that Christmas will fall on a Monday:

In anno quo Natalis domini feria secunda euenit, sunt tres septimane in adventu et unus dies, et in tertia septimana fiunt ieiunia quatuor temporum, et in quarta feria secunde ebdomade est festum sancte Lucie. Feria tertia secunde ebdomade in laudibus antiphona 'Rorate caeli'.

In the year when Christmas falls on a Monday, there are three weeks and one day in Advent, and in the third week there is the fasting of the Four Times, and on Wednesday of the second week there is the feast of St Lucy. On Tuesday of the second week, antiphons for Lauds 'Rorate caeli'.

This case leads to a completely different situation where Advent is six days shorter and some ferial days have to be omitted. The Sundays in Advent fall on 3, 10, 17 and 24 December, and this last Sunday coincides with Christmas Eve, which causes some issues with the organisation of the liturgy. The compiler of this *Ordo officii* seemed very concerned about how to regulate the dates of St Lucy (13 December) and St Thomas (21 December) with the different feasts of Advent. To fully understand why these two particular feasts are so problematic, we need to refer to the liturgical calendar, which is provided at the beginning of the manuscript. In fact, among all the feasts that are included in the Advent period, St Lucy is marked as a feast of nine lessons, which implies a certain solemnity, and that of St Thomas is a *duplex* feast, which constitutes the second highest degree of solemnity in Sens. The *Ordo* must regulate the coincidence of

the different feasts according to their importance, which is indicated by what is called the *ritum*, that is, the degree of solemnity of a feast.²² Here the problem specifically concerns the feasts of St Lucy and St Thomas because, depending on the year, they may fall in the third week, that of the Four Times, and thus provoke a contradiction between a solemn celebration and a penitential time, or even a fasting day, which is precisely what happened to St Thomas when Christmas fell on a Tuesday.²³ The usefulness of the *Ordo* is therefore self-evident: it is a valuable instrument that can help the celebrant to solve any issues caused by overlapping feasts that call for different degrees of solemnity. The liturgical practice is described in varying detail on the pages of a liturgical manuscript, to the extent that it has to be performed: the book is a point of reference, a guide, a support and a physical container for the text.

3 Liturgical practice involving manuscripts

A liturgical book can also be seen in another light, namely as an integral part of a religious ceremony and an essential element in constructing a daily religious practice. Not all liturgical books were used during a liturgical ceremony, however: the Gospel, for example, could simply be displayed rather than read, like the famous Book of Kells (Dublin, Trinity College, MS 58), where the initial pages are so decorated that the text literally disappears in the innovative interplay of light and shade produced by the colours and gold ink. It was not essential to read the text, but it was important to see it and contemplate it as the *verbum Dei*.²⁴ There are a number of features that speak for the function of the liturgical book; the way in which the book was copied – its use of script and decoration – is one of them. Codicological features reveal the use and destination of a manuscript as well: monumental manuscripts were usually intended to demonstrate

²² Basically, the *ritum* includes – from the higher to the lower degree – double feasts (*duplex*), nine lessons (or twelve lessons in a monastic context), three lessons and the *memoria* or *commemoratio*. However, each diocese tended to develop its own way of organising feasts, with different nuances between the major feasts (*duplex maius* and *minus*, *simplex*, *annuale*, etc.).

²³ There are two other major feasts in December, namely that of St Andrew and that of St Nicolas, both of which are *duplex*, but these feasts (on 30 November and 6 December respectively) never fall on the third week of Advent.

²⁴ This case is quite different from other luxuriously decorated Gospels such as the Drogo Gospel (Paris, BnF, Latin 9388), where the ivory plaque in the binding or fully illuminated pages are beside pages of text with decorated initials; in the Book of Kells, it is the text that is transformed in a decorated page, to the extent that the text itself is no longer recognisable.

the magnificence of the donor and recipient, while small books were conceived for personal reading. The text copied most frequently – that of the Bible – circulated in a variety of shapes and sizes, for example. The monumental size of the Codex Amiatinus (Florence, Biblioteca Medicea Laurenziana, Amiatinus 1), a giant Bible copied at the Wearmouth-Jarrow monastery in Northumbria at the end of the seventh century, tells us that this manuscript was probably not used during liturgy even though it contains some rubrics (possibly copied from the antigraph) that may suggest it was.²⁵ Rather, this kind of magnificent manuscript was intended as a gift destined for abbots or kings, like the stunning first Bible of Charles the Bald (Paris, BnF, Latin 1), which was copied and illuminated for him at the scriptorium of Saint-Martin de Tours.

One could argue that a manuscript containing an entire Bible was intended for study and not for liturgy, as liturgical readings taken from the Bible were copied in lectionaries or missals. However, we know for sure that some Bibles copied at Montecassino²⁶ in the eleventh century were used as a lectionary for the Office. Manuscript Montecassino, Archivio dell'Abbazia, 571, for example, only contains the major and minor prophets and displays marks for dividing the texts into Office readings. Isaiah was read during Advent, Jeremiah from Passion Sunday to Easter Sunday and Ezekiel, Daniel and the minor prophets in November. The division into lessons was added by a later hand, but what makes us absolutely certain that it is a 'liturgical Bible' is the fact that the Lamentations of Jeremiah sung during the *triduum sacrum* display musical notation copied by the first hand. If monumental Bibles – intended either for liturgical or non-liturgical purposes – seem to have been the norm in the early Middle Ages, the panorama of biblical manuscripts changed dramatically with the creation of universities and the mendicant orders.

A comparison with thirteenth-century Parisian Bibles is striking in this respect:²⁷ the pocket Bible was surely intended for studying, for preaching and as

25 The non-liturgical use of this manuscript is perfectly evident to me, based on the presence of the psalter *iuxta Haebreos*, which never had a liturgical use in the Middle Ages.

26 The first complete Bible copied at Montecassino dates from the twelfth century (Montecassino, Archivio dell'Abbazia, 557) and its textual model seems to have come from outside the abbey (see Unfer Verre 2010). During the preceding centuries, the Bible at Montecassino was copied in separate sets of biblical books (Ottateuch, Prophets, Sapiential Books, etc.). See Casavecchia, Maniaci and Orofino 2021.

27 Parisian Bibles produced in great number during the second half of the thirteenth century are characterised by their compactness since the whole text of the Bible is reduced to fit into a small manuscript and by a much greater standardisation in the choice and order of biblical books. See Ruzzier 2022 on this phenomenon.

a basis for exegetical works. Its portable size made it easy to carry while traveling and guaranteed the text would always be readily accessible for quick consultation. We can exclude the possibility of it having a liturgical use, though. The presence of some Bible-missals and Bible-breviaries – i.e. manuscripts that contain a Bible *and* a missal or breviary – has recently been emphasised, however, triggering new questions and opening new fields of investigation.²⁸

The Bible itself has a plurality of functions that impact on its size, text layout, codicological features and illumination. The case of the Bible sounds very particular since we are dealing with a kind of book that has multiple meanings, functions and uses. Liturgical books could have been intended for a much simpler purpose, namely to structure a ceremony, but a close examination of different types of liturgical books reveals a much more nuanced situation than that.

Let us examine Rome, Santa Sabina, XIV L 1 now, a manuscript better known as ‘the Dominican prototype’. It could be defined as a *totum*, i.e. a book containing all the texts that are necessary for the performance of the Dominican liturgy, both the Mass and Office. There are two other examples of this kind of book as well: the so-called Cistercian prototype (manuscript Dijon, Bibliothèque municipale, Ms. 114) and the *totum* of Piacenza, Biblioteca Capitolare, 65. From a structural point of view, the three manuscripts are all liturgical, but from an operative point of view, they were never actually used in liturgy. The first two manuscripts served as an ‘exemplar’, i.e. a reference work for copying other books. This procedure was supposed to ensure the uniformity of liturgical books, which was a concern for Cistercians as well as Dominicans. It is quite likely that the Piacenza *totum* had the same use; this is partially confirmed by the unusual content of the book, which preserves not only all the texts for the Mass and Office, but a *computus* and some text on music theory.

As we have seen, books of great size were usually ‘show-books’ or ‘reference books’, while small books were intended for individual use. This general assumption leads to some important questions the moment changes in the size of a book become a general tendency; a great number of pocket Bibles were produced in the second half of the thirteenth century, for example. In the very same period, there is another type of book that followed the same trend – a book that contains the texts for the Office known as the breviary.²⁹ The enormous production of pocket breviaries indicates a shift in the practice concerning

²⁸ See Light 2013; Light 2016. The presence of a missal or breviary points to the fact that the owner was probably a clergyman, but the phenomenon has not received a satisfactory explanation yet.

²⁹ See Albiero 2019a.

liturgy and liturgical books: the Community Office, which was said and sung together, gives way to the private recitation of the canonical hours. During the thirteenth century, the spread of Dominican and – most of all – Franciscan orders gave strength to a new form of devotion and piety that is reflected in the importance conferred to the Office, to Marian reverence and to individual prayers. By the fourteenth century, clergymen were required to say the Daily Office, which may explain the increase in the production of small breviaries. Private recitation of the Office spread beyond the clergy, though, catching on among laypeople, and several pocket breviaries were copied for members of high-ranking families (the breviary of Charles V, for example, manuscript Paris, BnF, Latin 1052). The complex system of liturgical rules was hard for non-religious people to follow, however, which is why the appropriation of devotional practice by laymen led to the creation of a prayer book that looks like an excerpt from the breviary initially: the book of hours, which was a huge success in the fourteenth and particularly the fifteenth century.

The contents of the book of hours – generally, the offices of the Virgin Mary, of the Dead, of the Cross and of the Holy Spirit, the litanies, some gospel readings and the penitential psalms – put this book outside the structure of the liturgical year: being able to avoid all the liturgical rules on the overlapping of feast days made the book of hours much easier to use than the breviary. The lack of any liturgical norm (which was eventually imposed by the ecclesiastical authorities) stimulated the creativity of the scribes and owners, who experimented with new forms of piety and communication using original texts, either in Latin or in vernacular languages.

The difference between the breviary and the book of hours lies not only in their respective content and structure, but in their function and the practice they reflect. The breviary was preferably copied in religious circles, while the book of hours was entrusted to professional workshops; the breviary was used in the liturgy where it was recited collectively or individually; the book of hours was only intended for private use outside a liturgical setting; the text of the breviary was subject to control by the ecclesiastical authority, which validated its conformity with the use and updates of the liturgy, whereas the book of hours was the privileged place for creating new devotional texts.

The differences between the breviary and the book of hours seem to be perfectly clear in terms of their dynamics, text and operational phases. However, let us consider the case of a number of breviaries that are liturgical with respect to their content, but that were not actually used during the Office in medieval times. These breviaries were copied for members of the royal family in France, like the breviary Paris, BnF, Latin 1288, written in the middle of the fourteenth

century for Jeanne de Bourbon, wife of Charles V, or Latin 1052, which was mentioned previously. Sumptuously decorated, they appear in the inventories of the royal library and their destination is confirmed by a number of external details; they contain the whole Office for the entire liturgical year, but they were only used for private recitation.³⁰ Despite their content, books of this kind never had a liturgical use, nor were they supposed to be used by the clergy. In this respect, it is essential to identify the recipient of a liturgical book in order to understand its inherent nature and the practice involving books, which is deduced from paratextual elements such as decoration and marks of ownership. In this case, books with the same content were intended to be used in very different contexts.

4 Practice in liturgical manuscript production

The appearance of a liturgical manuscript, i.e. its external or internal *facies*, is the outcome of a series of more or less conscious choices in the making of the book. In fact, scribal practices regarding liturgical books are partly linked to the tradition of a scriptorium and partly to the content of the book. The script, the colours, the illumination and the layout are the result of a series of economical, aesthetical and social constraints and the perpetuation of customary procedures.

Take Paris, BnF, NAL 300 and Troyes, Médiathèque Jacques Chirac, 1732, for example (see Table 1). These are both breviaries and are identical in size, but the way in which they display their contents is very different. The first one, a breviary from fourteenth-century Bordeaux, has twenty-seven lines in two columns in a small gothic script and a high level of exploitation of the page, while the second, a Cistercian breviary from Clairvaux, has twelve long lines written in a large, round gothic script, with each page containing a small amount of text. The reason for such different choices is linked to the quite conservative scribal practice of the Clairvaux scriptorium, where the new two-column layout was adopted much later than elsewhere.

³⁰ Albiero 2019b.

Table 1: Comparison of two breviaries

	Paris, BnF, NAL 300 Bordeaux breviary, 14th c.	Troyes, Med. J. Chirac, 1732 Clairvaux breviary, 13th c.
Dimensions	182 × 130 mm	180 × 134 mm
Written space	133 × 95 mm	125 × 88 mm
Columns	2	1
Number of lines	27	12

The use of a large script in a small book is quite surprising, both because of the great waste of parchment, which was a very expensive material indeed, and because the small amount of text on every page obliged the reader to turn the pages frequently and touch the manuscript a great deal, thereby increasing its wear. The Cistercian breviary from Clairvaux copied in the thirteenth century was still in Clairvaux in 1472 when Abbot Pierre de Virey prepared a catalogue of the library's books (it was identified by André Vernet as item Z 52 in this catalogue).³¹ A short description of the volume is followed by the words 'ad usum infirmarie' ('for use in the infirmary'). Even if the reference to the infirmary is from the fifteenth century, the manuscript was probably still copied for this purpose. The reason for this uneconomic choice is that the book was meant to be used in the monastery's infirmary. Speculating that sick (or merely elderly) monks would not have been able to read a small script, we could infer that this breviary was intended for those monks unable to take part in the Community Office who were supposed to recite a shortened version of it alone.

A manuscript's layout reflects various aspects concerning its readability and the ability to find specific texts in it quickly. Scribes used three main devices to help readers get their bearings on a page: a hierarchy of decorated initials for some types of texts, for instance, plus the use of distinctive kinds of script, such as capitals or uncial letters, and the use of different colours, mainly red for the rubrics, but blue and gold as well. Paris, BnF, Latin 9438, a sacramentary written in the middle of the ninth century for Drogon, bishop of Metz, displays an initial for every prayer, for example, but uses a bigger initial for the collect, the first prayer of each Mass. This was actually a strategy to help the reader find the beginning of each liturgical day. Prayers are introduced here by a title written in uncial gold letters. Letters of this kind were also used for initials and the

³¹ Vernet 1979.

first words of each formulary in a Winchester benedictional from the tenth century (Paris, BnF, Latin 987), while rubrics were written in red uncials.

Using different colours was certainly an effective way of creating a hierarchy of importance and presenting a page in a pleasing manner. The calendar contained in Paris, Bibliothèque de l'Arsenal, 602 from the Dominican convent of Poissy uses gold ink for the major feasts, like the dedication of the church, St Dominic and Christmas, blue for other feasts marked as *totum duplex*, like John the Baptist, Mary Magdalene and Augustine, red for the feast *duplex* and *semiduplex* and brown ink for the minor feasts. Colours mark a precise structure here. In other cases, though, the correspondence between a colour and the importance of a feast is not a consistent one; sometimes colours were just used to create a chromatic variation of no significance at all. In the Salisbury calendar in Paris, BnF, NAL 2628, for example, certain major feasts are written in capital letters in two alternating colours, while other feasts are written in gold, blue, green and red without assigning a specific colour to a particular kind of feast.

The layout of liturgical manuscripts is problematic to the extent that several different elements needed to be arranged on the same page in a coherent manner: the text, the decoration and, in certain cases, the musical notation. These three elements coexisted in a more or less harmonious way: they were added at different stages of copying a book and sometimes there was a gap between what was planned at the beginning and how the manuscript actually turned out in the end. The Exultet rolls from southern Italy are a striking example of the difficult 'cohabitation' of different elements in the same written space, as their illustration is inverted in relation to the script and notation.³²

One aspect that has not been studied systematically up till now is the strategy that was used to copy musical liturgical manuscripts and the interaction between music, script and decoration.³³ In early noted manuscripts, the neumatic notation is written in the interlinear space and the script in a smaller size to allow the notation to be copied. This was possible as long as the notation did not need much space and the neumes did not reflect the distance between musical pitches. However, problems with aligning arose when the musical notation evolved from the 'in campo aperto' type to the staff notation. The transition is evident in a few manuscripts, which show the scribe's hesitation in placing the notation on the page properly. In an Italian missal from the twelfth century (Bologna, Biblioteca Universitaria, 2679), the scribe did not respect the dry point lines traced for the text when he was copying the notation and used three dry

³² See Kelly 1996.

³³ See Baroffio 1989; Deeming 2006; Albiero 2012.

point lines to write two lines of text and music. This was a transitional step before the notation began to be written on lines that were purposely traced.

Notations did not evolve in the same way across Europe; some of them remained staffless, while others began to be copied on one or more lines. In the Gaillac gradual (Paris, BnF, Latin 776), the notation is copied on one dry point line; the ruling of the page has been traced regularly and the lines are the same distance apart, but one of them is used for the text and another for the notation. In this case, the scribe (or whoever prepared the page) did not have to distinguish which lines were used for the text and which ones for the music.

The notation gradually evolved into a more complex system needing up to four lines. In Modena, Biblioteca Capitolare, O.I.16, a Kyriale from the twelfth century, the notation is written on four dry point lines partially coloured in yellow and red and at the same distance apart. In a more sophisticated layout, the text occupies a larger space than the area between each line of the musical staff. This solution called for more complex and careful planning of the page, where the space had to be organised according to the specific content of the book. The system required a different procedure in pricking and ruling the page, as shown in Bergamo, Biblioteca Civica Angelo Mai, MA 150: the pricking for the text lines is shifted towards the edge of the page with respect to the notation, and the space required for the text is larger than that assigned to the lines of the staves.

All these examples show how liturgical practice is at the intersection of knowledge and 'know-how' regarding the ceremonies themselves, the use and the destination of books and, of course, the specific copying strategies that were implemented in each scriptorium or atelier. What hides behind a liturgical book is a universe of rites, people, objects and texts that contributed to the construction of a habit and tradition and that forms the identity of a community and a society as a whole. Liturgical practice is, in fact, a social practice, no matter whether it involves a ritual action, a sacrament, the use of a liturgical book or its transformation and adaptation. Liturgy had an impact outside liturgical practices in medieval times, involving all layers of society, and, since it is not a random practice but a reiterated and consistent one, it formed a frame of reference that was the foundation of intellectual activities, exegetical methods, scientific procedures and artistic production. At the same time, liturgical practice impacted its own forms and contents, as it shaped and transformed the size and form of books, their content and the way they were produced.

Manuscripts

Angers,

Bibliothèque municipale,
477

Bergamo,

Biblioteca Civica Angelo Mai,
MA 150

Bologna,

Biblioteca Universitaria,
2679

Dijon,

Bibliothèque municipale,
Ms. 114

Dublin,

Trinity College,
MS 58

Florence,

Biblioteca Medicea Laurenziana,
Amiatinus 1

Modena,

Biblioteca Capitolare,
O.I.16

Montecassino,

Archivio dell'Abbazia,
557
571

Paris,

Bibliothèque de l'Arsenal,
602
621

Bibliothèque nationale de France,
Latin 1
Latin 776
Latin 987
Latin 1028
Latin 1052
Latin 1288

Latin 9388

Latin 9438

Latin 9970

NAL 300

NAL 2628

Piacenza,

Biblioteca Capitolare,

65

Rome,

Santa Sabina,

XIV L 1

Troyes,

Médiathèque Jacques Chirac,

1732

References

- Albiero, Laura (2012), 'Tra necessità e rappresentazione: gestione dello spazio nei manoscritti liturgico-musicali nei secoli XI–XII', *Litterae Caelestes*, 5: 197–214.
- Albiero, Laura (2019a), 'Le bréviaire, de l'autel à la poche: Quelques considérations à propos des bréviaires portatifs', in Martin Schubert and Eef Overgaauw (eds), *Change in Medieval and Renaissance Scripts and Manuscripts: Proceedings of the 19th Colloquium of the Comité international de paléographie latine (Berlin, September 16–18, 2015)* (Bibliologia, 50), Turnhout: Brepols, 147–160.
- Albiero, Laura (2019b), 'Le bréviaire en dehors de la liturgie', *Gazette du livre médiéval*, 65: 3–15.
- Andrieu, Michel (1938–1941), *Le pontifical romain au Moyen Âge*, 4 vols (Studi e testi, 86, 87, 88, 99), Vatican City: Biblioteca Apostolica Vaticana.
- Andrieu, Michel (1946), *Les Ordines Romani du haut Moyen Âge*, vol. 1 (Spicilegium sacrum Lovaniense, 11), Louvain: Peeters.
- Baroffio, Giacomo (1989), 'Appunti per un trattato di codicologia liturgica', *Ecclesia Orans*, 6: 69–88.
- Boretius, Alfredus (1883), *Capitularia regum Francorum*, vol. 1, Hannover: Impensis Bibliopolii Hahniani.
- Buc, Philippe (2001), *The Dangers of Ritual: Between Early Medieval Texts and Social Scientific Theory*, Princeton, NJ: Princeton University Press.
- Calhoun, Robert Matthew (2019), 'The Gospel(-Amulet) as God's Power for Salvation', *Early Christianity*, 10: 2–55.
- Casavecchia, Roberta, Marilena Maniaci and Giulia Orofino (2021), *La Bibbia a Montecassino / The Bible at Montecassino* (Bibliologia, 60), Turnhout: Brepols.

- Caspers, Charles and Louis van Tongeren (2015), *Unitas in pluralitate: Libri ordinarii als Quelle für die Kulturgeschichte* (Liturgiewissenschaftliche Quellen und Forschungen, 103), Münster: Aschendorff.
- Deeming, Helen (2006), 'Observations on the Habits of Twelfth- and Thirteenth-Century Music Scribes', *Scriptorium*, 60: 38–59.
- Gussone, Nikolaus (1995), 'Der Codex auf dem Thron: Zur Ehrung des Evangelienbuches in Liturgie und Zeremoniell', in Hanns Peter Neuheuser (ed.), *Wort und Buch in der Liturgie: Interdisziplinäre Beiträge zur Wirkmächtigkeit des Wortes und Zeichenhaftigkeit des Buches*, St Ottilien: EOS Editions, 191–232.
- Harper, John (2018), 'Investigating the Experience of Late Medieval Worship', in Sally Harper, P. S. Barnwell and Magnus Williamson (eds), *Late Medieval Liturgies Enacted: The Experience of Worship in Cathedral and Parish Church* (Music and Material Culture Series), London: Routledge, 13–29.
- Heinzer, Felix (2009), 'Die Inszenierung des Evangelienbuchs in der Liturgie', in Stephan Müller, Lieselotte E. Saurma-Jeltsch and Peter Strohschneider (eds), *Codex und Raum* (Wolfenbütteler Mittelalter-Studien, 21), Wiesbaden: Harrassowitz, 43–58.
- Join-Lambert, Arnaud (2006), 'L'évangéliste pour une mystagogie de la présidence du Christ dans l'assemblée', in Martin Klöckener, Bruno Bürki and Arnaud Join-Lambert (eds), *Présence et rôle de la Bible dans la liturgie*, Fribourg: Academic Press, 345–365.
- Kelly, Thomas Forrest (1996), *The Exultet in Southern Italy*, Oxford: Oxford University Press.
- Light, Laura (2013), 'The Thirteenth-Century Pandect and the Liturgy: Bibles with Missals', in Eyag Poleg and Laura Light (eds), *Form and Function in the Late Medieval Bible* (Library of the Written Word, 27: The Manuscript World, 4), Leiden: Brill, 185–215.
- Light, Laura (2016), 'What Was a Bible for? Liturgical Texts in Thirteenth-Century Franciscan and Dominican Bibles', *Lusitania Sacra*, 34: 165–182.
- Martimort, Aimé-Georges (1991), *Les Ordines, les ordinaires et les cérémoniaux* (Typologie des sources du Moyen Âge occidental, 56), Turnhout: Brepols.
- Palazzo, Eric (2000), *Liturgie et société au Moyen Âge* (Collection historique), Paris: Beauchesne.
- Ruzzier, Chiara (2022), *Entre université et ordres mendiants: La production des bibles portatives latines au XIII^e siècle* (Manuscripta Biblica, 8), Berlin: De Gruyter.
- Stirnemann, Patricia (2011), 'L'inscription alphabétique: De la consécration de l'église à l'apprentissage de la lecture et autres usages', *Bulletin monumental*, 169: 73–76.
- Treffort, Cécile (2010), 'Opus litterarum: L'inscription alphabétique et le rite de consécration de l'église', *Cahiers de civilisation médiévale*, 53: 153–180.
- Unfer Verre, Gaia Elisabetta (2010), 'Un contributo alla storia della miniatura a Montecassino nel XII secolo: la Bibbia di Ferro', *Rivista di storia della miniatura*, 14: 32–43.
- Vernet, André (1979), *La bibliothèque de de Clairvaux du XII^e au XVIII^e siècle*, vol. 1: *Catalogues et répertoires*, Paris: CNRS.
- Vogel, Cyrille and Reinhard Elze (1963–1972), *Le pontifical romano-germanique du dixième siècle*, 3 vols (Studi e testi, 226, 227, 269), Vatican City: Biblioteca Apostolica Vaticana.

Felix Heinzer

Objects or Actors? Medieval Latin Manuscripts in Ritual Performances

Abstract: Having the Actor-Network-Theory (ANT) developed by Bruno Latour in mind, I explore the fecundity of an approach considering manuscripts as actors on the stage through three contrasted case studies from the medieval Latin tradition. Firstly I examine the metaphor of the open book in the *Dies irae*, a famous late medieval liturgical poem. The central section investigates how the authority of Pope Gregory I is embedded into liturgical books and how this authority is transferred to later periods, especially through Ekkehard IV of St Gall in his continuation of the *Casus sancti Galli*. Finally the most spectacular case of a manuscript acting in a ritual performance is that of the ninth-century Pürten Gospels re-used as a miraculous therapeutic instrument.

1 Introduction

In search of a comparative perspective on ritual uses of handwritten books within a fundamentally cross-cultural horizon, this paper will use the Actor-Network-Theory (ANT), developed by the Paris-based scholar Bruno Latour and others in the 1980s.¹ It seems indeed tempting to extend ANT's fundamental caveat on behalf of subject-object dichotomies into a field such as manuscript culture(s), in this case with a specific focus on European material. As Beth Williamson put it in her seminal reflections on pre-modern material culture as a whole: 'Rather than thinking only of what people do with objects, we need also to think of how objects do things to and with people'.² In what follows, I would like to demonstrate the utility of such a change of perspective by presenting three case studies on ritual use of manuscripts in the context of Western Latin tradition – a choice which is clearly selective and culturally biased, as well as being inevitably conditioned (and limited) by my disciplinary competences. I do hope, however, that these examples will offer a potentiality of *translation* into other fields, to stimulate reflection and discussion not only on possible analogies but also – and probably even more so – on differences and even alterity.

1 See, in particular, Latour 2005.

2 Williamson 2014, 65.

2 ‘Another Book was opened, which is the Book of Life’: building a poetical phantasm

My first example, instead of dealing with a materially existing manuscript, refers to the literary narrative as an object. Its subject is a book celebrated in one of the most popular late medieval liturgical poems: the famous sequence *Dies irae* (‘Day of Wrath’), widely disseminated as part of the Mass of the Dead from the thirteenth century onwards:³ ‘probably the most representative, culturally momentous and therefore famous poem of the Latin Middle Ages’.⁴ The origin of the piece, attributed for a long time to the Franciscan friar Tommaso da Celano (d. 1260), still remains a riddle.⁵ Yet this did not, by any means, affect its impressive longevity – the sequence notably survived the almost complete extermination of this liturgical genre in the wake of the Tridentine Council⁶ – and its far-reaching cultural appeal to this day. The array of musical settings of the text within the long tradition of European Requiem composition is more than impressive, and the same holds true for the almost countless evidence of textual or musical quotation, ranging from the Cathedral scene of Goethe’s *Faust* right up to Howard Shore’s score for *The Lord of the Rings*.

In this paper, my intention is obviously not to deal with the career of the *Dies irae* but rather with some of its textual aspects, in particular with the fifth strophe which is conspicuously marked by bookish connotations: ‘Liber scriptus proferetur / in quo totum continetur / unde mundus iudicetur’ (‘A written book shall be brought forward, which contains everything and from which the world shall be judged’).⁷

First, two short preliminary clarifications: (1) This part of the text, like the whole sequence, refers to the Last Judgement as a unique event intended to close and suspend history, as it were, and therefore lacking an essential aspect of rituality, which is repetition. Nevertheless, this eschatological projection is obviously modelled on patterns of long-established juridical practices. (2) Although the *liber* mentioned here, instead of being a materially graspable entity,

3 Heyse 1986; Rädle 1987.

4 ‘[W]ahrscheinlich das repräsentativste, kulturell folgenreichste und darum berühmteste Gedicht des lateinischen Mittelalters’, Rädle 1987, 334.

5 A circumspect discussion of the scenario of the poem’s ‘phased’ genesis and propagation in Rädle 1987, 334–336.

6 For some illuminating reflections on its suppression by the Second Vatican Council, see Stock 2002.

7 All English translations, unless stated otherwise, are the author’s.

obviously has to be considered an element of literary fiction, its enormously influential agency as a highly symbolic socio-cultural ‘reality’ is not diminished at all by this qualification.

As with many other examples of medieval liturgical poetry, the sequence shows obvious evidence of a strategy of authorization by means of biblical references.⁸ For the general scenario of the ‘Day of Wrath’, the poet’s major inspiration seems to be Zephaniah 1:14–18.⁹ But, at least to some extent, he might equally have considered the established tradition of biblical commenting, as the very beginning of the verse under scrutiny – ‘*liber scriptus proferetur*’ – seems to reveal. The theme of the book is absent in Zephania, nor does the prophet use the verb *proferre*. I would like to suggest Jerome’s commentary on the minor prophets as a reference, for he has both elements, even presenting them in an inspiring conjunction. Conflating the Zephaniah text with the mention of the book in similar eschatological contexts (notably Apocalypse 20:12), Jerome presents the day of the Lord’s final judgement as the day ‘of the opening of the book’ (‘*aperiendi libri*’) and hence of the ‘disclosure of everybody’s conscience’ (‘*pandendae conscientiae singulorum*’) where ‘all the pomp and shadow of former crimes and vices and of a life of luxury are brought to light amidst the assembly’ (‘*et omnis pompa et imago antiquorum scelerum et vitiorum atque luxuriae proferetur in medium*’) (Fig. 1).¹⁰

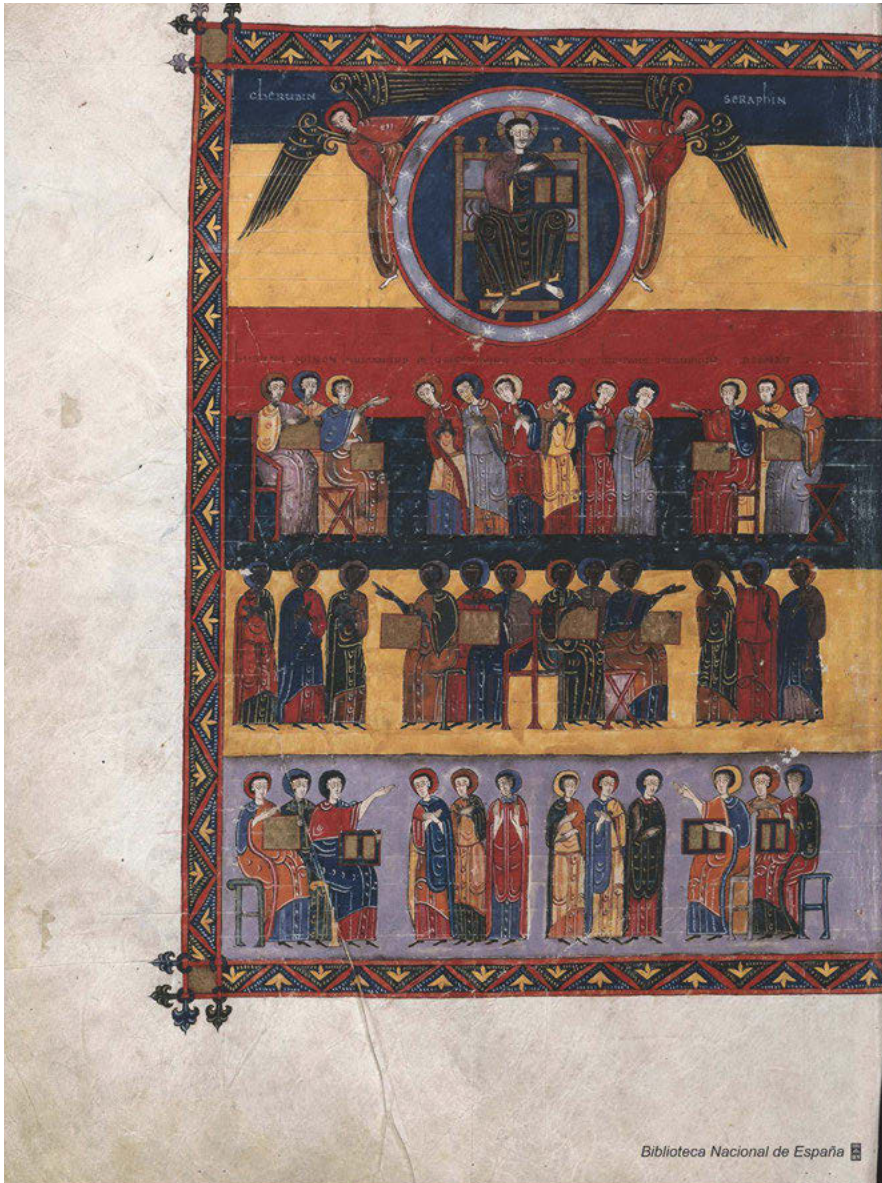
Whereas in Jerome, *proferetur* with its important connotation of public promulgation refers to the sins listed within the *liber*, and hence to its contents, the *Dies irae* links the verb to the book itself, making it act as the true protagonist. This scenario is underscored by the last member of the strophe, ‘*unde mundus iudicetur*’ (‘[from the book] the world will be judged’), and is further reinforced by a simple but highly effective exploitation of a typical feature of the sequence’s formal structure with its couplet-like textual and musical parallelism between two subunits (Fig. 2).¹¹

⁸ For more details cf. Rädle 1987 and Stock 2002.

⁹ The sequence’s beginning (‘*Dies irae dies illa*’) can be found verbatim in v. 15 of the Zephania text, where we also have the *tuba* (v. 16), which offers the exact model. For the remarkable poetical potential of the biblical text itself, cf. Irsigler 1977.

¹⁰ Jerome, *Commentarium in Sophoniam*, ed. Adriaen 1970, ll. 399–405.

¹¹ Prose phrases in the first period of the genre, from around 1100, with increasingly rhythmic verses additionally structured (as in this case) by internal end-rhyme. Cf. Hiley 1993 (on ‘rhymed sequences’: 189–195), and as a case study on one of the earliest and most interesting examples of this shift, Arlt 1992.



Biblioteca Nacional de España

Fig. 1: Last Judgement. Facundus-Beatus, 1047; Madrid, Biblioteca Nacional de España, VITR/14/2, fol. 250^v; public domain.

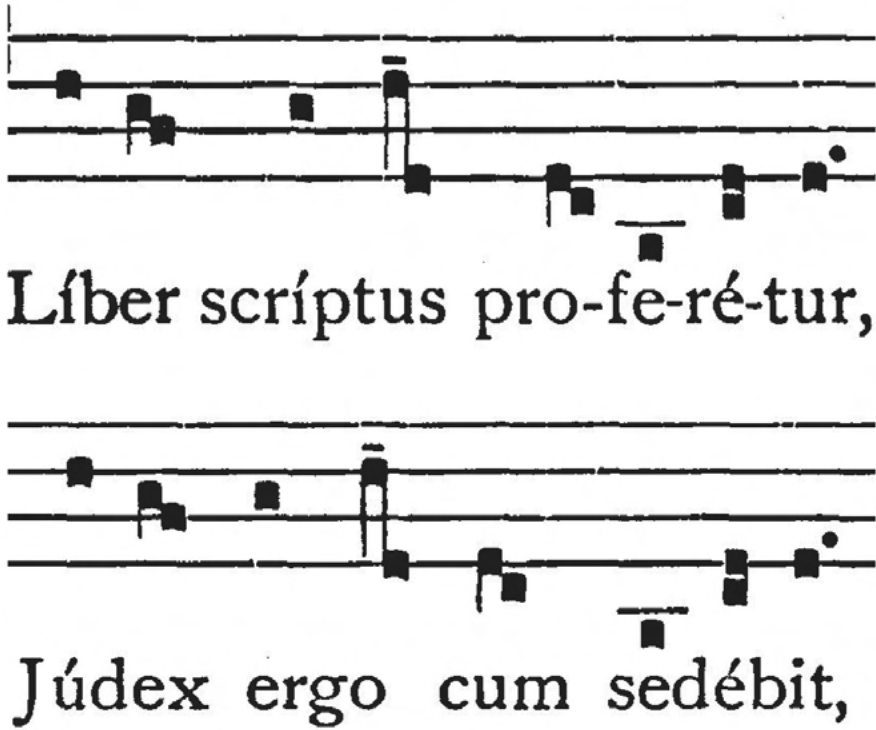


Fig. 2: *Dies irae*, str. 5–6 ('Liber scriptus [...]', 'Júdex ergo [...]'); taken from *Liber usualis*, ed. Benedictines of Solesmes 1962, 1810 (details).

The analogous positioning of *liber* and *iudex* at the opening of the paired versicles, combined with an identical melodic shaping, enhances their semantic relation within the musical performance itself: the agency of the book represents that of the judge!

But there is more. Following Jerome's example, the author of the sequence mobilizes a biblical background reaching beyond the Old Testament prophet. The phrase 'liber scriptus' evidently goes back to Apocalypse 5:1: 'Et vidi in dextera sedentis super thronum librum scriptum intus et foris signatum sigillis septem' ('And I saw on the right hand of him who was sitting on the throne a book written inside and outside and sealed with seven seals'). This reference not only confirms the intimate nexus between book and judge, but equally leads to a better understanding of the somewhat puzzling phrase 'liber scriptus'. Far from just indicating a handwritten book, and thus being a somewhat tautological expression (in the thirteenth century a book could but be manuscript), the

phrase is an elliptic quote from the Johannine text. The author of the sequence has cut the complement ‘intus et foris’ (‘inside and outside’) of the verse of the Apocalypse, which in turn draws on Ezekiel 2:9–10: ‘Et vidi et ecce manus missa ad me in qua erat involutus liber et expandit illum coram me qui erat scriptus intus et foris et scriptae erant in eo lamentationes et carmen et vae’ (‘Then I looked, and behold, a hand was extended to me, and a scroll was in it. When He spread it out before me, it was written on the front and back, and written on it were lamentations, mourning and woe’).¹²

A glance at the material aspects of the *libri* mentioned is not devoid of interest here: Ezekiel’s ‘involutus liber’ is of course a scroll and the same holds true for the Apocalypse, whereas medieval readers of these texts would tend to associate them with the idea of a codex, as illustrations in numerous manuscripts actually show. Now, ‘scriptus intus et foris’, while thinking of a scroll, simply means that it had writing on both of its sides, which was rather unusual. The biblical phrase is thus primarily meant to indicate the fullness of the message of the mysterious book in question: the entire body of God’s revelation to men that could not be contained by the material capacity of an ordinary book.¹³ That is also Bede’s interpretation in his influential commentary on the Apocalypse. According to him, the ‘Liber scriptus intus et foris’ stands for the Holy Scripture meant to contain the totality of knowledge about salvation: the Old Testament being written outside and the New Testament, as the visible fulfilment of the Old, inside.¹⁴ Given the fondness of allegorical thinking within patristic and medieval exegetic traditions, the growing influence of a re-reading of this interpretation in the sense of multi-layered semantics has nothing of a surprise. This is already the case with the seminal interpretation by Gregory the Great in his homilies on Ezekiel, where he distinguishes between outside and inside as representing the literal versus the spiritual understanding of Holy Scripture.¹⁵ Interestingly enough, the author of the *Dies irae* seems to have in mind the first part of Bede’s argument, for, while he abbreviates the biblical quote, he replac-

¹² On the general importance of Ezekiel as a subtext of the Apocalypse, see Sängner 2006 and Boxall 2007.

¹³ See also Blount 2009, 103.

¹⁴ ‘ET VIDIT IN DEXTERA SEDENTIS SVPER THRONVM LIBRVM SCRIPTVM INTVS ET FORIS. Haec visio mysteria nobis sanctae scripturae per incarnationem domini patefacta demonstrat, cuius unitas concors vetus testamentum quasi exterius et novum continet interius’, Bede, *Explanatio Apocalypseos*, I, 6, ed. Gryson 2001, 287, ll. 1–5.

¹⁵ ‘Liber enim sacri eloquii intus scriptus est per allegoriam, foris per historiam, intus per spritualem intelligentiam, foris autem per sensum litterae simplicem, adhuc infirmantibus congruentem’, Gregory the Great, *Homeliae in Ezechielem prophetam*, I, 9, ed. Adriaen 1971, ll. 590–595.

es in turn the deleted phrase by supplementing its meaning according to Bede's idea of textual entirety:

Apocalypse 5:1: *Librum scriptum / intus et foris.*

Dies irae v. 5: Liber scriptus proferetur / in quo totum continetur.

Still, the accent is different. As the liturgical poem is actually drawing on the juridical categories of a lawsuit, its emphasis on the completeness of the book aims at all the records of the names and deeds of those who are going to be judged according to Apocalypse 20:11–12 (Vulgate,¹⁶ with King James Version below):

Et vidi thronum magnum candidum, et sedentem super eum, a cuius conspectu fugit terra, et cælum, et locus non est inventus eis. Et vidi mortuos magnos, et pusillos stantes in conspectu throni, et libri aperti sunt: et alius Liber apertus est, qui est vitæ: et iudicati sunt mortui ex his, quæ scripta erant in libris secundum opera ipsorum.

And I saw a great white throne, and him that sat on it, from whose face the earth and the heaven fled away; and there was found no place for them. And I saw the dead, small and great, stand before God; and the books were opened: and another book was opened, which is the Book of Life: and the dead were judged out of those things which were written in the books, according to their works.

It is conspicuous that this amazing text, which also marks pictorial representations of the eschatological judgement from medieval manuscript illuminations, resonates at this point of the sequence. If one follows Hans Blumenberg's fascinating discussion of Western metaphors on books and reading, in his *Legibility of the World*, this biblical model reflects a typical scenario of a juridical process where the judge relies on two different species of reference books for his sentence: the legal code – Augustine in his *City of God* proposed to understand the many books of Apocalypse 20 as those of the biblical Old and New Testament, functioning as a mandatory moral compass¹⁷ – and the records of human actions. The author of the sequence however suspends this comparative duplicity, reducing the plurality of books of Apocalypse 20 to the one and only 'Liber

¹⁶ *Biblia sacra*, ed. Weber 2007.

¹⁷ 'Ergo illi libri, quos priore loco posuit, intellegendi sunt sancti, et veteres et novi, ut in illis ostenderetur, quæ deus fieri sua mandata iussisset' ('By those books, then, which he first mentioned, we are to understand the sacred books old and new, that out of them it might be shown what commandments God had enjoined'), Augustine of Hippo, *De Civitate Dei libri XXII*, 10, 14, ed. Dombart and Kalb 1955, ll. 31–33.

scriptus intus et foris' conflated with the *Liber vitae*, the Book of Life in which everything is contained.

Apocalypse 5:1 further enhances the auratic status of the 'Liber scriptus' while insisting on its strongly arcane nature by presenting the book as being 'sealed with seven seals' ('signatum sigillis septem'). This is another significant mystification of the book which, although immediately following the phrase 'intus et foris', is again omitted by the poet, despite the broadly attested medieval iconographic tradition of this remarkable feature.¹⁸

Switching to the commentary tradition, it is interesting to go back again to Augustine, who makes a particularly interesting point while dealing with the almost surreal concept of a single book containing the entirety of all deeds of mankind:

*Qui liber si carnaliter cogitetur, quis eius magnitudinem aut longitudinem ualeat aestimare? Aut quanto tempore legi poterit liber, in quo scriptae sunt uniuersae uitae uniuersorum? An tantus angelorum numerus aderit, quantus hominum erit, et vitam suam quisque ab angelo sibi adhibito audiet recitari? Non ergo unus liber erit omnium, sed singuli singulorum.*¹⁹

If this book be materially considered, who can reckon its size or length, or the time it would take to read a book in which the whole life of every man is recorded? Shall there be present as many angels as men, and shall each man hear his life recited by the angel assigned to him? In that case there will be not one book containing all the lives, but a separate book for every life.

As Augustine's conclusion is hardly compatible with the biblical text compelling us to think of just one single book, he no doubt has to call on a sort of miraculous divine power to solve the conundrum. However, speaking in such a 'physical' way (*carnaliter* in Augustin's terms) of a book of incommensurable size and ponderousness might have substantially contributed to the 'imaginary' tradition of the eschatological *Liber vitae* up to such suggestive representations as William Blake's design *The Day of Judgement* of 1805 (Fig. 3).

¹⁸ Cf. the entries 'Apokalypsemotive' and 'Thron (Hetoimasias)' in Kirschbaum and Braunfels 1968–1976, vol. 1, col. 143 and vol. 4, col. 307.

¹⁹ Augustine of Hippo, *De Civitate Dei libri XXII*, 20, 14, ed. Dombart and Kalb 1955, ll. 35–40.



Fig. 3: William Blake, *The Day of Judgement*, 1805; watercolour illustration for Robert Blair's poem *The Grave*; courtesy of The Art Institute of Chicago.

A last comment on the *Liber vitae*: even though we are dealing here with an imaginary book referring to an eschatological future, this 'phantasm' also produces a historical phenomenon that can still be found in specifically organized manuscripts storing institutional memory, produced since the late eighth century and reaching their peak in the ninth century. Sometimes, these bookish con-

tainers of memory were purposefully called ‘*libri vitae*’, an obvious hint at the eschatological reference on which these lists were supposed to be modelled.²⁰ The concept of name is absolutely crucial in this context, something that becomes clear if we look again at the fifth chapter of the Apocalypse: ‘Whoever prevails, so shall he be clothed in white vestments. And I will not delete his name from the Book of Life’.²¹ This is a pledge taking up the archetypal promise to the people of Israel formulated in the prophetic message of Isaiah: ‘I have called thee by thy name; thou art Mine’ (Isaiah 43:1). With such biblical resonances the crowded and almost congested name lists of these manuscripts are given their real significance. Some exceptionally decorated examples such as the confraternity book of the church of Durham with its names written throughout in gold and silver ink seems even to lay claim to a *material* emulation of the heavenly reference they are foreshadowing.

To briefly sum up this first part: the ‘*liber scriptus*’ of the *Dies irae* is definitely more than just an object. A phantasm empowered by biblical authorization as well as a reference for materially existing manuscripts, this imaginary book, charged with highly auratic connotations, enters on stage as a leading actor of the ritually shaped finale of the *theatrum mundi*, cast as a master of eternal life and death.

3 Books authorizing ritual

While the case of the *Dies irae* paradigmatically illustrates the fundamental nature of Christian liturgy as a practice bound forwards, towards its eschatological completion, the service books used as ritual tools to orchestrate this anticipation of ‘heavenly liturgy’ are instead oriented backwards, essentially subjected by tradition to concepts of standardization. That is why in a medieval perspective, reformation of liturgical discipline is fundamentally conceived as a return to a supposedly ideal state of original perfection. Thus, to paraphrase the emblematic title of a magisterial study by Klaus Schreiner on late medieval monastic reformation,²² renovation is mostly remembrance.

This is particularly evident in one of the crucial moments of the history of Christian liturgy in the Latin West: the eagerly desired and politically under-

²⁰ Niederkorn-Bruck 2012, 384.

²¹ ‘Qui vicerit, sic vestietur vestimentis albis, et non delebo nomen eius de Libro vitæ’ (Apocalypse 5:3).

²² Schreiner 1988.

pinned ‘Romanization’ of liturgical rites and repertoires promoted by the Frankish rulers in the Carolingian period, on many occasions and especially in Gaul harshly defended as the pristine purity of tradition (‘*puritas antiquitatis*’) demanding to be protected against innovations.²³ Numerous liturgical codices of this period explicitly claim their dependence on ‘authentic’ Roman books (‘*libri authentici*’),²⁴ many of them explicitly hoisting the flag of Pope Gregory I.²⁵ In the case of sacramentaries, this is performed by means of an almost standardized prefatory formula referring to the venerable model ‘worked out by the Roman Pope Saint Gregory’ (‘*a sancto Gregorio Papa Romano editus/editum*’),²⁶ whereas the pope’s authorship of the body of the Mass chant is indicated by a versified encomium, the famous *Gregorius Praesul* (Fig. 4).²⁷

The early-ninth-century Monza Cantatorium, the oldest known copy of Frankish reception of this repertory, probably from northern France (perhaps Corbie), represents a particularly interesting case of this labelling. The manuscript written on purple dyed parchment not only has *Gregorius Praesul* as an introduction to the textual body inside the manuscript (fol. 2^r) but signals the presumed ‘Gregorian’ authorship even before the book is opened (Fig. 5).

The codex has the typical oblong shape of early Cantatoria and is bound in a re-used early-sixth-century consular diptych showing portraits of two Roman consuls slightly reshaped and renamed by two captions as David and Gregory, the latter being additionally tagged above his (later) tonsured head by the first two verses of the aforementioned poem.²⁸ By such a suggestive parallelization, Gregory and the body of chants named after him are embedded in the reference tradition of cultic praise par excellence: the biblical singing of psalms attributed to David!

²³ The phrase is taken from an often-quoted additional canon of the Synod of Meaux (845) condemning non-biblical additions to the traditional ‘Gregorian’ repertory. See Crocker 1977, 418–420; Haug 1991; more recently Leitmeier 2013, 38.

²⁴ See Heinzer 2008.

²⁵ On the ideological backgrounds of this ascription cf. Mews 2011.

²⁶ Deshusses 1971, 62–63; Heinzer 2008, 39–40.

²⁷ Hesbert 1935, 2; Stäblein 1968; McKinnon 2001.

²⁸ For more details see Steenbock 1965, 72–73 (no. 7 and Fig. 9), who proposes to date the adaptation of the diptych including the Gregory caption to around 900, and Palazzo 1998, 79–80.

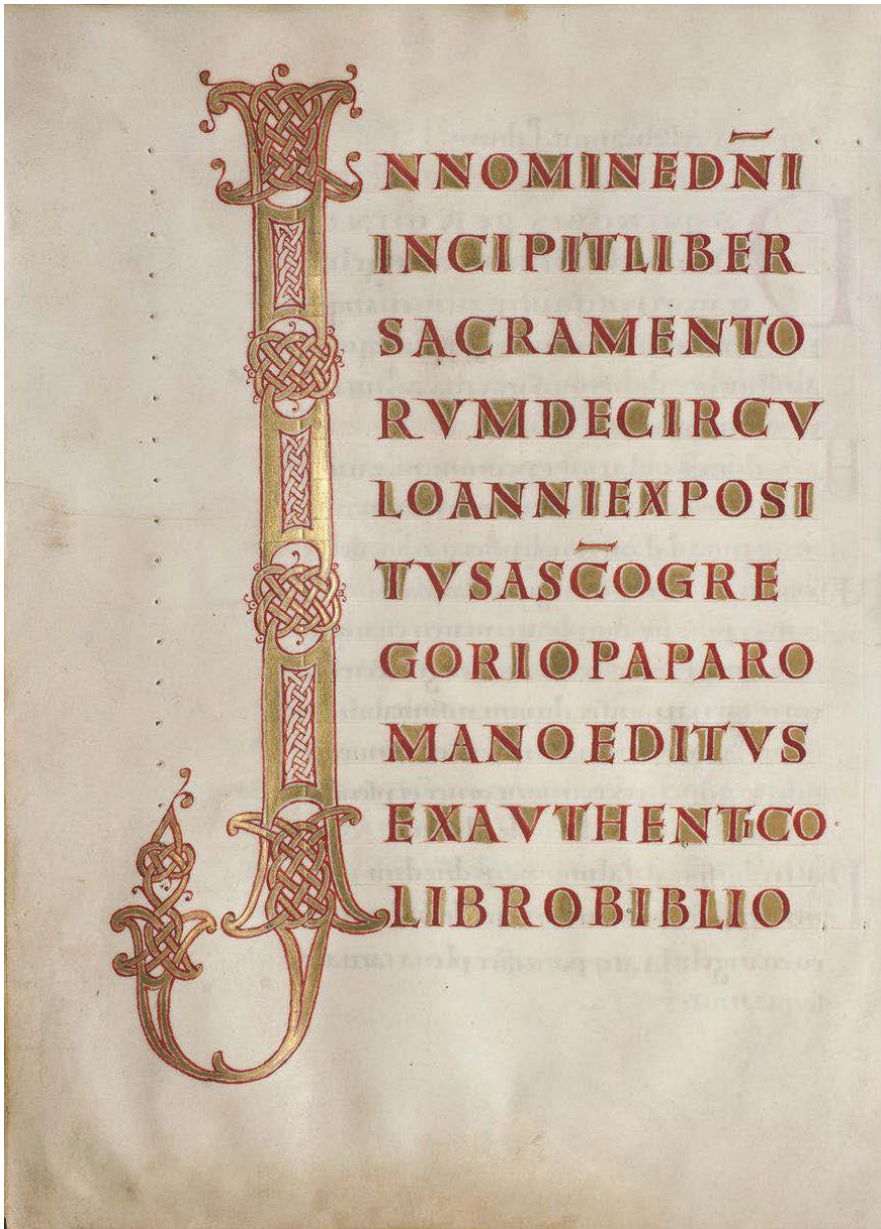


Fig. 4: Reichenau sacramentary, Reichenau, mid-ninth century; Stuttgart, Württembergische Landesbibliothek, Cod. Don. 191, fol. 5^r; public domain.



Fig. 5: Monza Cantatorium, ivory diptych (King David and Pope Gregory the Great), early ninth century; Monza, Tesoro della Basilica S. Giovanni, 109; https://it.wikipedia.org/wiki/File:Dittico_di_gregorio_magno,_monza_museo_della_cattedrale.jpg (accessed on 18 July 2023); public domain.

The use of ivory plates for bindings of this genre of book²⁹ seems to be a rather consistent practice, as the material evidence of preserved specimens suggests.³⁰ Moreover, this tradition is historically attested by an oft-quoted passage by the ninth-century liturgical commentator Amalarius of Metz, in his *Liber officialis* of 820, in which he compares the Christian cantor to the Old Testament Levites, the musicians who performed in the Temple:

²⁹ For a general presentation of its typology and history, see Huglo 2001.

³⁰ Jeffery 1995, 65–66; Ganz 2015, 302; more generally on use (and re-use) of the material for bindings of liturgical codices, see Carmassi 2015, 90–95.

*'Laudabunt enim Dominum levitae per manus David, sive in organis quae ipse fecit sive psalmos quos ipse instituit concinentes'. Eorum vice cantor sine aliqua necessitate legendi tenet tabulas in manibus ut figurant illud psalmistae: 'Laudent nomen eius in choro et tympano et psalterio psallant ei.'*³¹

'The Levites will praise the Lord through the hands of David, either with the instruments that he made or by singing the psalms that he instituted' [quoting Bede's commentary in *Esdras*]. In their *place the cantor holds tablets in his hands*, without any need to read [i.e. sing] from them, so that they symbolize the words of the Psalmist: 'Let them praise his name with dancing, psalming to him with tambourine and lyre!' [Ps. 149:3]

This allegorizing actually suits the presence of David on the Monza tablets surprisingly well, with Amalarius adding an important remark on the material aspect of the tablets: 'Tabulas quas cantor in manu tenet solent fieri de osse' ('They are customarily made of bone').³² Obviously, the Cantatorium is the typical attribute of the cantor and his outstanding role in the field of liturgical chant, as a signature of his noble office of directing the liturgical chant of the community. This seems to be indicated by the formulaic phrase 'Cantor cum cantatorio' in the description of the Roman Mass in the *Ordo Romanus I* of around 700: between the readings of the Epistle and of the Gospel, 'Cantor cum cantatorio ascendit et dicit responsum' ('the cantor with the Cantatorium ascends [the steps of the ambo] and chants the response').³³

While artefacts like the Monza Cantatorium do speak for themselves, it is equally true – as Andreas Haug has emphasized in a survey on the dossier of narratives about this transalpine migration – that we actually have very little reliable contemporary information about the organization of this process, and know little about the actors and media on which such transfers were based.³⁴ That means, as Haug judiciously points out, that our scholarly understanding of this complex and highly momentous cultural process is marked significantly by what Patrick Geary has called 'Phantoms of Remembrance', that is, by narratives of authors writing several generations later³⁵ and thus creating what Jan Assmann calls memory which is 'made'.³⁶

³¹ Amalarius of Metz, *Liber officialis*, III, 16, ed. Hanssens 1948, 303.

³² Amalarius of Metz, *Liber officialis*, ed. Hanssens 1948, 303.

³³ Andrieu 1960, 87, no. 57.

³⁴ Haug 2014.

³⁵ 'Much of what we think we know about the early Middle Ages was determined by the changing problems and concerns of eleventh century men and women, not by those of the more distant past', Geary 1994, 7.

³⁶ Assmann 2005, 7–8.

The story told by Ekkehard IV in his continuation of the *Casus sancti Galli*³⁷ on the famous St Gall Cantatorium of around 922 to 925, considered to be the oldest known consistently notated record of Roman-Frankish Mass chant,³⁸ now housed in the former abbey's library as St Gall, Stiftsbibliothek St. Gallen, Cod. 359,³⁹ fits perfectly into that picture (Fig. 6).

The manuscript still shows the typical diptych shape and format as in the case of the Monza codex, and its front cover presents two ivory reliefs representing Dionysus fighting the inhabitants of India, stemming from an early-sixth-century Byzantine context (Fig. 7):⁴⁰ a deliberate use of *spolia* whose material and iconography were seemingly intended to give the manuscript an aura of venerable antiquity and hence of outstanding authority, which is actually the nucleus of Ekkehard's narrative, created about a century after its production. The codex is celebrated here as a direct copy from the purported original of Gregory himself, the *authenticum* as it is called here again, eventually brought to St Gall by a Roman cantor. This bears witness to an increasing emphasis of the role of the book within the context of the transfer, typical of the eleventh century, as Andreas Haug has emphasized.⁴¹ At its final destination the book was allegedly placed on a kind of pulpit in the choir of the abbey church, to serve as a reference to be looked at as in a sort of mirror ('quasi in speculo') in instances of doubt about the correctness of a given chant: 'in cantu si quid dissentitur'. Once again, as in the case of the eschatological *Liber vitae*, the book is enthroned and appointed to act as a judge!

37 Ekkehard IV, *St. Galler Kloster geschichten*, ed. and tr. Haefele 2013, 106–109; for some nuances of the translation see now Ekkehard IV, *Casuum Sancti*, ed. and tr. Haefele and Tremp 2020, 279.

38 The codex was evidently designed for this new element from the very start, as the scribe purposefully left the required space between the text lines to have the neumes filled in.

39 <<http://www.e-codices.unifr.ch/de/list/one/csg/0359>> (accessed on 4 April 2023). Most recent codicological description: von Euw 2008, 470–472 (no. 131). See also Guilmar 2015; Heinzer 2015.

40 Von Euw 2000, 96–97.

41 Haug 2014, 121: 'Die Texte des neunten und die des elften Jahrhunderts unterscheiden sich signifikant hinsichtlich der darin waltenden Vorstellungen von den Medien und Mechanismen des Transfers. An diesen Differenzen lässt sich die wachsende Bedeutung von Büchern für den räumlichen Transfer und für das Tradieren von Musik ablesen und auch der mediengeschichtliche Übergang zu Büchern mit Notation'.

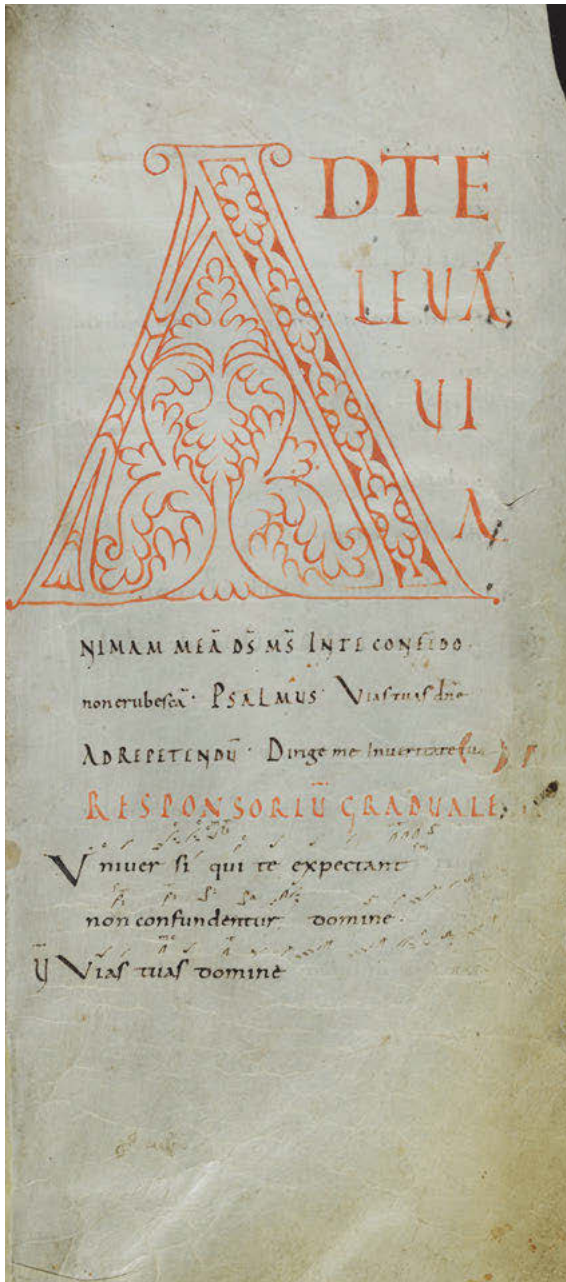


Fig. 6: Cantatorium of St Gall, c. 922–925; St Gall, Stiftsbibliothek St. Gallen, Cod. 359, p. 25; public domain.

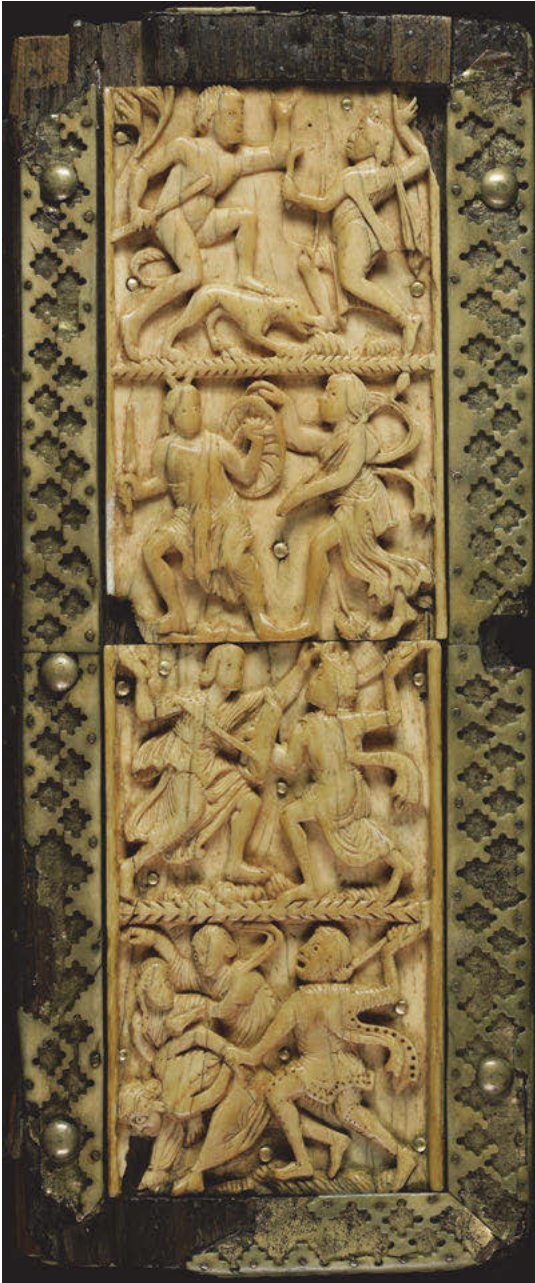


Fig. 7: Cantatorium of St Gall, ivory cover (early sixth century); St Gall, Stiftsbibliothek St. Gallen, Cod. 359.

Ekkehard seems to suggest here an imitation of the Roman situation where, he states, the autograph of Gregory's (Mass) antiphonary was enthroned in a similar way:

Erat Rome instrumentum quoddam et theca ad antiphonarii authentici publicam omnibus adventantibus inspectionem: repositorium quod a cantu nominabant cantarium.

Tale quidem ipse apud nos – ad instar illius circa aram Apostolorum cum authentico – locari fecerit, quem ipse attulit exemplato antiphonario.⁴²

In Rome there existed a sort of instrument with a shelf allowing public inspection of the autograph of the antiphonary to everybody who would come, a repository which from 'cantus' was named 'cantarium'.

A similar one to that which was located in the vicinity of the altar of the Apostles which he [Romanus]⁴³ had placed there for the copy of the antiphonary he had brought.

This rather intricate text demands some comments. Its subtext is the narrative of the transalpine reception – and alteration! – of Roman ('Gregorian') chant in the Carolingian period as it is seminally told in Chapters 6 to 10 of the second book of the late-ninth-century *Vita Gregorii Magni* by John the Deacon,⁴⁴ with the 'original' antiphonary of the pope as the main protagonist of this story. This background is confirmed by the following addition in the upper margin of page 54 of the late-ninth- to early-tenth-century St Gall copy of John's text (St Gall, Stiftsbibliothek St. Gallen, Cod. 578), already mentioned by Ildefons von Arx and attributed to Ekkehard's own hand by Susan Rankin.⁴⁵

Subaudis: Petrum et Romanum. Sed Romanum febre infirmatum nos Sanctigallenses quidem retinuimus, qui nos cantilenas Karolo iubente edocuit, et antiphonarium e suo exemplatum in cantario, sicut Rome est iuxta Apostolorum aram, locavit.⁴⁶

You should supply: Peter and Romanus. But as for Romanus, falling ill with a fever, we of St Gall kept him with us, and he taught us the melodies at Charlemagne's behest, and located the antiphonary copied from its own model in the same way as it was in Rome in the vicinity of the altar of the Apostles.

⁴² I am following here the edition of Ekkehard IV, *Casuum S. Galli Continuatio I*, ed. von Arx 1829, 102–103, while the somewhat over-articulating punctuation (for the sake of presenting the structure of the text as clearly as possible) and the translation are mine.

⁴³ Not Petrus, as Haug 2014, 142 erroneously has it.

⁴⁴ Buchinger 2008, 137–138, n. 86.

⁴⁵ <<http://www.e-codices.unifr.ch/de/csg/0578//54>> (accessed on 4 April 2023). See Ekkehard IV, *Casuum S. Galli Continuatio I*, ed. von Arx 1829, 103, n. 55; Rankin 1995, 373–374.

⁴⁶ St Gall, Stiftsbibliothek St. Gallen, Cod. 578, p. 54.

The page where the note was inserted into St Gall, Stiftsbibliothek St. Gallen, Cod. 578 contains John's Chapters 9 and 10 with the author mentioning Gregory's 'authenticus antiphonarius' and the two (unnamed) singers sent by Pope Hadrian to Gaul on Charlemagne's behest, to bring the true tradition of Roman chant to the Frankish church, and Ekkehard's addition refers exactly to this couple of singers.⁴⁷ Its wording is very close to that of the aforementioned passage of the *Casus* (see above) which most likely goes back to this note. In both instances, Ekkehard suggests a parallel between the Roman situation of Gregory's 'original', and the way its copy (the 'exemplatus antiphonarius') is staged at St Gall. This point is somehow unclear in Hans F. Haefele's translation,⁴⁸ whereas von Arx, while editing the text for the *Monumenta Germaniae Historica*, must have already sensed the potential danger of confusion, and added a footnote to ensure the right understanding of the passage.⁴⁹

What might make Ekkehard's construction a little puzzling is his mention of an 'altar of the Apostles'.⁵⁰ In this specific Roman context this obviously points to Peter and Paul as the Princes of the Apostles, traditionally associated with the Church of Rome. However, as they are buried in two different places, there is no trace of a Roman altar dedicated to the two of them. This irritation is most likely due to the blurred description of the Roman situation by John the Deacon himself,⁵¹ that Ekkehard tries to render with his phrase 'circa aram apostolorum', presumably shaped on a similar but widespread wording clearly referring to Rome as the 'home' of the two apostolic saints: the formula of the 'limina apostolorum', attested as early as the eighth century. As for the interesting term *cantarium*, it might equally have been coined by Ekkehard. The *Mittellateinisch-*

⁴⁷ See Haug 2014, 108–109, n. 15 and 132.

⁴⁸ Ekkehard IV, *Casuum Sancti*, ed. and tr. Haefele and Tresp 2020, 275–276, n. 14.

⁴⁹ Ekkehard IV, *Casuum S. Galli Continuatio I*, ed. von Arx 1829, 103, n. 55: 'Sensus horum verborum est iste: Romanus antiphonarium hoc, quod ipse Romae de authentico descriptum attulerat, in S. Galli templo exposuit eodem modo quo b. Gregorius M. antiphonarium suum circa aram apostolorum locaverat' ('The sense of these words is this: Romanus exposed the antiphonary, he had brought himself from Rome as a copy of the autograph, in the church of St Gall doing this in the same way as the holy Gregory the Great had located his antiphonary in the vicinity of the altar of the Apostles'; my translation).

⁵⁰ I was not able to find any other evidence for the term 'ara apostolorum'.

⁵¹ In the section of his *Vita Gregorii* under scrutiny here, the venerable chant book is mentioned along with other relics of the Pope (including his bed and the rod he used to exert discipline over the boys of his school). According to the author, these were preserved without any further distinction in Gregory's two former habitations near the entrance of Old St Peter's and at the Lateran basilica.

*es Wörterbuch*⁵² records only two instances of its use: Ekkehard's *Casus* and an addition to the *Gesta Karoli Magni* of Notker Balbulus in a twelfth-century manuscript of the *Gesta* written by a scribe of Zwiefalten abbey obviously familiar with the passage in question of Ekkehard's *Casus*.⁵³

The strategy seems obvious: Ekkehard, trying to produce a *pro domo* re-writing of the narrative that Johannes Diaconus had drafted a century and a half before him, bridged his re-writing on one of the two *cantores* sent from Rome – to which he gave a (programmatic) name, Romanus – and on a set of manuscripts: Gregory's 'antiphonarius authenticus' allegedly preserved in Rome, and the Cantatorium at St Gall as its transalpine counterfort. It is interesting though to observe a slight but important difference when comparing the aforementioned notice he entered in the St Gall manuscript of the *Vita sancti Gregorii*, with the version of the same story in the *Casus*. In the notice of St Gall, Stiftsbibliothek St. Gallen, Cod. 578 (see above) a third book is edged in between the two piers, for here, interestingly enough, Ekkehard has the St Gall copy enthroned on the repository by Romanus 'copied from his own transcript' ('e suo exemplatum'). Ekkehard might have been aware of the Cantatorium as a codex written by St Gall scribes in a style he was familiar with, and would therefore have known that it was not a Roman book. In the more literary context of the *Casus*, however, he condensed his narrative rather effectively in view of a two-step rhythm with the Roman original and the book Romanus had brought from Rome ('quem ipse attulit') to represent the Roman original at St Gall. While this trick highlights Ekkehard's skills as a storyteller, the scenario of 'Phantoms of Remembrance' (with a nod at Patrick Geary's felicitous formula) is garnished by a thoroughly material element: the ivories on the front cover of the manuscript!

Where did these spolia come from and when did they travel to St Gall? To quote Anton von Euw: 'Es gibt eigentlich nur eine sinnvolle Erklärung, nämlich, dass sie schon Bestandteil der Hülle jenes Antiphonars (Cantatorium) waren, von dem Cod. 359 im 10. Jahrhundert abgeschrieben wurde' ('There is really only one sensible explanation, namely that they were already part of the cover of the very antiphonary (Cantatorium) from which St Gall, Stiftsbibliothek St.

⁵² Prinz et al. 1969, 186. Cf. Peter Stotz's 'Introduction' in Stotz 2002, vol. 1, 323 (§ 68.9).

⁵³ According to Hans H. Haefele (Notker der Stammler, *Taten Kaiser Karls des Großen*, ed. Haefele 1959, 15, n. 4). However, this addition ('Sed et piissimus imperator cantorem illum sibi allectum, Petrum quidem nomine, sancti Galli cenobio immorari aliquantisper iusserat. Illic enim et cantarium sicut hodie est cum autentico antiphonario locans Romani cantare et discere [...] iussit') was again affected by the already discussed misunderstanding, as the scribe had the Gregorian *authenticum* located in St Gall instead of Rome! See now Ekkehard IV, *Casuum Sancti*, ed. and tr. Haefele and Tremp 2020, 515, n. 1.

Gallen, Cod. 359 was copied in the tenth century’).⁵⁴ This recalls Ekkehard’s aforementioned addition to the *Vita Gregorii Magni* in St Gall, Stiftsbibliothek St. Gallen, Cod. 578, where he had the codex brought by Romanus copied on the spot by local scribes producing what is now St Gall, Stiftsbibliothek St. Gallen, Cod. 359. The ivories of the former book’s binding would then have been re-used to clothe the St Gall copy, staging it as a tangible pledge of its venerable genealogy as a ‘Roman’ book, as it were, and thus acting as a warranty of conformity with pristine Roman tradition. Moreover, and this is a really salient point, the ivories were also meant to authorize an unheard of element, which the Monza Cantatorium for example did not contain: the musical *notation* that the book crafted north of the Alps consistently contained; hence, not only the textual but even the *musical* aspect of the ‘Gregorian’ repertory comes into play.

Literary and material aspects thus converge to make the Cantatorium an emblematical symbol of the abbey’s claim to *Romanitas*. This is a strategy which seems to dovetail perfectly with a tendency that has been singled out by modern scholars such as Steffen Patzold⁵⁵ and others, as the intrinsic rationale of the *Casus*: ‘Ekkehard uses the assembled tales on late-ninth- and tenth-century life in the Gallus cloister as evidence for his house’s adherence to an unremitting preservation of the Rule of Benedict in his own day’ – and hence as an argument at rejecting external attempts at reform.⁵⁶ As Karl Schmid suggested in 1991,⁵⁷ the momentum of this *causa scribendi* might have become even stronger after 1034, the year of the imposition of the ‘foreign’ abbot Norpert, stemming from Stavelot as a stronghold of monastic reform in early-eleventh-century Lotharingia. His arrival seems to have caused severe troubles within the St Gall community, which Ekkehard might actually have had in mind in his Chapter 136 when speaking of ‘times of a schism among the monks’ that his community suffered ‘from the French’.⁵⁸ Against this backdrop, Ekkehard’s creation of such a ponderous ‘Codex-myth’⁵⁹ appears in an even more programmatic light: a monastery in possession of no less than a copy of Pope Gregory’s own antiphony, has every right to claim its exemption from any need of reformation as it is supposed to follow an unimpeachable – Roman – tradition of liturgical practice.

54 Von Euw 2000, 97.

55 Patzold 2000; Patzold 2013.

56 Kruckenberg 2017, 64 (cf. also 60–61 with a rich bibliography in n. 6).

57 Schmid 1991, 122.

58 Ekkehard IV, *St. Galler Klostergeschichten*, ed. and tr. Haefele 2013, 264 (‘tempora quae a Gallis patimur monachorum scismatis’), commented by Patzold 2013, 301–302.

59 In the sense of the term coined by Graf 2015.

However, such ‘monumentalizing’ of the codex might outshine a subtle but important relativization of its agency in the way Ekkehard himself tells this story. Here, the book alone appears to be insufficient to fully bear the transmission of the repertory it is charged to convey from Rome over the Alps, as it needs to be accompanied by an expert of *vocal performance*: the Roman cantor.⁶⁰ Yet, this interesting alliance between human and bookish agency is not just a personal invention of Ekkehard, but can be observed as a consistent leitmotif in narratives about ‘missionary’ achievements in the context of ecclesiastical reform activities. For the eleventh century, suffice it to remember the consistent policy of the Hirsau movement to settle new foundations systematically with monks equipped with a basic set of books, including the *Constitutiones Hirsaugienses* and mostly (carefully corrected) liturgical manuscripts. These were considered indispensable for the installation of a regular monastic life⁶¹ – a practice echoed slightly later by the paradigmatic formula of the *Summa Cartae Caritatis* (c. 1123/1124) about the foundation of new houses corresponding to the guidelines of the order: ‘Non mittendum esse abbatem novum in locum novellum sine monachis ad minus XII nec sine libris istis; psalterio, hymnario, collectaneo, antiphonario, gradali, regula, missali’ (‘A new abbot is not to be sent to a new place without at least twelve monks, or without these books: psalter, hymnal, collectary, antiphony, gradual, rule, missal’).⁶² Exemplary personnel – the number of monks obviously points to the model of the twelve Apostles – and exemplary books are the two bearers of this mission, with the humans interpreting and animating the non-human entities. To quote Latour again: ‘an actor on stage is never alone in acting’.⁶³

Ekkehard’s two-track model thus fits with a long-term perspective. Yet, looking at the Romanus episode, one cannot help detecting some in-house background. I am thinking here of an interesting feature of the prologue of Notker’s *Liber Hymnorum*,⁶⁴ another foundational St Gall story: the ominous ‘presbyter quidam de Gimedia’, a priest who had fled from Jumièges, which had recently been devastated by the Normans, and who had arrived at St Gall with his antiphonary (‘antiphonarium suum deferens secum’), a book which allegedly acted as a trigger for Notker’s invention. Thus, once again, a cleric arriving from a distant shore with his book! There is no doubt as to the obvious differ-

⁶⁰ Rankin 1995, 371–376.

⁶¹ Heinzer 1991, 263.

⁶² Bouton and van Damme 1974, 121; English translation according to Waddell 1999, 408.

⁶³ Latour 2005, 46.

⁶⁴ Haug 2008 (with an edition and translation of the text).

ence of value and function between the two books, or to the contrasting messages of the two stories: innovation in Notker's case, affirmation of tradition with Ekkehard. Still, the latter certainly was more than familiar with the former's text, and we might detect at least some traces of continuity on the level of narratological *motifs*.

4 Miraculous books: the case of the Pürten Gospels

At the beginning of the last section of my paper I would like to recall a differentiation which is of general interest for the study of manuscripts from a *longue-durée* perspective and, in particular, for the topic of the contributions brought together in this volume. Dealing with the issue of specific uses of codices, in this case in the context of rituality, we are regularly confronted with shifts between original and secondary functions, either in the sense of a succession of use and re-use, with the latter replacing the former, or of an overlapping of different 'vocations' of one and the same artefact. Obviously, this kind of 're-coding' is a rather common phenomenon in the field of manuscripts originally destined to be used ritually. Magical (re-)using of 'holy books' is widely attested in pre-modern times, including protective and apotropaic contexts, but also healing practices as well as prognostics, ordeals and the like, as attested by an impressive body of evidence, presented at the 1999 Münster conference on *Pragmatische Dimensionen mittelalterlicher Schriftkultur* by Klaus Schreiner.⁶⁵

It is in this dossier that Schreiner points to the book I am going to consider more closely in this final part of my paper: Munich, Bayerische Staatsbibliothek, Clm 5250, a fully outfitted Gospel book with canon tables and full-page representations of the four Evangelists, known for its alleged healing qualities for the mentally ill (Fig. 8).⁶⁶

⁶⁵ Schreiner 2002.

⁶⁶ Bischoff 2004, 230 (no. 2985). See now <http://www.manuscripta-mediaevalia.de/?xdbdtdn!%22obj%2031724511%22&dmode=doc#|4> (accessed on 23 August 2023), including a digital presentation of the manuscript and a detailed description by Juliane Trede.

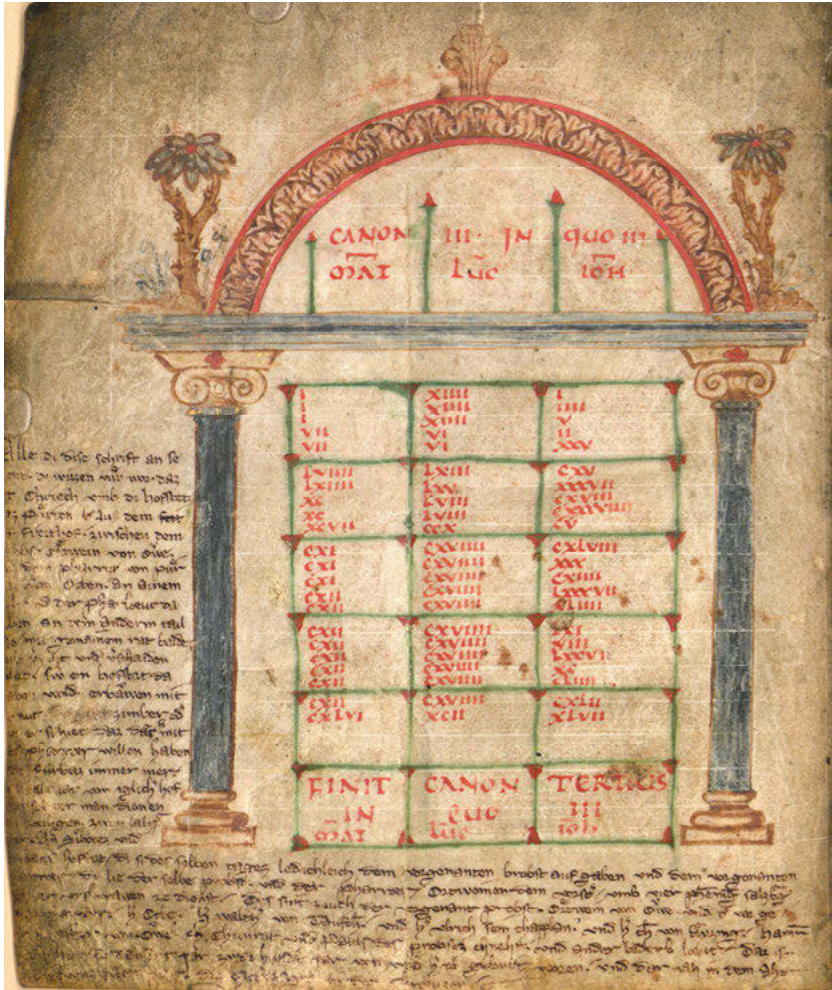


Fig. 8: Pürten Gospels, late ninth century, canon tables; Munich, Bayerische Staatsbibliothek, Clm 5250, fol. 4^v, with additional late medieval vernacular notes; public domain.

The origins of the manuscript can be dated to the late ninth century and located in the Reims area on the grounds of both the illumination⁶⁷ and the scribal notice (fol. 205^v) of the priest and recluse Framegaudus, accredited by Bernhard Bischoff with at least four more manuscripts now housed in Paris and Wolfen-

⁶⁷ Bierbrauer 1990, 131–132 (cat. no. 249).

büttel.⁶⁸ Under circumstances which remain unclear, the codex travelled to Bavaria where it can be traced from of the late eleventh century onwards in the parish church of Pürten on the river Inn in Upper Bavaria. This chronology is based on an entry of that period in the codex (fol. 9^r) concerning two donations ‘ad purtin’ by Chadalhoch III, count in Isengau, and his wife Irmingard (d. 1075).⁶⁹ The latter, coming from a family of the lower Rhein area connected with the Ottonian emperors and other members of high nobility, might have played an active role in the history of this book’s stunning journey.⁷⁰ Three more entries on the possessions and rights of the Pürten church were added between the thirteenth and fifteenth centuries, again in the prefatory part of the manuscript⁷¹ making it appear as a sort of conservatory for data of specific importance for the identity and institutional memory of the house owning it. This was moreover not a single case, as we can find similar evidence elsewhere⁷² – an interesting ‘archival’ role that Gospel manuscripts seem to share sometimes with other liturgical codices.⁷³ It is a function confirming the outstanding prestige of such books, although one which, as far as I can see, has never been studied systematically.

A much more spectacular re-coding of the Pürten Gospels is obviously represented by the aforementioned shift to being considered a miraculous book. The fact that such a re-coding concerns an evangeliary comes as no surprise, as these books had always been charged with a particular thaumaturgical potential. The reason is obvious: if books written by holy men were considered (like their relics) to guarantee the presence of those who had crafted them – one of the most spectacular cases being the famous *Cathach* of Columba, a psalter

68 Bischoff 1980, 176–177.

69 Schroll 1999, 3–4.

70 A plausible hypothesis proposed by Schroll 1999, 7–8.

71 See again Schroll 1999, 3–4; some more details in the manuscript description by Trede (see above, n. 66).

72 To quote just two examples: the twelfth-century Gospel book of the Hirsau priory Alspach in the Alsace (now Stuttgart, Württembergische Landesbibliothek, Cod. Bibl. Fol. 71), with two blocks of copies of charters added at the beginning and at the end of the codex (fol. 2^{r-v} and fols 119^r–121^r), cf. Stenzel 1926, 52–54, and the famous *Liber Viventium* of Pfäfers (St Gall, Stiftsarchiv, Cod. Fab. 1), a Carolingian evangelistary housing several inventories of the abbey’s relics, books and treasures as well as necrologies; see von Euw 1989).

73 I might mention here the lists of books written at the behest of the Weingarten abbot Berthold in Stuttgart, Württembergische Landesbibliothek, HB I 40, and at the end of his magnificent early-thirteenth-century sacramentary. See Spilling 1999.

manuscript of the later sixth century allegedly copied by Columba of Iona⁷⁴ – then this status was attributed *a fortiori* to the Gospel as a written embodiment of Christ himself. This outstanding prestige of the evangeliary in the context of medieval Christianity is evident on the level of ritual practice – for instance the ceremonial veneration with which it was accredited in the context of its use on the liturgical stage, or its predominance with regard to precious book covers of ritually used codices⁷⁵ – as well as in the field of theological reflection. Regarding the latter, I would like to mention a particularly remarkable passage in a sermon of the English twelfth-century Cistercian Isaac of Stella, dealing with the idea of different grades of ‘materialization’ within God’s self-revelation to men:

*Ipsum, fratres mei, verum Verbum caro factum, ipse Dominus Iesus, ipse unus magister noster Christus, etiam nobis liber fit [...] Ipsum sanctum Verbum, quod beati oculi apostolorum viderunt in carne, manus tractaverunt, hodie est nobiscum, visibile in littera, in sacramento tractabile. Si autem in carne recessit, sed littera mansit [...] nobis [...] sanctum Evangelium, benignus indulsit, ut sit quasi invisibilis [my conjecture of visibilis in the edition] Verbi praesens corpus, sancti Evangelii textus.*⁷⁶

The true Word incarnate, my brethren, the Lord Jesus himself, our only master Christ himself *has become a book for us* [...] The holy Word of God incarnate that the blessed eyes of the Apostles saw in the flesh and their hands touched, is now visible in the letter and tangible in the sacrament. And if he departed in the flesh, still he *remained* in the letter, [...] bestowing the holy Gospel on us, so that the text of the Gospel (*textus Evangelii*) may be the visible and present body of the Word.

It is important to note here that the term ‘textus Evangelii’ does not mean a mere linguistic entity but denotes a ritually employed codex, that is, the evangeliary used during Mass and in processional contexts and the like; suffice it to mention here the Cluniac *Consuetudines Udalrici* or the Hirsau *Liber ordinarius* (largely based on the Cluniac model).⁷⁷

Back to the Pürten Gospels: its use as a miraculous therapeutic instrument was officially attested for the first time in 1592 in an account requested by Duke Wilhelm V of Bavaria, who had heard about healings of persons suffering of mental illness (‘zerrittenen oder gar besessenen Persohnen’).⁷⁸ The author of the

⁷⁴ Schreiner 2002, 325–326, with some other examples. For the Cathach see De Hamel 1986, 22 and pl. 12; and Ó Cróinín 2009.

⁷⁵ Heinzer 2017, 34–35.

⁷⁶ Isaac of Stella, *Sermones*, ed. Hoste 1967, 208–211.

⁷⁷ Most telling are formulations like ‘textum evangelii portans or textum de altari tollit’, see Heinzer 2009, 53–56; cf. equally Lenten 2005, 141–146.

⁷⁸ A transcription of Wilhelm’s questions and the provost’s answer is given by Schroll 1999, 14–16.

document, Abraham Cronberger, provost of the Augustinian chapter Au (charged with the pastoral care of Pürten from the late twelfth century), reported a local tradition that had been brought to Pürten by a legendary French princess called Alta.⁷⁹ He described in some detail the therapy which took four nights, during which the Gospel book, opened at the pages showing the four evangelists, was put under the patient's head. Cronberger also mentioned that the book was frequently lent to individuals outside of Pürten, who were asked to pay a fee for the church's maintenance; hence the apparently poor condition of the manuscript ('aineßthails verletzt umb deß vilfeltigen außleichens unnd gebrauch willen'). Interestingly though, as the provost pointed out, there was reluctance to rebind the damaged book because of the concern that it might lose its effect and power ('hatt aber sorg tragen, es möchte ain sein Würkung unnd Krafft dadurch entzogen werden').⁸⁰ The integrity of magic agents always seems to be an important condition of their efficiency!

The Gospel imported from Reims now acted in a different way, as the book's ceremonial reading framed by a liturgical community was replaced by individuals' silent physical contact with the 'visible body' of the Word (to recall Isaac's argument), worn in a way to increasingly emulate the wounded corps of the victimized Saviour. The pages close to those with the representations of the evangelists are conspicuously marked by the stress of the procedure described by Cronberger, showing stains and tears, while the miniatures themselves are in an absolutely deplorable state (Fig. 9): Luke is almost completely destroyed, and John was replaced by a surrogate in the late seventeenth or early eighteenth century.⁸¹

⁷⁹ Schroll 1999, 14, 19–20, probably suggesting here a sort of mystification of the Reims provenance of the codex and of the role of Irmingard.

⁸⁰ Schroll 1999, 15.

⁸¹ This replacement is probably no coincidence, as the fourth evangelist was traditionally very popular in the field of magical practices, especially the prologue *In principio erat verbum*, venerated as a sort of 'quintessence' of the gospel, containing its divine power in a concentrated form. See Ruh 1983 and the impressive dossier of amulet-like uses of this text against a diverse array of diseases and dangers, as well as damage due to adverse weather conditions, demoniac tribulations, sexual dysfunctions, or simply fever, collected by Schreiner 2002, 315–322.



Fig. 9: Pürten miracle book, late ninth century, full-page miniature of the Evangelist Luke (heavily damaged); Munich, Bayerische Staatsbibliothek, Clm 5250, fol. 67'.

At approximately the same time the Pürten church was decorated with a fresco of the aforementioned *Alta legend*. The caption, dated 1716, refers to the princess' arrival from France with her book, said to have produced many and great miracles for centuries until the present day.⁸² These practices were apparently continued

⁸² 'durch welches vor schon etlich Hundert Jahren, bis auf heuntigen Tag, ser vill und grosse Wunder an denn betrieubten und anderen Leuthen gescheehen seindt und annoch geschehen', Kern *s.a.* See also the slightly diverging transcription in Rinkes 2020, 313, n. 1208.

until the late eighteenth or even the early nineteenth century, as a letter of the parish priest, written in 1858, mentions an eyewitness still alive at that time.⁸³

What about the beginnings of this ‘magical’ use of the Pürten codex? Juliane Trede has recently pointed to a hitherto unnoticed detail: three entries (fols 58^v, 108^v, 115^v) by a hand of the late fifteenth/early sixteenth century, marking the destination of specific sections of the Gospel text to be read during Mass.⁸⁴ Does this evidence point to a still ongoing – and even exclusive – liturgical use of the manuscript around 1500, thus postponing the functional shift to a status of miraculous book into the first decades of the sixteenth century, perhaps assuming a transitional period in which this new employment of the book overlapped with its original vocation?

There is however no doubt whatsoever that the general tradition of attributing thaumaturgical qualities to Gospel books can already be found in much earlier times. For instance, in a passage of the seventh of Augustine’s homilies on the Gospel of John, dealing with remorse and penitence as spiritual remedies offered by God to sinners, the author inserted a short digression on practices of treating bodily ailments – a headache in this case – by means of the physical application of Gospel manuscripts:

*Quod ergo? Cum caput tibi dolet, laudamus si evangelium ad caput tibi posueris, et non ad ligaturam cucurreris. Ad hoc enim perducta est infirmitas hominum, et ita plangendi sunt homines qui currunt ad ligaturas, ut gaudeamus quando videmus hominem in lecto suo constitutum iactari febribus et doloribus, nec alicubi spem posuisse, nisi ut sibi evangelium ad caput poneret; non quia ad hoc factum est, sed quia praelatum est euangelium ligaturis.*⁸⁵

What then? When your headaches, we praise you if you place the Gospel at your head, instead of having recourse to an amulet. For so far has human weakness proceeded, and so lamentable are those who have recourse to amulets, that we rejoice when we see a man who is upon his bed, and tossed about with fevers and pains, placing his hope on nothing else than that the Gospel be laid at his head; not because the Gospel is made for this purpose, but because it is preferred to amulets.

The accent of resignation is unmistakable: despite the fact that the bishop considered this to be a blatant misuse of the holy book which was ‘not made for

83 Schroll 1999, 22–23. In the same letter, the priest claimed to know that the official in charge of transporting the codex to the Munich court library in 1805, tormented by desperation and remorse for what in the eyes of the priest was an impious and ruthless act, had committed suicide soon afterwards – a bizarre perversion of the book’s miraculous agency supposed to have revenged itself on the man!

84 See above n. 66.

85 Augustine of Hippo, *In Iohannis evangelium tractatus*, cxxiv, tr. 7, 12, ed. Willems 1954.

that' ('non ad hoc factum'), he seemed to be relieved if it was at least the Gospel and not an amulet that was applied as a remedy. Practices like these had obviously become a habit already by the early fifth century.⁸⁶

A last remark here addresses the 'multi-layered' authorization of the book's agency. First and mainly, albeit not exclusively, the Gospel acts as an embodiment of Christ. During the nocturnal therapy the evangelists enter the stage, as the sick are placed with their head on the images of the book's four human authors: a remarkable situation which recalls the iconographical conflation between the *Maiestas Domini* and the symbols of the evangelists frequently found in evangeliaries. Whereas, according to a felicitous formula of Augustine, the shepherd's (i.e. Christ's) voice is transmitted to us through the evangelists' mouths,⁸⁷ in the Pürten book his healing power is transmitted by the images of these four messengers. But there is even a third actor on the stage: Alta, the legendary French princess venerated for having – miraculously – brought the book to Pürten. The aforementioned fresco caption of 1716 has her arriving at her final destination already dead, her corpse on a wagon pulled by a pair of mules with the book lying on her chest, ready to unfold its miraculous powers as soon as Alta had been buried ('so bald man sye zur Erdten bestettete'). Interestingly, this connection between the saint and the book has been suggestively materialized by the architectural arrangement: in one of the corners of the fresco a rectangular niche, where the book used to be kept, is still visible.

Once again, such a concept of synergy between bookish and non-bookish actors, which we have already dealt with in the section on the St Gall Cantatorium, obviously has older roots. Suffice it to mention the narrative of the alleged autograph of the Gospel of Saint Matthew purportedly found by nomadic shepherds around 500 in the grave of Saint Barnabas, who is said to have used the book for healing purposes.⁸⁸ The story was related by Jacobus de Voragine in his *Legenda Aurea*,⁸⁹ but actually goes back to much earlier Greek sources.⁹⁰ This example, not the only of its kind, clearly shows how deeply such narratives are embedded in late antique traditions of mystification of handwritten books and

86 Schreiner 2002, 323.

87 'vocem pastoris nostri [...] per ora evangelistarum nobis apertissime declaratam', Augustine of Hippo, *Ad catholicos de secta Donatistarum*, 12, 32, ed. Petschenig 1909, 202.

88 Schreiner 2002, 318.

89 Jacobus de Voragine, *Legenda Aurea*, ed. Graesse 1846, 627–628: 'Eius [sc. Matthei] autem Evangelium anno domini D, quod manibus suis scripserat, com ossibus beati Barnabae reperiuntur est' (cf. Jacobus de Voragine, *Legenda aurea*, ed. Häuptli 2014).

90 Cf. for instance Alexander Monachus of Cyprus, *Laudatio s. Barnabae Apostoli*, 450C (cf. Alexander Monachus of Cyprus, *Laudatio s. Barnabae Apostoli*, ed. Van Deun 1993).

their discoveries – mostly in graves – with the fabulous eyewitness account of the Trojan war by Diktys the Cretan being a paradigmatic case.⁹¹

In this chapter on the Pürten book, I have deliberately tried to refrain from assessing the recycling of sacred books, in this case of a Gospel, in categories of theological ‘correctness’ versus ‘misuse’, as another question seems to be historically more meaningful and hence more interesting: to what extent do such cases of re-coding actualize potentials already latent in what we might call the original status of such artefacts? For the Pürten book, for example, it is not without interest to look back to the *Ordo Romanus I* as a fundamental referential frame for the liturgical use of the Gospel book. Whereas in the solemn reading it obviously realizes its true vocation, in the ritual choreography which frames this moment it mostly acts as a *closed* book, staged and venerated as a ‘bodily’ representation of Christ. Hence, use of the *textus evangelii* as an instrument of healing as attested not only in Pürten but elsewhere and much earlier as well, instead of being criticized as a surprising or even scandalizing practice, might be considered as nothing other than an attempt to re-read the very old and venerable theologoumenon of *Christus Medicus*, albeit with a thoroughly *somatic* understanding of a fundamentally spiritually accentuated concept!⁹²

Conclusion

Having used a term like ‘actor’ in my analysis of cultural relations and dynamics, it might be helpful – coming back to Latour for a moment – to ‘reactivate the metaphors implied in the word’, remembering thus ‘that this expression, like that of “person”, comes from the stage’. This means that ‘far from indicating a pure and unproblematic source of action, they both lead to puzzles as old as the institution of theatre itself’.⁹³

In the three case studies presented in this paper, manuscripts *are* more than just objects, they appear as actors entering the stage, even – and perhaps most prominently – in the remarkable case of a phantomatic book such as the ‘Liber scriptus’ dominating the eschatological scenario of the ‘Day of Wrath’. Still, their status remains to some extent unfathomable, and if Latour rightly insists on what he terms the *dislocation* of action per se being ‘borrowed, distributed,

⁹¹ For a still impressive survey of this tradition, see Speyer 1970. Cf. Graf 2015, 17–19.

⁹² For this seminal figure of thought, see for instance Arbesmann 1954; Fichtner 1982; Steiger 2005; von Bendemann 2002.

⁹³ Latour 2005, 46.

suggested, influenced, dominated, betrayed, translated',⁹⁴ this seems especially true for the agency of manuscripts destined to be used within the complex and multi-layered field of ritual. Neither a consideration of books simply as 'raw matter' brought to life by human action, nor an undifferentiated glorification of bookish materiality would be helpful here. To be sure, books, especially manuscripts with their individual figuration, are *perceived* as actors in pre-modern times, and presumably – to use Beth Williamson's felicitous formula – they still are doing things 'to and with people',⁹⁵ if only in a metonymical understanding. Yet, and this is an important qualification, their agency must not be considered independently from that of humans: they are not operating *instead* of humans, but as part of a *network* of actors, mediators and intermediaries, including 'many metaphysical shades between full causality and sheer inexistence'.⁹⁶ That is why it is important to recall once again the synergy between books and their human 'partners', repeatedly emphasized in the course of this investigation.

One question still remains though: what makes manuscripts and above all ritually used manuscripts particularly idoneous to assume such a role? It seems to me that this aptitude is due an interaction of different yet related aspects:

1. The fundamentally incarnational nature of Christianity as a religion anchored in the central tenet of God 'materializing' himself while becoming flesh.
2. The substantial role of 'physicality' within medieval religion and devotion.⁹⁷
3. The seminally *bookish* orientation of Christian religion and its official worship practice.⁹⁸
4. The 'medial' authority of the (pre-modern) codex with its *aura* of uniqueness and – especially in the realm of the sacred – of outstanding artistic quality and material preciousness.

While modern scholars in their search for historical and philological information are mostly looking at medieval manuscripts as containers of texts (in a very broad sense of the term of course), anthropologists would insist on the necessity to challenge this kind of 'text-centred' methodology. *Beyond the text* is the symptomatic title of a seminal study published in 1987 by the American scholar Lawrence A. Hoffman, on Jewish ritual tradition.⁹⁹ Instead of a merely

⁹⁴ Latour 2005, 46.

⁹⁵ Williamson 2014, 65 (see above, n. 2).

⁹⁶ Latour 2005, 72.

⁹⁷ With a specific focus on late medieval culture: Bynum 2011.

⁹⁸ For aspects of differentiations and relativizations of this status, see Heinzer 2017.

⁹⁹ Hoffman 1989.

text-bound focus on what Hoffman calls the ‘literary remains of Liturgy’,¹⁰⁰ he argues for a perspective centred on the issue of ‘how these texts, played out as lived liturgical practice, had consequences for the people who used them’.¹⁰¹

I would like to add a small yet substantial nuance to this statement: books, especially manuscripts, are more than just texts, and we should examine them – and perhaps even more so the historical narratives about them – with regard not only to the people reading them, but also to those making, transmitting and *transforming* them. This could be a meaningful step towards an increasing awareness of the specific medial agency of these artefacts, including their potential for being re-contextualized and re-coded, hence leading to a better understanding of texts as living entities.

Manuscripts

Madrid,

Biblioteca Nacional de España,

VITR/14/2

Monza,

Tesoro della Basilica S. Giovanni,

109

Munich,

Bayerische Staatsbibliothek,

Clm 5250

St Gall,

Stiftsarchiv,

Cod. Fab. 1

Stiftsbibliothek St. Gallen,

Cod. 359

Cod. 578

Stuttgart,

Württembergische Landesbibliothek,

Cod. Bibl. Fol. 71

Cod. Don. 191

HB I 40

100 Hoffman 1989, 3.

101 Hoffman 1989, 173.

References

Primary sources

- Alexander Monachus of Cyprus, *Laudatio s. Barnabae Apostoli*, in *Acta Sanctorum*, Junii II, Antwerp: s.n, 1698, 436–452.
- Alexander Monachus of Cyprus, *Laudatio s. Barnabae Apostoli*, in Peter Van Deun (ed.), *Hagiographica Cyprica* (Corpus Christianorum Series Graeca, 26), Turnhout: Brepols, 1993, 83–122.
- Amalarius of Metz, *Liber officialis*, in Ioannes M. Hanssens (ed.), *Amalarii episcopi opera liturgica omnia*, vol. 2 (Studi e Testi, 139), Vatican City: Biblioteca Apostolica Vaticana, 1948.
- Augustine of Hippo, *Ad catholicos de secta Donatistarum*, ed. Michael Petschenig (Corpus Scriptorum Latinorum, 52), Vienna: Gerold, 1909.
- Augustine of Hippo, *In Iohannis evangelium tractatus*, ed. Radbodus Willems (Corpus Christianorum Series Latina, 36), Turnhout: Brepols, 1954.
- Augustine of Hippo, *De Civitate Dei libri XXII*, ed. Bernhard Dombart and Alfons Kalb (Corpus Christianorum Series Latina, 48), Turnhout: Brepols, 1955.
- Bede, *Explanatio Apocalypseos*, ed. Roger Gryson (Corpus Christianorum Series Latina, 121A), Turnhout: Brepols, 2001.
- Biblia sacra. luxta Vulgatam versionem*, ed. Robert Weber, 5th edn ed. Roger Gryson, Stuttgart: Deutsche Bibelgesellschaft, 2007.
- Gregory the Great, *Homeliae in Ezechielem prophetam*, ed. Marcus Adriaen (Corpus Christianorum Series Latina, 142), Turnhout: Brepols, 1971.
- Ekkehard IV, *Casuum S. Galli Continuatio I*, ed. Ildefons von Arx, vol. 2 (Monumenta Germaniae Historica, Scriptores [in Folio]), Hannover: Hahn, 1829, 75–147.
- Ekkehard IV, *St. Galler Klostergeschichten*, ed. and tr. Hans F. Haefele [updated edition, with a postscript by Steffen Patzold] (Ausgewählte Quellen zur deutschen Geschichte des Mittelalters: Freiherr-vom-Stein-Gedächtnisausgabe, 10), Darmstadt: Wissenschaftliche Buchgesellschaft, 2013.
- Ekkehard IV, *Casuum Sancti Galli Continuatio I St. Galler Klostergeschichten (Casus sancti Galli)*, ed. and tr. Hans F. Haefele and Ernst Tremp (Monumenta Germaniae Historica, Scriptores rerum Germanicarum, 82), Wiesbaden: Harrassowitz, 2020.
- Isaac of Stella, *Sermones*, ed. Anselm Hoste (Sources Chrétiennes, 130), Paris: Du Cerf, 1967.
- Jacobus de Voragine, *Legenda Aurea vulgo Historia Lombardica dicta*, ed. Johann Georg Theodor Graesse, Leipzig: Arnold, 1846.
- Jacobus de Voragine, *Legenda aurea*, ed. Bruno W. Häuptli (Fontes Christiani, Sonderband), Freiburg im Breisgau: Herder, 2014.
- Jerome, *Commentarium in Sophoniam*, in Marcus Adriaen (ed.), *Commentarii in prophetas minores*, vol. 1 (Corpus Christianorum Series Latina, 76A), Turnhout: Brepols, 1970, ll. 399–405.
- Liber Usualis: With Introduction and Rubrics in English*, ed. Benedictines of Solesmes, Tournai: Desclée, 1962.
- Notker der Stammler [Notker Balbulus], *Taten Kaiser Karls des Großen [Gesta Karoli Magni]*, ed. Hans F. Haefele (Monumenta Germaniae Historica, Scriptores rerum Germanicum, Nova series, 12), Berlin: Weidmann, 1959.

Secondary sources

- Andrieu, Michel (ed.) (1960), *Les Ordines Romani du Haut Moyen Âge*, vol. 2: *Les textes (Ordines I–XIII)* (Spicilegium sacrum Lovaniense, 23), Louvain: Spicilegium Sacrum Lovaniense Bureaux.
- Arbesmann, Rudolf (1954), 'The Concept of *Christus Medicus* in St. Augustine', *Traditio*, 10: 1–28.
- Artl, Wulf (1992), 'Sequence and "Neues Lied"', in Agostino Ziino (ed.), *La sequenza medievale: Atti del convegno internazionale, Milano 7–8 aprile 1984* (Quaderni di San Maurizio, 3: La musica a Milano), Lucca: Libreria Musicale italiana, 3–18.
- Assmann, Jan (2005), *Religion and Cultural Memory: Ten Studies*, tr. Rodney Livingstone, Stanford, CA: Stanford University Press.
- Bierbrauer, Katharina (1990), *Die vorkarolingischen und karolingischen Handschriften der Bayerischen Staatsbibliothek in München* (Katalog der illuminierten Handschriften der Bayerischen Staatsbibliothek München, 1), Wiesbaden: Reichert.
- Bischoff, Bernhard (1980), *Die südostdeutschen Schreibschulen und Bibliotheken in der Karolingerzeit*, vol. 2, Wiesbaden: Harrassowitz.
- Bischoff, Bernhard (2004), *Katalog der festländischen Handschriften des 9. Jahrhunderts*, vol. 2, Wiesbaden: Harrassowitz.
- Blount, Brian K. (2009), *Revelation: A Commentary* (The New Testament Library), Louisville, KY: Westminster John Knox Press.
- Bouton, Jean de la Croix and Jean-Baptiste van Damme (eds) (1974), *Les plus anciens textes de Cîteaux: sources, textes et notes historiques* (Cîteaux: Studia et documenta, 2), Achel: Abbaye Cistercienne.
- Boxall, Ian K. (2007), 'Exile, Prophet, Visionary: Ezekiel's Influence on the Book of Revelation', in Henk Jan de Jonge and Johannes Tromp (eds), *The Book of Ezekiel and Its Influence*, Aldershot: Ashgate, 147–164.
- Buchinger, Harald (2008), 'Gregor der Große und die abendländische Liturgiegeschichte: Schlüssel oder Identifikationsfigur', in István Verbényi (ed.), *Psallite Sapienter. Festschrift zum 80. Geb. von George Béres*, Budapest: Szent István Társulat, 113–154.
- Bynum, Caroline Walker (2011), *Christian Materiality: An Essay on Religion in Late Medieval Europe*, New York, NY: Zone Books.
- Carmassi, Patrizia (2015), 'Steigerungsstrategien von Geltungsansprüchen liturgischer Handschriften am Beispiel eines Codex aus dem Halberstädter Domschatz (Inv. –Nr. 45)', in Heinzer and Schmit 2015, 83–106.
- Crocker, Richard L. (1977), *The Early Medieval Sequence*, Berkeley, CA: University of California Press.
- De Hamel, Christopher (1986), *A History of Illuminated Manuscripts*, London: Guild Publishing.
- Deshusses, Jean (ed.) (1971), *Le Sacramentaire grégorien: Ses principales formes d'après les plus anciens manuscrits*, vol. 1: *Le sacramentaire, le supplément d'Aniane* (Spicilegium Friburgense, 16), Fribourg: Éditions Universitaires.
- Fichtner, Georg (1982), 'Christus als Arzt: Ursprünge und Wirkungen eines Motivs', *Frühmittelalterliche Studien*, 16: 1–18.
- Ganz, David (2015), *Buch-Gewänder: Prachteinbände im Mittelalter*, Berlin: Reimer.
- Geary, Patrick J. (1994), *Phantoms of Remembrance: Memory and Oblivion at the End of the First Millennium*, Princeton, NJ: Princeton University Press.
- Graf, Klaus (2015), 'Codexmythen und Codexphantasien', in Heinzer and Schmit 2015, 15–28.

- Guilmart, Jacques-Marie (2015), 'A l'origine du Chant Grégorien et du Sacramentaire Gélasiens', *Revue Bénédictine*, 125: 45–91.
- Haug, Andreas (1991), 'Ein neues Textdokument zur Entstehungsgeschichte der Sequenz', in Rudolf Faber (ed.), *Festschrift Ulrich Siegele: Zum 60. Geburtstag*, Kassel: Bärenreiter, 9–19.
- Haug, Andreas (2008), 'Re-reading Notker's Preface', in David Butler Cannata (ed.), *Quomodo cantabimus canticum? Studies in honor of Edward H. Roesner* (Miscellanea, 7), Middleton, WI: American Institute of Musicology, 65–80.
- Haug, Andreas (2014), 'Noch einmal: Roms Gesang und die Gemeinschaften im Norden', in Frank Hentschel and Marie Winkelmüller (eds), *Nationes, Gentes und die Musik im Mittelalter*, Berlin: De Gruyter, 103–145 <<https://doi.org/10.1515/9783110336900.103>>.
- Heinzer, Felix (1991), 'Buchkultur und Bibliotheksgeschichte Hirsaus', in Klaus Schreiner (ed.), *Hirsau, St. Peter und Paul: 1091–1991*, vol. 2: *Geschichte, Lebens- und Verfassungsformen eines Reformklosters* (Forschungen und Berichte der Archäologie des Mittelalters in Baden-Württemberg, 10/2), Stuttgart: Theiss, 259–296.
- Heinzer, Felix (2008), 'Ex authentico scriptus – Zur liturgiehistorischen Stellung des Sakramentars Cod. Donaueschingen 191 der WLB Stuttgart', in Felix Heinzer, *Klosterreform und mittelalterliche Buchkultur im deutschen Südwesten* (Mittellateinische Studien und Texte, 39), Leiden: Brill, 32–63 [first published in Herrad Spilling (ed.), *Das Sakramentar der Fürstlich-Fürstenbergischen Hofbibliothek: Cod. Don. 191* (Patrimonia, 85), Berlin: Kulturstiftung der Länder, 1996, 63–83].
- Heinzer, Felix (2009), 'Die Inszenierung des Evangelienbuchs in der Liturgie', in Stephan Müller, Lieselotte E. Saurma-Jeltzsch and Peter Strohschneider (eds), *Codex und Raum* (Wolfenbütteler Mittelalter-Studien, 21), Wiesbaden: Harrassowitz, 43–58.
- Heinzer, Felix (2015), 'Buch und Präsenz im Ritus der lateinischen Kirche', in Klaus Oschema, Ludger Lieb and Johannes Heil (eds), *Abrahams Erbe: Konkurrenz, Konflikt und Koexistenz der Religionen im europäischen Mittelalter* (Das Mittelalter: Perspektiven mediävistischer Forschung, 2), Berlin: De Gruyter, 197–208.
- Heinzer, Felix (2017), 'Medial Ambiguity: Liturgical Books of the Latin Church and their Changing Status in Mediaeval Tradition', *manuscript cultures*, 10: 31–50.
- Heinzer, Felix and Hans-Peter Schmit (eds) (2015), *Codex und Geltung* (Wolfenbütteler Mittelalter-Studien, 30), Wiesbaden: Harrassowitz.
- Hesbert, René-Jean (1935), *Antiphonale Missarum Sextuplex, d'après le graduel de Monza et les antiphonaires de Rheinau, du Montblandin, de Compiègne, de Corbie et de Senlis*, Bruxelles: Vromant [repr. Rome: Herder, 1967].
- Heyse, Elisabeth (1986), 'Dies Irae', in *Lexikon des Mittelalters*, vol. 3, Munich / Zürich: Artemis, col. 1012.
- Hiley, David (1993), *Western Plainchant: A Handbook*, Oxford: Clarendon Press.
- Hoffman, Lawrence A. (1989), *Beyond the Text: A Holistic Approach to Liturgy* (Jewish Literature and Culture), Bloomington, IN: Indiana Press.
- Huglo, Michel (2001), 'The Cantatorium, from Charlemagne to the Fourteenth Century', in Peter Jeffery (ed.), *The Study of Medieval Chant: Paths and Bridges, East and West. In Honor of Kenneth Levy*, Woodbridge: Boydell, 89–103.
- Irsigler, Hubert (1977), *Gottesgericht und Jahwetag: Die Komposition Zef 1,1–2,3, untersucht auf der Grundlage der Literarkritik des Zefanjabuches* (Arbeiten zu Text und Sprache im Alten Testament, 3), St. Ottilien: EOS.

- Jeffery, Peter (1995), *Re-Envisioning Past Musical Cultures: Ethnomusicology in the Study of Gregorian Chant* (Chicago Studies in Ethnomusicology), Chicago, IL: The University of Chicago Press, 1995.
- Kern, Konrad (s.a.), 'Pfarr- und Wallfahrtskirche Mariä Himmelfahrt' <<https://www.puerten.com/index.php/35-kirche-puerten>> (accessed on 4 April 2023).
- Kirschbaum, Engelbert and Wolfgang Braunfels (eds) (1968–1976), *Lexikon der christlichen Ikonographie*, 8 vols, Rome: Herder.
- Kruckenberg, Lori (2017), 'Singing History: Chant in Ekkerad IV's Casus sancti Galli', in Katie Ann-Marie Bugyis, A. B. Kraebel and Margot E. Fassler (eds), *Medieval Cantors and their Craft: Music, Liturgy and the Shaping of History, 800–1500* (Writing History in the Middle Ages, 3), Woodbridge: York Medieval Press, 59–88.
- Latour, Bruno (2005), *Reassembling the Social: An Introduction to Actor-Network-Theory* (Clarendon Lectures in Management Studies), Oxford: Oxford University Press.
- Leitmeier, Christian Thomas (2013), 'Sine Auctoritate Nulla Disciplina est perfecta: Medieval Music Theory in Search of Normative Foundations', in Sigrid Müller and Cornelia Schweiger (eds), *Between Creativity and Norm-Making: Tensions in the Later Middle Ages and the Modern Era* (Studies in Medieval and Reformation Traditions, 165), Leiden: Brill, 31–60.
- Lentes, Thomas (2005), "'Textus Evangelii": Materialität und Inszenierung des "textus" in der Liturgie', in Ludolf Kuchenbuch and Uta Kleine (eds), *'Textus' im Mittelalter: Komponenten und Situationen des Wortgebrauchs im schriftsemantischen Feld* (Veröffentlichungen des Max-Planck-Instituts für Geschichte, 216), Göttingen: Vandenhoeck & Ruprecht, 133–148.
- McKinnon, James (2001), 'Gregorius presul composuit hunc libellum musicae artis', in Thomas J. Heffernan and E. Ann Matter (eds), *The Liturgy of the Medieval Church*, Kalamazoo, MI: Mediaeval Inst. Publ., 613–632.
- Mews, Constant J. (2011), 'Gregory the Great, the Rule of Benedict and Roman Liturgy: The Evolution of a Legend', *Journal of Medieval History*, 37: 125–144.
- Niederhorn-Bruck, Meta (2012), 'Apokalypse – Liber vitae – Libri vitae', in Veronika Wieser, Christian Zolles, Catherine Feik and Leopold Schlöndorff (eds), *Abendländische Apokalyp tik: Kompendium zur Genealogie der Endzeit* (Kulturgeschichte der Apokalypse, 1), Berlin: Akademieverlag, 371–390.
- Ó Cróinín, Dáibhí (2009), 'The Cathach and Domnach Airgis', in Bernadette Cunningham and Siobhán Fitzpatrick (eds), *Treasures of the Royal Irish Academy Library*, Dublin: Royal Irish Academy, 1–10.
- Palazzo, Éric (1998), *A History of Liturgical Books from the Beginning to the Thirteenth Century*, tr. Madeleine Beaumont, Collegeville, MN: Liturgical Press.
- Patzold, Steffen (2000), *Konflikte im Kloster: Studien zu Auseinandersetzungen in monastischen Gemeinschaften des ottonisch-salischen Reichs* (Historische Studien, 463) Husum: Matthiesen, 190–200.
- Patzold, Steffen (2013), 'Nachtrag', in Ekkehard IV, *St. Galler Klostersgeschichten*, ed. and tr. Haefele 2013, 299–315.
- Prinz, Otto et al. (eds) (1969), *Mittelateinisches Wörterbuch bis zum ausgehenden 13. Jahrhundert*, vol. 2/2, Munich: Beck.
- Rädle, Fidel (1987), 'Dies irae', in Hansjakob Becker, Ulrich Bernhard and Peter O. Einig (eds), *Im Angesicht des Todes: Ein interdisziplinäres Kompendium*, 2 vols, St Ottilien: EOS, 331–340.
- Rankin, Susan (1995), 'Ways of Telling Stories', in Graeme M. Boone (ed.), *Essays on Medieval Music in Honor of David G. Hughes* (Isham Library Papers, 4), Cambridge, MA: Cambridge University Press, 371–394.

- Rinkes, Ulla (2020), *Wahnsinn, Fallsucht und Besessenheit – psychische Erkrankungen und religiöse Therapien in Bayern im 17. und 18. Jahrhundert*, PhD thesis, Katholische Universität Eichstätt und Ingolstadt <<https://doi.org/10.17904/ku.opus-595>>.
- Ruh, Kurt (1983), 'Johannes-Evangelium 1,1–14', in Kurt Ruh et al. (eds), *Die deutsche Literatur des Mittelalters: Verfasserlexikon*, vol. 4, 2nd edn, Berlin: De Gruyter, 831.
- Sänger, Dieter (ed.) (2006), *Das Ezechielbuch in der Johannesoffenbarung: Hans Hübner zum 75. Geburtstag* (Biblich-theologische Studien, 76), Neukirchen-Vluyn: Neukirchener Verlag.
- Schmid, Karl (1991), 'Von den "fratres conscripti" in Ekkeharts St. Galler Klostergeschichten', *Frühmittelalterliche Studien*, 25: 109–122.
- Schreiner, Klaus (1988), 'Erneuerung durch Erinnerung: Reformstreben, Geschichtsbewusstsein und Geschichtsschreibung im benediktinischen Mönchtum Südwestdeutschlands an der Wende vom 15. zum 16. Jahrhundert', in Kurt Andermann (ed.), *Historiographie am Oberrhein im späten Mittelalter und in der frühen Neuzeit* (Oberrheinische Studien, 7), Sigmaringen: Thorbecke, 35–87.
- Schreiner, Klaus (2002), 'Litterae Mysticae', in Christel Meier, Volker Honemann, Hagen Keller and Rudolf Suntrup (eds), *Pragmatische Dimensionen mittelalterlicher Schriftkultur* (Münsterische Mittelalterschriften, 79), Munich: Fink, 277–337.
- Schroll, Meinrad (1999), 'Die Selige Alta und das Evangeliar von Pürten', *Unser Waldkraiburg*, 4: 3–29.
- Speyer, Wolfgang (1970), *Bücherfunde in der Glaubenswerbung der Antike: Mit einem Ausblick auf Mittelalter und Neuzeit*, Göttingen: Vandenhoeck & Ruprecht.
- Spilling, Herrad (1999), 'Abt Bertholds Bücherverzeichnis – Anhaltspunkt zur Datierung seines Sakramentars', in Felix Heinzer and Hans-Ulrich Rudolf (eds), *Das Berthold-Sakramentar: Vollständige Faksimile-Ausgabe im Originalformat von Ms M. 710 der Pierpont Morgan Library in New York* (Codices Selecti, 100), Graz: Akademische Druck- und Verlagsanstalt, 187–192.
- Stäblein, Bruno (1968), "'Gregorius Praesul": Der Prolog zum römischen Antiphonale. Buchwerdung im Mittelalter', in Richard Baum and Wolfgang Rehm (eds), *Musik und Verlag: Karl Vötterle zum 65. Geburtstag am 12. April 1968*, Kassel: Bärenreiter, 537–561 [repr. in Horst Brunner and Karlheinz Schlager (eds) (1984), *Musik und Geschichte im Mittelalter: Gesammelte Aufsätze von Bruno Stäblein* (Göppinger Arbeiten zur Germanistik, 344), Göppingen: Kümmerle, 117–142].
- Steenbock, Frauke (1965), *Der kirchliche Prachteinband im frühen Mittelalter: Von den Anfängen bis zum Beginn der Gotik*, Berlin: Deutscher Verlag für Kunstwissenschaft.
- Steiger, Johann Anselm (2005), *Medizinische Theologie: Christus medicus und theologia medicinalis bei Martin Luther und im Luthertum der Barockzeit. Mit Edition dreier Quellentexte* (Studies in the History of Christian Traditions, 121), Leiden: Brill.
- Stenzel, Karl (1926), 'Hirsau und Alspach: Ein Beitrag zur Geschichte der Hirsauer Reform im Elsass', *Zeitschrift für die Geschichte des Oberrheins*, 78: 26–62.
- Stock, Alex (2002), "'Dies irae": Zu einer mittelalterlichen Sequenz', in Jan A. Aerts and Martin Pickavé (eds), *Ende und Vollendung: Eschatologische Perspektiven im Mittelalter* (Miscellanea mediaevalia, 29), Berlin: De Gruyter, 279–291.
- Stotz, Peter (2002), *Handbuch zur lateinischen Sprache des Mittelalters*, vol. 1: *Einleitung, Lexikologische Praxis, Wörter und Sachen, Lehnwortgut*, Munich: Beck.
- von Bendemann, Reinhard (2002), 'Christus medicus': *Die Krankheiten in den neutestamentlichen Heilungserzählungen* (Biblich-theologische Studien, 52), Neukirchen-Vluyn: Neukirchener Verlag.

- von Euw, Anton (1989), *Liber Viventium Fabariensis: Das karolingische Memorialbuch von Pfäfers in seiner liturgie- und kunstgeschichtlichen Bedeutung* (Studia Fabariensia, 1), Bern: Francke.
- von Euw, Anton (2000), 'Karl der Große als Förderer des Kirchengesangs: Das Gregorianische Antiphonar, seine Überlieferung in Wort und Bild', *Jahrbuch der Berliner Museen*, 22: 81–98.
- von Euw, Anton (2008), *Die St. Galler Buchkunst vom 8. bis zum Ende des 11. Jahrhunderts*, vol. 1: *Textband* (Monasterium Sancti Galli, 3), St Gall: Verlag am Klosterhof.
- Waddell, Chrysogonus (ed.) (1999), *Narrative and Legislative Texts of Early Cîteaux: Latin Text in Dual Edition with English Translation and Notes* (Cîteaux: Studia et Documenta, 9), Cîteaux: Gethsemani Abbey.
- Williamson, Beth (2014), 'Material Culture and Medieval Christianity', in John Arnold (ed.), *The Oxford Handbook of Medieval Christianity*, Oxford: Oxford University Press, 60–75.

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Index of Written Artefacts

This volume contains an index of the written artefacts that are mentioned in the book. Page numbers with an asterisk refer to illustrations.

Francesca Panini

Angers, Bibliothèque municipale
– 477 458

Asmara, Biblioteca del Centro di Studi
Etiopici, Pavoni Social Center
– no shelfmark, 17th c. 375
– no shelfmark, 20th c. 374, 375

Bamberg, Staatsbibliothek Bamberg
– Msc.Bibl.92 251, 262, 265
– Msc.Bibl.93 251, 258, 259*, 262, 265
– Msc.Bibl.94 252, 260, 261*, 262
– Msc.Bibl.95 252, 262, 266
– Msc.Bibl.96 251

Bergamo, Biblioteca Civica Angelo Mai
– MA 150 467

Berkeley, Castle Archive
– Select Roll 55 198

Berlin, Staatsbibliothek zu Berlin –
Preußischer Kulturbesitz
– Ms. theol. Lat. fol. 358 277

Bologna, Biblioteca Universitaria
– 2679 466

Book of Kells *see* Dublin, Trinity College,
MS 58

Brussels, Bibliothèque royale de Belgique
– Ms. 19606 192, 193

Burgos, Monasterio de Las Huelgas
– II 199, 207

Cambridge, Cambridge University
Archives
– Reg. I.2.32 124

Cambridge, Cambridge University Library
– MS Ee.3.61 7, 8, 117, 119, 123, 124,
129–133, 134*, 135, 136, 137*,
138–148, 150–156, 158–160, 166–185

Cambridge, Gonville and Caius College
– 820/810 198, 200, 204, 206*

Cambridge, Jesus College
– MS QB 1 197

Cambridge, St John's College
– F.1* 198, 200, 204, 205*
– MS B. 19 121, 123, 125–127, 141, 142,
146, 152, 153, 155–157, 159

Canterbury, Cathedral Library
– Add. Ms. 128/62 197, 198, 200, 202

Catalogus vetus see Oxford, Merton
College, Merton College Records
MS 4.16

Chiang Mai, Wat Chiang Man
– PNTMP ๗๗ 0106001-05 309

Codex Amiatinus see Firenze, Biblioteca
Medicea Laurenziana, Amiatinus 1

Códice de Florencia *see* Florence,
Biblioteca Nazionale Centrale di
Firenze, Banco Rari, 20

- Códice de los músicos *see* El Escorial, Real Biblioteca del Monasterio de San Lorenzo de El Escorial, MS b-I-2
- Códice de Toledo *see* Madrid, Biblioteca Nacional de España, MSS/10069
- Códice Rico *see* El Escorial, Real Biblioteca del Monasterio de San Lorenzo de El Escorial, MS T-I-1
- Colleville, MN, Hill Museum and Manuscript Library, Ethiopian Manuscript Microfilm Library
- 4 407
 - 5 407
 - 208 407
 - 430 406
 - 1344 406
 - 1763 390, 403
 - 1934 406
 - 1960 407
 - 2610 407
 - 4002 406
 - 7602 388, 390
 - 8509 390, 403
- Cologne, Erzbischöfliche Diözesan- und Dombibliothek
- Cod. 12 246*
- Dijon, Bibliothèque municipale
- Ms. 114 462
- Drogo Gospels *see* Paris, Bibliothèque nationale de France, Latin 9388
- Drogo Sacramentary *see* Paris, Bibliothèque nationale de France, Latin 9428
- Dublin, Trinity College
- MS 58 460
- El Escorial, Real Biblioteca del Monasterio de San Lorenzo de El Escorial
- MS b-I-2 348, 349, 351, 352*, 353
 - MS h-I-15 360
 - MS h-I-16 342
 - MS T-I-1 342, 348–350*, 353, 357
 - MS T-I-6 342
 - MS X-I-4 357
 - MS Y-I-2 342, 354*, 355, 357*
 - O.II.10 119
- Erfurt, Angermuseum
- 3134 214, 215*, 216–218, 221, 223–225*, 226–228*, 229, 230*, 232, 233, 236, 237
- Erfurt, Universitätsbibliothek
- CA 2° 37 219
 - CA 2° 237 219
 - CA 2° 384 219
 - CA 2° 395 219
 - CA 4° 349 233
 - CA 4° 360 219
 - CA 4° 362 219
 - CA 4° 366 233
- Erlangen, Universitätsbibliothek Erlangen-Nürnberg
- MS 12 252, 262
- Florence, Biblioteca Medicea Laurenziana
- Amiatinus 1 461
 - Plut. 29.1 190
- Florence, Biblioteca Nazionale Centrale di Firenze
- Banco Rari, 20 346*, 348, 349, 353, 357
- Gospels of Otto III *see* Munich, Bayerische Staatsbibliothek, Clm 4453
- Gundis Lectionary *see* St Gall, Stiftsbibliothek St. Gallen, Cod. Sang. 54

- Hamburg, Staats- und
 Universitätsbibliothek Hamburg
 – Cod. in scrin. 85 278, 279*, 280, 283
 – Theater-Bibliothek, 571 26
 – Theater-Bibliothek, 1460 20*, 21, 24*
 – Theater-Bibliothek, 1988a 26, 29,
 30*–32*, 35*, 36
 – Theater-Bibliothek, 1988b 29, 31*–33*,
 34–36
 – Theater-Bibliothek, 2029 22, 23*, 25,
 28
- Hamburg Psalter *see* Hamburg, Staats-
 und Universitätsbibliothek, Cod. in
 scrin. 85
- Howard Psalter *see* London, British
 Library, Arundel MS 83
- Jammu, Raghunātha Temple Library
 – Manuscript 3074 (Gha Alm 14 Shlf 1)
 90, 92*
- Koblenz, Landeshauptarchiv
 – Best. 701 Nr. 243 192
- Kremsmünster, Stiftsbibliothek
 – CC60 7, 55, 56, 58, 59*–61*, 63, 64,
 66–69
- Lampang, Wat Ban Üam
 – PNTMP, ๓๗ 0420097-02 312, 328
- Lamphun, Wat Huai Nam Dip
 – DELMN, 321 321
- London, British Library
 – Add MS 42130 276, 280, 281*, 282*,
 285, 286*, 287, 288*, 292
 – Add MS 54179 287, 289*, 290*, 291,
 294
 – Add. MS 89442 121, 124, 126, 127,
 140–144, 146, 152, 156–159
 – Arundel MS 66 123, 129
 – Arundel MS 83 196*
 – Arundel MS 155 283, 284*, 285
 – Arundel MS 305 293–295*, 296*
 – Burney MS 345 293
 – Egerton 2104 198
 – Egerton MS 889 132
 – Harley 5958 197
 – IOSAN2769 = IOSAN1304 83*, 85*, 88*
 – IOSAN2770 = IOSAN2266 84*, 88*
 – Or. 654 396
 – Or. 694 407
 – Or. 695 407
 – Or. 696 407
 – Or. 700 407
 – Or. 701 407
 – Or. 702 407
 – Or. 705 407
 – Or. 707 407
 – Or. 709 407
 – Or. 711 407
 – Or. 716 407
 – Or. 717 407
 – Or. 718 407
 – Or. 719 407
 – Or. 721 407
 – Or. 723 407
 – Or. 724 407
 – Or. 725 407
 – Or. 726 407
 – Or. 727 407
 – Or. 728 407
 – Or. 729 407
 – Or. 730 407
 – Or. 770 407
 – Or. 8192 390, 403
 – Royal MS 2 B III 293
 – Royal MS 12 G I 121, 123, 125–127, 129,
 141, 142, 146, 152, 153, 155–157, 159
 – Royal MS 12 G X 128, 129
 – Sloane MS 1697 123, 127
- London, The National Archives
 – E 149/7/23 198
 – LR 2/261 197, 198, 200, 202

- Lorsch Gospels *see* Bamberg,
Staatsbibliothek Bamberg,
Msc.Bibl.93
- Luang Prabang, Vat Mai Suvanna
Phumaram
– DLLM, 06011406004-05 318
– DLLM, 06011406006-04 308*, 309, 311
- Luang Prabang, Vat Saen Sukharam
– BAP, BAD-13-1-0157 309, 312, 323, 328,
330*
– BAP, BAD-13-1-0771 314*, 328
– BAP, BAD-13-2-034 308, 309, 314–
316*, 317*, 324–326*
– BAP, BAD-13-2-037 308, 314–316*,
324–326*
– BAP, BAD-13-2-087 314, 315, 324
- Luttrell Psalter *see* London, British
Library, Add MS 42130
- Madrid, Biblioteca Histórica Marqués de
Valdecilla
– MSS 156 358, 359*
- Madrid, Biblioteca Nacional de España
– MSS/10069 348
– VITR/14/2 474*
- Modena, Biblioteca Capitolare
– O.I.16 467
- Montecassino, Archivio dell'Abbazia
– 557 461
– 571 461
- Monza, Tesoro della Basilica S. Giovanni
– 109 481, 483*
- Munich, Bayerische Staatsbibliothek
– Clm 4451 251, 259, 262, 265
– Clm 4452 252, 262–265*, 268
– Clm 4453 252, 261, 262, 264
– Clm 4454 252, 262, 263*, 264
- Clm 5250 471, 493, 494*, 495–498*,
499–501
- Nan, Wat Monthian
– PNTMP, ๙๙ 03-06-320-428 326
- Nan, Wat Pa Müat
– PNTMP, ๙๙ 0620021-00 309, 314, 315*,
319, 320, 324
- Nan, Wat Phra Koet
– PNTMP, ๙๙ 11-06-003-01 309
- Notebook of Lewis Caerleon *see*
Cambridge, Cambridge University
Library, MS Ee.3.61
- Oxford, All Souls College
– MS 56 198
- Oxford, Bodleian Library
– Bodley 652 197–199, 202
– Lat. liturg. b. 19 199, 200, 202
– MS. Ashmole 1437 125
– MS. Ashmole 1796 170
– MS. Ashmole 393 135
– MS. Bodl. 432 128
– MS. Digby 168 144, 149
– MS. Digby 176 135, 149
– MS. Digby 178 124, 127, 129, 142–144
– MS. Mus. c. 60 197
– MS. Rawl. C. 400* 197–200, 202, 203*
– MS. Rawl. G. 185 292
– MS. Savile 25 198, 200, 202
– MS. Savile 38 127–129, 149
- Oxford, Corpus Christi College
– MS 234 127, 128
- Oxford, Merton College
– Merton College Records MS 4.16 147,
148
– MS 184 147

Paris, Bibliothèque de l'Arsenal

- 602 466
- 621 457
- Ms-8322 360

Paris, Bibliothèque nationale de France

- Collection de Picardie, 67 192, 193
- d'Abbadie 14 407
- d'Abbadie 29 407
- d'Abbadie 36 407
- d'Abbadie 43 407
- d'Abbadie 45 406
- d'Abbadie 46 407
- d'Abbadie 54 407
- d'Abbadie 56 407
- d'Abbadie 59 407
- d'Abbadie 60 406
- d'Abbadie 61 407
- d'Abbadie 88 407
- d'Abbadie 89 407
- d'Abbadie 91 407
- d'Abbadie 94 407
- d'Abbadie 103 407
- d'Abbadie 123 407
- d'Abbadie 126 407
- d'Abbadie 139 407
- d'Abbadie 177 407
- d'Abbadie 183 406
- Éthiopiens 132 407
- Éthiopiens 133 406
- Éthiopiens 134 406
- Éthiopiens 135 407
- Éthiopiens 136 407
- Éthiopiens 137 407
- Éthiopiens 343 407
- Français 146 202, 207
- Latin 1 461
- Latin 776 467
- Latin 987 466
- Latin 1028 458
- Latin 1052 463, 464
- Latin 1152 287
- Latin 1288 463
- Latin 7276A 220*, 221, 222
- Latin 9388 245, 248*, 249*, 250, 460

- Latin 9428 245
- Latin 9438 465
- Latin 9970 456
- Latin 10435 283
- NAL 300 464, 465
- NAL 2628 466

Pericopes of Henry II *see* Munich,
Bayerische Staatsbibliothek, Clm
4452

Phrae, Wat Phrabat Ming Müang

- PNTMP, พธ 0406012-03 310*

Phrae, Wat Sung Men

- PNTMP, พธ 0106004-01 309, 318, 319*
- PNTMP, พธ 0406012-01 310

Piacenza, Biblioteca Capitolare

- 65 462

Princeton, NJ, University Library

- Garrett MS 95 132
- Garrett 119 197–200, 202, 204

Psalter of Charles the Bald *see* Paris, Biblio-
thèque nationale de France, Latin 1152

Pürten Gospels *see* Munich, Bayerische
Staatsbibliothek, Clm 5250

Ramsey Psalter *see* St. Paul im Lavanttal,
Stiftsbibliothek, Cod. 58/1

Rome, Biblioteca dell'Accademia
Nazionale dei Lincei e Corsiniana

- Fondo Conti Rossini 26 374, 375
- Fondo Conti Rossini 88 375

Rome, Santa Sabina

- XIV L 1 462

Samen, Gondar, Dägä 'Ḥṣṭifānos

- Ṭānāsee 164 407
- Ṭānāsee 170 406

San Francisco, CA, California State
Library, Sutro Library, Halliwell-
Phillipps Collection
– M000054, no. 4 126

Spycer Psalter *see* London, British Library,
Arundel MS 305

St Gall, Stiftsarchiv
– Cod. Fab. 1 495

St Gall, Stiftsbibliothek St. Gallen
– Cod. 359 485, 486*, 487*, 490, 491
– Cod. 578 488–491
– Cod. Sang. 54 253, 254*

St. Paul im Lavanttal, Stiftsbibliothek
– Cod. 58/1 292

Stuttgart, Württembergische
Landesbibliothek
– Cod. Bibl. Fol. 71 495
– Cod. Don. 191 482*
– HB I 40 495

Təgrāy, 'Aksum, Māryām Şəyon
– MaySe-001 386*

Təgrāy, Bəşerāwi Kəlləlāwi Mangəştī, 'Urā
Qırqos
– UM-039 390
– UM-046 390

Təgrāy, Dagw'a Tamben, Dabra 'Abuna
'Abiya 'Egzi'
– AAE-001 381*, 385*, 386*

Təgrāy, Dagw'a Tamben, Dur Ambā
Şəllässe
– DAS-002 385*, 398

Troyes, Médiathèque Jacques Chirac
– 1732 464, 465

Varansi, Sanskrit University Library
(Sarasvatī Bhavana)
– 98256 84*, 85*, 88*

Vatican City, Biblioteca Apostolica
Vaticana
– Fondo Cerulli Etiopico 198 375
– Urb. lat. 539 343
– Vat. lat. 8174 360

Verona, Biblioteca Capitolare
– XCVI(90*) 64, 65*, 66
– XCVIII(92) 62*, 63

Verona, Biblioteca Civica
– 739 I 60

Vientiane, National Library of Laos
– DLLM, 01012906002-04 327
– DLNTM, ທຸມ 0606003-04 318*

Werden Psalter *see* Berlin, Staatsbibliothek
zu Berlin – Preußischer Kulturbesitz,
Ms. theol. Lat. fol. 358

Wolfenbüttel, Herzog August Bibliothek
– 628 Helmstadiensis 197
– Cod. Guelf. 499 197

Wrocław, Biblioteka Uniwersytecka
– Ak 1955/kn 195 192, 193

Yamaguchi, Imahachimangū Shrine
– modern renga kaishi by calligrapher
Suyama Fumiko 432

Yamaguchi, Prefectural Library
– Hyakuin renga 432

York Psalter *see* London, British Library,
Add MS 54179