

The Cluster of Excellence  
**Understanding Written Artefacts**  
at the Centre for the Study of Manuscript Cultures (CSMC)  
cordially invites you to the workshop

## **Spatio-temporal Profiles of Multigraphic Written Artefacts**

Thursday, 22 May 2025, 2:00 pm – 4:45 pm CEST

Friday, 23 May 2025, 9:30 am – 6:00 pm CEST

Saturday, 24 May 2025, 9:30 am – 1:15 pm CEST

Warburgstraße 26, 20354 Hamburg

Organised by Hanna Wimmer (University of Hamburg),  
Divna Manolova (Ghent University), and  
Matthieu Husson (LTE, PSL-Observatoire de Paris)

Registration: <https://www.csmc.uni-hamburg.de/register/workshop71>

Multigraphic written artefacts are characterised by their uses of multiple graphical modes to convey information including texts, pictorial elements, diagrams, musical or choreographic notations, maps, tables and all kinds of combinations of those. They form a visual matrix that offers, and often demands, a complex, multi-modal way of engagement. These artefacts are present in most writing cultures and produced for a range of goals in artistic, ritual, religious, or scientific contexts. This workshop is the first of two organized by the CSMC and the Paris Observatory which will explore what we refer to as the ‘spatio-temporal profiles’ of multigraphic written artefacts: how are the spatial qualities of these written artefacts – their (sequence of) openings, their physical dimensions – conceptualized and used by scribes, draftspeople and painters, and readers? How do these objects, many of which are products of complex and/or collaborative processes, reflect and evoke temporal dimensions? How do they relate to, represent, and structure, the spatial and temporal settings in which they are viewed, read, and used?

## Programme

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### Thursday, 22 May 2025, 2:00 pm – 4:45 pm

#### Session 1

- 2:00 – 2:15            Opening
- 2:15 – 3:00            Martin Schäfer (University of Hamburg)  
*Organising Space Inside and Outside of Early 20th Century German  
Staging Books*
- 3:00 – 3:15            Break
- 3:15 – 4:00            Odile Lehnen (Durham University)  
*A Seat at the Table: Collaborative Observation in the Herschel Household*
- 4:00 – 4:55            Florence Somer (LTE-Observatoire de Paris)  
*The Different Pictorial Readings of Celestial Auspices in the Matali‘  
el-sá‘adet (Metalī‘ü‘l-saadet)*

### Friday, 23 May 2025, 9:30 am – 6:00 pm

#### Session 2

- 9:30 – 10:00            Coffee Welcome
- 10:00 – 10:45            Divna Manolova (Ghent University)  
*Organization of Cosmological Knowledge in BnF, Parisinus graecus 2381*
- 10:45 – 11:30            Daria Elagina (Universität Münster)  
*Material Features of Multigraphic Manuscripts of the Ethiopic Corpus of  
bāḥra ḥassāb*
- 11:30 – 12:00            Break
- 12:00 – 12:45            Emmylou Haffner (Institut des textes et manuscrits modernes, CNRS)  
*Non-discursive geneses in mathematical drafts*

### Session 3

- 2:30 – 3:15 Ariles Remaki (Johannes-Gutenberg-Universität Mainz)  
*Tables of Calculation and Tables of Reasoning*
- 3:15 – 4:00 Stefano Farinella (University of Hamburg)  
*Spatial Organization as a Representation of Processes of Knowledge  
Production in the Notes of Thomas Harriot (c. 1560 - 1621)*
- 4:00 – 4:30 Break
- 4:30 – 5:15 N.n.  
*tba*
- 5:15 – 6:00 Philippa Sissis (independent scholar)  
*Mapping identities in the tout monde – the construction of creolité in mul-  
tigraphic artefacts in the Caribbean*

### Saturday, 24 May 2025, 9:30 am – 1:15 pm

#### Session 4

- 9:30 – 10:00 Coffee Welcome
- 10:00 – 10:45 Matthieu Husson (LTE, PSL-Observatoire de Paris)  
*From Manuscript to print and back: The visual organisation of Arnaud de  
Bruxelle Astronomical Manuscripts in the BnF*
- 10:45 – 11:30 Hanna Vorholt (University of York)  
*The Ruled Grid as Visual Matrix Break*
- 12:00 – 12:45 Hanna Wimmer (University of Hamburg)  
*Line–Grid–Vortex: Narrative Structures in the Space of the Book*
- 12:45 – 1:15 Final Discussion

## Abstracts and Contributors

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**Martin Schäfer** (University of Hamburg)

*Organising Space Inside and Outside of Early 20th Century German Staging Books*

Thursday, 22 May 2025, 2:15 pm – 3:00 pm

Written artefacts for staging are to organise a theatrical live-performance by making some of its elements stable and repeatable – be it the following evening or after a longer hiatus. In the early 20th century, German professional theatres mostly make use of interleaved copies of printed books of the plays to be performed, but also of bound typewritten carbon paper or photocopied handwriting. The empty folio next to the one covered with text can then be filled with annotations and notes: sketches of the stage set, chorographical notations regarding the movement, textual insertions such as additions, comments on the stage action or technical background information, etc. To a lesser extent, textual, pictorial and notational insertions are also inserted on the primary layer of the opposite “text-folio”. The contents depend on the staging book’s user who can be the director, the stage manager, the prompter or an actor. Based on early 20th century examples from the extensive Hamburg “Theatersammlung” (theatre collection), the talk will start with a brief introduction into the nature and cultural context of staging books. It will then lay out in greater detail how specific staging books spatially organise the multigraphic writing they need to give affordance to. In a third step, the talk will discuss how the spatial arrangements in staging books aim at facilitating the use of the stage area during a performance and how the two forms of organising space relate to one another.

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**Odile Lehnen** (Durham University)

*A Seat at the Table: Collaborative Observation in the Herschel Household*

Thursday, 22 May 2025, 3:15 pm – 4:00 pm

A familiar depiction of the Herschel siblings’ astronomical work presents William Herschel at the telescope in the garden and Caroline Herschel seated at a desk, pen in hand, recording observations. In 1783, working in this manner, the Herschels embarked on a systematic campaign to observe the sky region by region and catalogue nebulae and star clusters. By the time they completed this endeavour in 1802, they had catalogued 2500 celestial objects. Caroline’s role in this collaboration is still largely perceived as that of a passive scribe. In this paper I challenge this perception through a detailed investigation of the many manuscripts and printed sources that were on Caroline’s desk and the collaborative observation practice they enabled. The paper tools

she engaged with – including observing journals, a heavily annotated star atlas, various star catalogues along with transcripts she produced from them, and a cartographic nebulae register tracking observed and unobserved regions of the sky – functioned not merely as records but as practical observing instruments. I will investigate how these paper tools were used and skilfully crafted by Caroline to facilitate both the inscription and retrieval of information. Throughout my analysis I will explore the spatiality of the Herschel siblings’ observing practices in three ways: (1) by examining the observing space that extended from Caroline’s desk to her brother’s telescope in the garden, (2) by considering the many manuscripts on her desk as objects and investigating how Caroline purposefully adapted their physical form, and (3) by exploring how she organised the space of the page within these written artefacts.

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**Florence Somer** (LTE-Observatoire de Paris)

*The Different Pictorial Readings of Celestial Auspices in the Matali‘ el-sá‘adet (Metali‘ü'l-saadet)*

Thursday, 22 May 2025, 4:00 pm – 4:45 pm

Manuscript BnF Turkish Supplement 242 is entitled ‘Metali‘ü’s-sa‘adet ve-yenabi‘ü’s-siyadet’, i.e. “The Rise of the Lucky Stars and the Sources of Sovereignty”. The first part of this work is devoted to a written description of the twelve signs of the zodiac, illustrated by a miniature depicting the sign and the planets in their three decans. This is followed by an illustrated table of the planetary patronage of professions, illustrations of the signs of domicile and fall of the planets, astronomical and astrological tables, the influence of the planets on the beings, parts of the human body that are assigned to zodiacal sign in the practice of medicine and diagrams on the influence of the moon. Secondly, this manuscript uses pictorial representations (75r-90v) to deliver a series of messages devoted to the link between terrestrial sovereignty, the various celestial positions and the Arabo-Persian literature adopted and adapted by the artists of the Ottoman court. This unique work is a commission by Murad III (1546-1595) for his daughter Fatima Sultan (d. 1620).

The miniatures and illuminations produced in the atelier led by Nakkach (Ostād) Osman (active between 1560 and 1592) represent the narrative classics of the time, such as the voyage of Sindbad the sailor in the *Arabian Nights*, which are set against Qur’anic stories. For example, the story of the old man who clings to Sindbad on his fifth journey (ff.79v-80r) can also be linked to sura 22 verse 45. Other illuminations clearly refer to Qur’anic characters such as Dhū-l Qarnayn, sometimes identified with Alexander the Great, with Khidr in front of the wall of Gog and Magog (ff.75v-76r), while others illustrate Qur’anic passages linked to divine vengeance against the *hubris* of kings. The last set of illustrations refers to the second of Sindbad’s travels and depicts a series of demons with talismans to protect against their actions. A treatise on divination using the consonants of the name Ja‘far (jfr) closes the work. This work helps us to understand how Ottoman identity was shaped by images in the 16th century, combining astrology, diagrammatic representations, literature, Qur’anic references and magical beliefs.

**Divna Manolova** (Ghent University)

*Organization of Cosmological Knowledge in BnF, Parisinus graecus 2381*

Friday, 23 May 2025, 10:00 am – 10:45 am

In this paper I focus on BnF, *Parisinus graecus* 2381, a late-fourteenth-century Byzantine multiple-text manuscript containing among other works the introductory cosmological treatise *The Heavens* by Cleomedes (written at some point before 200 CE and certainly after ca. 50 BCE), Leontios Mechanikos's *On the Construction of Aratos' Sphere* and other Aratean material such as excerpts from Eratosthenes' *Introduction to Aratos' Phaenomena* and from Hipparchos' respective commentary; Demetrios Triklinios' *Selenography* as well as a wide selection of arithmetical, astrological and astronomical material in addition to some theological works. Written by one main scribe, the *Parisinus* includes multiple diagrams, illustrations and tables, as well as personal notes concerning travels and goods purchased in various ports of the Eastern Mediterranean. Some of its diagrams and illustrations invoke real places such as Persia, India, Ethiopia, and Egypt (on a world map), the inhabited regions of the world (on a zonal map) or the Mediterranean sea and its adjacent seas reflected on the lunar surface (a drawing of the dark spots on the moon). Some diagrams occupy more space than others, as it were, as they are drafted twice – a free-hand 'rehearsal' drawing and a facing more elaborate compass-drawn diagram. Furthermore, in several instances, the main text is erased and rewritten so that a diagram can be inserted. This suggests that, even though the text was copied first, it did not necessarily have priority over the diagram in terms of space allocation on the manuscript page. Focusing on the astronomical material the *Parisinus* preserves, I will discuss the strategies of spatial organization of knowledge its main scribe employed, that is his use of layout, parallel systems of numbering, reference signs and importantly, the way he executed the diagrams included in the codex. Given the 'personal' character of the *Parisinus*, I will also problematize the idea that the *Parisinus* is a collection of a didactic nature. If it teaches indeed, what knowledge does it teach and to whom? In what way are the main scribe's curation principles betraying a curriculum he is informed by and/or he is transmitting further?

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**Daria Elagina** (Universität Münster)

*Material Features of Multigraphic Manuscripts of the Ethiopic Corpus of bāḥra ḥassāb*

Friday, 23 May 2025, 10:45 am – 11:30 am

The rich written heritage of Ethiopia and Eritrea attests to several instances of the use of multiple graphical modes in written artifacts. Among them, the corpus conventionally designated as *bāḥra ḥassāb* stands out as one of the most striking examples. This corpus conveys traditional knowledge pertaining to the calendar, chronology, astronomy, cosmology, astrology, meteorol-

ogy, divination, and many other aspects. In addition to texts of varying lengths, this corpus employs several other graphical modes to convey and organize information, including various types of tables, diagrams, and possibly maps. Frequently, these different graphical modes convey similar or interconnected information and are combined within a single manuscript. At the same time, the elements of the *bāḥra ḥassāb* corpus reflect different modes of transmission, including transmission as units within composite manuscripts and as secondary content (additions). To date, no systematic analysis of the material features of manuscripts containing the elements of *bāḥra ḥassāb* has been conducted.

This paper aims to provide the first examination of the material features of multigraphic manuscripts representing the *bāḥra ḥassāb* corpus. It focuses on manuscripts that transmit the corpus as the main content and can be identified as the results of specific production projects. The paper analyzes the visual matrices and spatial organization of these manuscripts at the stage of their initial production. This includes a visual examination of the written artifacts as well as an exploration of the circumstances surrounding their production, and the people involved. Furthermore, the paper illustrates examples of later alterations and adaptations of these written artifacts and discusses how these processes relate to the original production project. Finally, the paper explores potential modes of interaction between different graphical and textual units based on visual evidence.

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**Emmylou Haffner** (Institut des textes et manuscrits modernes, CNRS)

*Non-discursive geneeses in mathematical drafts*

Friday, 23 May 2025, 12:00 pm – 12:45 pm

Mathematicians develop a number of textual tools to explore and produce new mathematical knowledge. These textual tools are often non-discursive: notations and notational innovations, diagrams and diagrammatic writing, tables, computations, etc. With two examples from the drafts of mathematicians Richard Dedekind and Oswald Veblen, who worked respectively in algebra and geometry, I will join history of mathematics and genetic criticism to propose a reflection on the multi-modal nature of writing in mathematical manuscripts.

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**Ariles Remaki** (Johannes-Gutenberg-Universität Mainz)

*Tables of Calculation and Tables of Reasoning*

Friday, 23 May 2025, 2:30 pm – 3:15 pm

Like the term ‘diagram’, the word ‘table’ can cover a wide variety of very different artefacts within the field of the history of mathematics. But while this ambiguity is well established in the case of diagrams, it is much less so in the rare works devoted exclusively to the history of tables

in mathematical practice and science. Indeed, there is a tendency to lump together within this same historiographical category two very different scriptural practices, themselves embracing a field of procedures whose diversity is significant. On the one hand, tables can be calculation tools. They are exhaustive collections of compiled values and data that can be used in a calculation procedure outside the material support of the table. On the other hand, tables can be supports for reasoning which in themselves constitute heuristic or apodictic artefacts. They are then used as semiotic entities whose structure expresses mathematical relations, propositions and even theorems. This presentation will explore this classification through a few examples from modern Western mathematics.

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**Stefano Farinella** (University of Hamburg)

*Spatial Organization as a Representation of Processes of Knowledge Production in the Notes of Thomas Harriot (c. 1560 - 1621)*

Friday, 23 May 2025, 3:15 pm – 4:00 pm

Mathematical notes are a special category of written artefacts, often containing *multiple graphical modes*. This simple consideration has profound consequences, including the importance of studying the *visual matrix* of the artefact to fully grasp its epistemological value. This will be shown using the notes of Early Modern English mathematician and polymath Thomas Harriot (c. 1560 – 1621) as a case study. These notes originally consisted of loose folio pages, in which Harriot produced his mathematical and scientific results. Since the notes were almost exclusively meant for personal use, the '*spatio-temporal profiles*' pertaining to the scribe and the reader coincide. Beginning with manuscripts which display a planned and systematic order, the analysis will then proceed with folios in which this order slowly breaks down, either due to void spaces never being filled, or due to Harriot not respecting his own planned visual organization. This will eventually lead to manuscripts in which the visual organization is chaotic, requiring a multi-modal way of engagement from the reader (and from Harriot himself). These distinctions in the *visual matrices* of the various manuscripts are in fact representations of different processes of knowledge production, showing the importance of the study of the '*spatio-temporal profiles*' of scientific manuscripts.

**Philippa Sissis** (independent scholar)

*Mapping identities in the tout monde – the construction of creolité in multigraphic artefacts in the Caribbean*

Friday, 23 May 2025, 5:15 pm – 6:00 pm

Édouard Glissant, Martiniquan writer and philosopher of the *Tout-Monde*, introduced a cultural paradigm that challenges the topographical order imposed by five centuries of European cartographic practices—practices deeply entangled with imperial and colonial projects. His manuscripts are not merely textual artifacts but reveal a profound engagement with the space of the page, transforming writing into a spatial and conceptual exploration. In Glissant's work, spatial understanding is inextricably linked to the quest for a Caribbean cultural identity, and, by extension, to the positioning of postcolonial cultures within a global spatial discourse.

The sea surrounding the Caribbean islands – and separating them in spatial unities – and separating them from Europe, emerges in Glissant's vision as a dynamic, communicative space—a fluid geography through which cultures evolve in what he conceives as an "archipelagic thinking." While Glissant's theoretical and visual engagement with space bridges textual and geographic expression, other Caribbean artists extend this interrogation through aesthetic and material practices that rework the colonial visual legacy.

Rather than accepting colonial cartographies and the Eurocentric spatial order they represent, these artists challenge and reimagine their cultural positionings. For example, Frank Bowling's *Mappa Mundi* series repurposes maps as substrates for new meaning, layering paint and abstraction to subvert imperial visual codes. These works transform colonial "realities" into multivalent artefacts—at once critique and reclamation. Similarly, while Thierry Alet does not use maps directly, he activates spatiality through writing: by copying literary texts and covering not only canvases but gallery walls and surfaces of the city, he invites viewers to move through the written word, turning reading into a spatial and bodily experience.

This paper examines the work of Glissant, Bowling, Alet and other Caribbean artists to argue that their diverse strategies constitute critical engagements with colonial visual culture. By intervening in inherited spatial orders, they enact postcolonial resistance and enable the articulation of new, plural Caribbean identities. The Caribbean archipelago, in this reading, becomes not a fragmented periphery but a site of cultural flow, re-mapping the world through acts of aesthetic and epistemic sovereignty.

**Matthieu Husson** (LTE, PSL-Observatoire de Paris)

*Reinhold's annotations of the Epitome Almagesti: print, manuscript and the memory of astronomy*

Saturday, 24 May 2025, 10:00 am – 10:45 am

The exemplar of *Regiomontanus' Epitome Almagesti*, held at the Paris Observatory under the shelfmark 1196, was the personal and richly annotated copy of Erasmus Reinhold. This document should be understood within a small corpus of Reinhold autographs, which also includes an annotated copy of Copernicus' *De revolutionibus*, preserved in Edinburgh and previously studied by Owen Gingerich, as well as a manuscript commentary on the same work housed in Berlin. This presentation focuses on the Paris exemplar and examines how its visual matrix—comprising both printed and manuscript elements, as well as discursive and non-discursive content—constructs a complex spatiotemporal profile. This profile functions simultaneously as a tool for producing astronomical knowledge, a means of managing the collective memory of astronomy within Reinhold's intellectual milieu, and a device for reflecting on the history of celestial phenomena. After briefly introducing the document, I will concentrate on selected openings within the exemplar to analyze how the visual structure of the printed page is modified by Reinhold's manuscript interventions. This analysis will offer an opportunity to reflect on the visual affordances of these two modes of inscription and their interaction. To deepen the analysis of this dynamic visual matrix, I will also connect it to the astronomical content elaborated therein. These annotated openings often engage with a historical memory of astronomy that spans more than a millennium, thereby generating a historicized view of celestial phenomena.

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**Hanna Vorholt** (University of York)

*The Ruled Grid as Visual Matrix*

Saturday, 24 May 2025, 10:45 am – 11:30 pm

Most electronic and printed texts are organized along invisible horizontal and vertical lines. In medieval manuscripts, lines formed visible grids on the parchment or paper surface. These grids were created by scoring the pages with a hard implement, producing ridges and furrows or by drawing coloured lines. Scholars have examined the resulting ruling patterns using quantitative and qualitative methods and analysed their role in the layout of the written text. While manuscript images were frequently executed on the same ruled surfaces as the written text, the relationship between their design and the ruled grids has rarely been the subject of scholarly research. My current book project provides the first sustained analysis of how the page ruling interacts with the creation, transmission and reading of manuscript images – from tables, dia-

grams and maps to figural imagery. My workshop paper will offer a particular aspect of this project up for discussion by focusing on visualisations of the spatial profile of the manuscript page itself.

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**Hanna Wimmer** (UWA-Hamburg)

*Line–Grid–Vortex: Narrative Structures in the Space of the Book*

Saturday, 24 May 2025, 12:00 pm – 12:45 pm

Time, to Christians, is finite and essentially linear: it has a beginning, told in the first book of the bible, and an end, the vision of which is narrated in its final book. Christian theologians as early as Augustine of Hippo made a point of contrasting this conception of time with the cyclical temporal concepts of their Greek and Roman contemporaries. Yet non-linear temporal concepts and structures have continued to play important roles for theologians and in Christian religious practices. Most prominently, the liturgy is structured according to the solar and lunar calendar, and the history of salvation, though linear, has Christ's life and crucifixion not only as an epochal pivot-point, but, to medieval theologians, as a climax and the lens through which all that happened before can, retrospectively, be understood as a carefully – and divinely – guided foreshadowing of these events.

Manuscripts bear witness to or even sometimes embody these different structural concepts. The pandect bible, as Bonaventure notes, encompasses all of time and history between two covers; the chronology of the liturgical year informs the order of multiple-text manuscripts; seasonal imagery and zodiac signs adorn the calendars in books of hours; and so on.

In my paper, I will focus on Weimar, Herzogin-Anna-Amalia-Bibliothek, Ms. Fol. max. 4. Written and illuminated in c. 1340, probably in or near Erfurt, it contains a *Biblia pauperum* and a picture-Apocalypse. The former presents an elaborately detailed, ostentatiously regular and repetitive concept of visual organization that integrates biblical narrative and typological relationships in groups that combine pictorial and textual elements. The latter, on the other hand, confronts the reader with a whirlwind of visual narrative that links compositional features of the picture cycle with Augustinian exegesis. Between them, these content units employ and contrast linear, grid-like and circular structures to represent temporal and exegetical structures within the space of the codex.