

Manuscript Studies

Sektionsleitung / Section Supervision: Konrad Hirschler

Raum / Room: Edessa (0.2001)

Organised Panels

Natural and Computer Sciences for the Study of Written Materials

Panel convener: Claudia Colini, Stephan Seifert

Written artefacts can tell us much more than what meets the eye. This is particularly true when their study is pursued through a comparative, comprehensive and interdisciplinary approach, which is the strategy adopted at the Cluster of Excellence 'Understanding Written Artefacts' at the University of Hamburg.

These two panels will illustrate the efficacy of this approach to the study of written artifacts, particularly through the collaboration of humanities, natural and computer sciences. In natural science the physical, chemical, and biological identity of the materials that make up written artefacts are explored. This enables the investigation of the artefacts' origin and provenance and the identification of natural and anthropogenic changes they have undergone. These changes include natural decay and corrosion of materials or intentional alterations, conservation treatments, or even partial destruction. Computer science provides various tools for the evaluation, storage, reuse and linking of the data collected by both material science and the humanities contributing to the fruitful transfer of knowledge and methods between disciplines and projects.

In these panels we present several cases of successful collaborations, both between members of the Cluster and with external researchers and institutes. The examples were selected among concluded and on-going projects, in order to emphasize the variety of written artefacts and materials investigated, disciplines involved, methods applied, research questions answered and emerging directions to be pursued in the course of the following years.

The Library of Aḥmad Pasha al-Jazzār: Projection of Power and Learning

Panel convener: Boris Liebrecht

Aḥmad Pasha al-Jazzār (d. 1219/1804) has gained considerable contemporary notoriety as a ruthless provincial ruler in Palestine and Syria, and he is probably best remembered as the leader who repelled Napoleon's assault on Syria.

Yet the most visible and enduring aspect of al-Jazzār's long rule is his architectural legacy in 'Akkā, which developed from a small port to an impressive and well-fortified town. Here, a splendid mosque and madrasa complex was erected at the economic and administrative center of al-Jazzār's power, and attached to it was a library that contained some of the most precious volumes of the Islamic manuscript tradition.

Situated at critical junctures in the political and intellectual history of the region, the library and its founder exemplify traditions and changes in the world of books during the 18th and 19th centuries. Access to new sources, especially a catalogue of the library's original holdings as well as the identification of a growing number of its extant manuscripts, has recently opened up new vistas for research. Moreover, the fate of the library after its founder's death, the trajectories of individual volumes as well as reports of its visitors, can serve to re-evaluate a recent revival of the decline paradigm in Middle Eastern book history.

The speakers of this panel, part of the newly formed *al-Jazzār Library Project*, will explore the meaning of libraries, of book ownership and endowment, during al-Jazzār's lifetime in the region and beyond. They will thus shed light on the institutional legacy of access to the written heritage, especially when comparing a provincial town to the traditional centers of learning and book culture.

Beyond the Realm of Natural Language – Abstract Sign Systems in Multigraphic Written Artefacts

Panel convener: Szilvia Sövegjártó

Multigraphic written artefacts might combine or co-present various sets of graphic and pictorial signs in one object, besides multiple scripts and various other sign systems can be used. The proposed panel will focus on written artefacts which combine writing systems of natural languages with abstract sign systems which do not intend to decode a natural language. Abstract sign systems relevant for this panel thus include, but are not restricted to numerical systems, musical notations or pseudo-scripts.

The emergence of this group of multigraphic written artefacts in many premodern cultures resulted from the diversification within the written domain. Hereto count the sacral or magical, musical as well as the scientific uses of writing which urged the development of abstract sign systems used for specific purposes only.

Some of the questions the present workshop will address are: What was the motivation for the use of abstract sign systems in multigraphic written artefacts? Were these abstract sign systems restricted to a certain domain or to a group of written artefacts and thus intelligible only for specialists? Where do the signs of the abstract sign systems originate from? How persistent were abstract sign systems in various cultures of writing? Is there a hierarchy perceivable between multiple sign systems used in a given multigraphic written artefact? What strategies are employed in the visual organization of multigraphic written artefacts to emphasize or to conceal the presence of multiple sign systems?

Arabic Pharmaceutical Manuscripts in the German Academic Context

Panel convener: Ayman Yasin Atat

The famous Arabist Manfred Ullmann emphasized in 1970 in his reference work “Die Medizin im Islam”, that the manuscripts ought to be in the center of scholarly work on the history of Arabic medicine and natural sciences “today and in the foreseeable future”. Nearly more than fifty years later, many texts in these fields are still in manuscript form, while in other fields of Arabic and Islamic studies, the importance of manuscript evidence has been emphasized.

These manuscripts are the most important sources on the scientific culture among Arab-speaking communities in the Middle Ages and later. After the Arabic-speaking scientific community had gained access to the Greek medical tradition through the “translation movement” in the 8th and 9th centuries, Arabic-speaking physicians started to add new information to this ancient material by authoring books and treatises. Many historians consider Arabic-Islamic medicine as an essential factor in the development of medicine. Furthermore, some historians consider the Arabic language as the most important language of science in the Middle Ages. Therefore, studying Arabic medical manuscripts is crucial in order to gain full perspectives for understanding the scientific culture of the Arabic civilization, and the development of medicine in general.

In the same vein, by considering the fact that Arabs have brought a great deal of material into pharmaceutical science and many editions and translations of Arabic pharmaceutical works translated into Latin have been published, the contribution of Arabic science in the development of pharmacy seems all the more obvious. Furthermore, Arabic pharmaceutical manuscripts deal with the main aspects of materia medica culture either by identifying the simple drugs or by describing the formulations and the preparing methods of the compound drugs. Although many scholars over the world are conducting many projects for editing, studying, and even translating some Arabic medical manuscripts into other languages, unfortunately, the situation is very different when it comes to Arabic pharmaceutical manuscripts: many of them are still without any real study of their contents, despite that most would be accessible in the libraries over the world.

The panel aims to spotlight the ongoing projects of the Arabic pharmaceutical manuscripts in the German Academic context, either the editions and translations projects, or cataloguing and digitizing ones. In addition, to discuss on the importance of such as this kind of projects, in order to present these manuscripts scientifically in order to integrate their rich pharmaceutical knowledge into the German academic atmosphere.

Moreover, the panel aims to bring together scholars working on the history of Arabic medicine and pharmacy with a focus on the manuscripts themselves, and the interested audience in order to discuss trends in the field and explore future areas of cooperation.

Keynote

Tradition and change – understanding the materiality of manuscript cultures and preserving the evidence

Karin Scheper (Universiteit Leiden)

The study of manuscripts as objects has developed significantly over the past hundred years. Initially, scholars focussed on the stylistic components, readily visible and malleable in an art-historical framework. The drawback of this approach was that only a small percentage of the total manuscript and printed book production was studied, as the majority was not richly embellished or exquisitely bound. This changed with the awareness that actually *all* manuscripts contain material information worth noting, because the object-specific features, together with traces of use such as historic repairs, shed light on the context of production and use. Material studies contextualise the field of book history.

Gradually, we are filling the gaps in our understanding the developments in the different cultures. These days, the study of the physical characteristics and techniques of manuscripts is often conducted by book conservators, often in collaborative projects with manuscript scholars. This paper will address results of recent projects, concerning a variety of manuscript traditions, mainly from the Middle East, Central and South Asia, and Indonesia.

Presentations

Kašf az-zunūn und seine Relevanz für die wissenschaftliche Erschließung arabischer Handschriften

Wael Abbas (Forschungsbibliothek Gotha (Universität Erfurt), Institut für Studien der Kultur und Religion des Isam (Goethe Universität Frankfurt am Main))

Mit seinem bibliographischen Werk „kašf az-zunūn“ erlangte Ḥāğğī Ḥalīfa (1609 -1657) seine wohl verdiente Anerkennung und Berühmtheit. Jeder, der sich mit dem arabischen Schrifttum beschäftigt, weiß die in diesem Wert gesteckte Mühe und die damit erbrachte Leistung zu schätzen.

In diesem Vortrag wird kašf az-zunūn und seine Bedeutung, insbesondere für die Forschung zu arabischen Handschriften, dargestellt, und zwar anhand von der Beantwortung folgender Fragen: Wie und in welchem Kontext ist das Werk entstanden, wie ist es aufgebaut und welche Informationen liefert es uns?

Inwiefern haben insbesondere die deutschsprachigen Kataloge des 19. Jahrhunderts von diesem Werk profitiert?

Die Beantwortung der letzten Frage wird anhand von Untersuchung der drei folgenden historischen Katalogen erfolgen:

Aumer, Joseph: Die arabischen Handschriften der K. Hof- und Staatsbibliothek in München, München, 1866.

Pertsch, Wilhelm: Die arabischen Handschriften der Herzoglichen Bibliothek zu Gotha, Teil 3, Bd. 1, Gotha, 1878.

Ahlwardt, Wilhelm: Verzeichnis der arabischen Handschriften, Bd. 1, Berlin, 1887.

The Science of “Literature” in the Library of Aḥmad Pasha al-Jazzār

Berat Açıll (Marmara University, Turkey)

Building a cultural institution like a library by Aḥmad Pasha al-Jazzār (d. 1219/1804) in ‘Akkā was extraordinary and of great importance, in terms of Ottoman book culture since the eighteenth century was an age of transformation in the Ottoman Empire in general and the Arabic lands were unsteady specifically.

The first question related to the library of Aḥmad Pasha al-Jazzār to be asked is whether it was still an Ottoman library or has some distinctive features unique to the region? Therefore, comparing the inventory with one of the “genuine” Ottoman libraries would shed new light on determining the nature of the library. I will try to scrutinize the literature section of the library by comparing it with other Ottoman inventories of the same period. The second purpose of the project is to determine the meaning of the term “literature” used in the library of Aḥmad Pasha al-Jazzār because the inventory of the library uses the term “literature” for classifying different “modern” disciplines such as linguistics, grammar, poetry, logic, etc. Since the library is a madrasa collection, one may expect more Arabic manuscripts. Thus, the third query will be about the language used in those manuscripts. But are they all in Arabic or not? Are there any Persian or Turkish manuscripts related to literature, and what does this mean?

The project compares a library located in a provincial town to the main centers of book culture by analyzing the Library of Aḥmad Pasha al-Jazzār.

الضبط الببليوغرافي في مكتبة أحمد باشا الجزائر اعتماداً على فهرس المكتبة

Said Aljoumani (Freie Universität Berlin, Germany)

من خلال إخضاع هذا الفهرس للدراسة سيتم التعرف على: موضوعات العلوم التي كانت محفوظة في هذه المكتبة في القرنين الثامن عشر والتاسع عشر الميلاديين، وعلى ذهنية العمل المكتبي الممارس فيها من حيث الوقوف على بيانات الوصف الببليوغرافي المستخدمة، ومدى ثباتها مع كل المُدخلات، والوظائف التي اضطلع بها الفهرس، وطريقة ترتيبه وإخراجه، وما تبوح به مقدمة الفهرس وخاتمته من معلومات تشير إلى الواقف وأسماء الخَزِيَّة. ولا بدّ من أنّ إجراء المقارنة بين هذا الفهرس ومثيلاته من فهرس مكاتب بلاد الشام المعاصرة له سيظهر جانباً من تميزه أو تخلفه.

والجدير بالذكر أنّ هذا الفهرس كُتِبَ سنة (1215هـ/1800م)، ولكنه يحوي في ثناياه بيان ثلاث مجموعات ضُمت إلى رصيد المكتبة بين (1216 - 1218هـ/1801 - 1803م). ما كُنَّا لنعرف عنها لولا هذا الفهرس مما يجعله منطلقاً رئيساً في كتابة تاريخ المكتبة. وفي هذا المقام لا بدّ من التنويه إلى أنّ أقدم قيود الوقف على هذه المكتبة تعود إلى سنة (1196هـ/1782م). في حين أنّ تاريخ خاتم الوقف (1205هـ/1791م). ومن البدهي أنّ تتبع هذه التواريخ وتفسيرها سيكشف عن جانبٍ مُغفَلٍ من تاريخ المكتبة.

Einstein Project on Arabic Pharmaceutical Manuscripts housed at Staatsbibliothek zu Berlin
Ayman Atat (Freie Universität Berlin, Germany)

As an attempt to shed light on the Arabic pharmaceutical manuscripts as a field of research in Germany and put it in the center of scholarly work, since February 2020, as Einstein Guest Researcher, I am conducting a project hosted by FU Berlin in the Faculty of History and Cultural Studies within the Seminar of Semitic and Arabic Studies. In my project, I investigate the unique and rare Arabic Pharmaceutical manuscripts housed at Staatsbibliothek zu Berlin. The priority focus is to analyze their contents, as it is important to recognize the methodology used in authoring these kinds of sources. In addition, to identify quotations from other Greek, Syriac and Arabic sources that authors used and quoted in order to understand the historical transmission of pharmaceutical knowledge between different cultural spheres.

Therefore, the presentation is going to tell the audience about the methodology of conducting the project, which depends mainly on preparing and academic report for each manuscript housed at Staatsbibliothek zu Berlin, these reports have a main structure with differences in the details according to the contents of each manuscript, more information will be during the talk.

Furthermore, needless to say that this paper hopes to listen to the feedback from the audience concerning the project, and gain their suggestion, thoughts, and perspective for developing the methodology of the project. Moreover, to discuss with the audience about the future of studying Arabic Pharmaceutical manuscripts in Germany.

Comparing Notes with a Late Eighteenth-Century Librarian: Sulayman Efendi and His “Metadata”
Guy Burak (New York University, United States of America)

The inventory of Ahmad Pasha al-Jazzar’s library is an invaluable document for the study of the history of book collections and libraries in the eighteenth and the nineteenth-century Ottoman lands. It is also an extremely important document for the study of librarianship and descriptive practices (practices that may be referred to slightly anachronistically as “metadata”). Indeed, al-Jazzar’s librarian, one Sulayman Efendi, adopted what seems like a quite rare descriptive approach to the collection. Most notably, Sulayman Efendi applied a very detailed classification of scripts. In addition to casting light on a somewhat hidden bibliographic tradition, Sulayman Efendi’s metadata can enrich and complicate the records produced by European and North American catalogers of cataloged manuscripts from al-Jazzar’s library. Since manuscripts from al-Jazzar’s library have survived and can be identified in the inventory, it is possible to examine the descriptive practices in various bibliographic traditions comparatively.

Palm-Leaf Manuscript Profiling Initiative (PLMPI) and the Study of South Indian Palm-Leaf Manuscripts

Giovanni Ciotti, Sebastian Bosch, Hussein Adnan Mohammed, Stylianos Aspiotis (University of Hamburg, Germany)

Palm-leaf manuscripts are one of the world's most important and numerous handwritten artefacts, found in as yet uncounted millions in South Asia, South-East Asia, and partly Central Asia. Their material characteristics have however remained virtually unexplored up to our days, when their production is reduced to a trickle in rural libraries or for the sake of tourists.

The project "Palm-Leaf Manuscript Profiling Initiative" (PLMPI) aims to carry out an innovative and comprehensive study of these artefacts by combining humanities, natural sciences and computer sciences. Informed by philological, codicological, and palaeographic considerations, the project will apply a series of methods – including, among others, DNA and proteomic analyses, spectrography, microscopy, pattern detection and recognition – to the exploration of material and statistical features that characterise palm-leaf manuscripts. The results generated will allow the establishment of a reference database for the study of palm-leaf manuscripts and the pursuit of new avenues of research in the history and dynamics of both material and textual cultures across Asia.

During the first phase of PLMPI, palm-leaf manuscripts belonging to the CSMC, the State and University Library of Hamburg and a few private collections will be analysed. Methods that will prove successful will then be taken to the field for the second phase of the project, corresponding to the first mission of the brand new CSMC Container Lab to the French Institute of Pondicherry (IFP) planned for 2023.

Notes of the Ḥadīth Manuscripts in the al-Jazzār Pasha Library

Garrett Davidson (College of Charleston, United States of America)

The third section of the al-Jazzār Pasha Library catalog inventories manuscripts classified as “kutub al-ḥadīth al-sharīf” and contains entries for some 230 volumes. This paper will examine this section of the catalog with two primary aims. First, because the titles are given in an abbreviated, and often cryptic, form, it will be necessary to attempt to fully identify each manuscript. The second part of the paper consists of analysis of these manuscripts with the aim of shedding light on what “kutub al-ḥadīth al-sharīf” may have meant in this context and what that might tell us about the spiritual, ritual and intellectual lives of the community that was originally intended to use the collection. Upon initial examination it is noteworthy, for example, that the collection contains only a fragment of the hadith canon. Further, only the copies of al-Bukhārī and al-Tirmidhī are complete. The copy of Muslim is incomplete, and Abū Dāwūd and the other collections are entirely absent. It is also noteworthy that one of the manuscripts of al-Bukhārī consists of thirty parts, which may suggest it was read ritually. On the other hand, the collection is rich in the genre of *sīra*, containing for instance six copies of al-Qāḍī ‘Iyād’s *al-Shifā*. In this regard, it is also worth noting that the section contains a number of works that are not hadith, but rather works of Muḥammad-centric piety, such as *al-Ṭarīqa al-Muḥammadiyya*, *Dalā’il al-khayrat* and various *mawliids*.

In Search for Traces: The Libraries of the Hafsid in German Collections

Laura Hinrichsen (University of Oxford / Museum für Islamische Kunst, Berlin)

Die Bibliotheken der Hafsiden in Ifriqiya (Tunesien, ca. 1250-1550) gelten seit der Eroberung und Plünderung von Tunis im Jahr 1535 durch die Truppen Karls V als verloren.

Die Spurensuche in Handschriftensammlungen quer durch Europa ergab, dass viele tunesische Bücher als Kriegsbeute von 1535, andere bereits früher (bzw. später) als diplomatische Schenkungen oder gar auf Bestellung in europäische Sammlungen gelangten. Insgesamt konnten rund 120 hafsidische Handschriften in europäischen Bibliotheken identifiziert werden.

Einerseits erlaubt die Rekonstruktion des Handschriftenkorpus viele Rückschlüsse auf die verschollene Buchkultur der Hafsiden. Ein besonderes Hilfsmittel ist hierbei die Auswertung von Marginalia wie Besitzervermerke oder Stifterurkunden, die etwas über die Handhabung, Aufbewahrung und Benutzung der Bücher und ihrer Bibliotheken verraten. Andererseits können durch die Verfolgung der Wege, die die Handschriften in Europa genommen haben, die Netzwerke und Sammlertätigkeiten der frühesten Arabisten in Europa veranschaulicht werden. So haben zum Beispiel Wissenschaftler wie Guillaume Postel (1510-1581) oder Johann A. Widmanstetter (1506-1557) ihre Sammlungen mit Handschriften aus der Tunisbeute aufgebaut.

Für den DOT 2022 soll ein besonderes Augenmerk auf hafsidische Handschriften in deutschen Sammlungen geworfen werden, unter anderem auf zwei Exemplare in der Staatsbibliothek zu Berlin.

The Manuscripts of al-Jazzār's Library Translocated: Dublin & Princeton, Akka & Jerusalem

Konrad Hirschler (Universität Hamburg, Germany)

Al-Jazzār's library started to be dismantled shortly after his death and its manuscripts moved into new collections. We are only at the very beginning of identifying these manuscripts in their current collections in order to build up a substantial corpus. This paper has two aims: Firstly, it shows that the first identified manuscripts show a multifaceted picture that gives new insights into the movements of manuscripts in and from Bilad al-Sham in the 19th century and early 20th century. We have the usual traders (such as C. Landberg and A. Yahuda) who were selling to European and American libraries (such as Berlin) and to collectors such as R. Garrett and A. Chester Beatty (with the manuscripts ultimately ending up in Princeton and Dublin). In contrast, there is a distinct absence of movements to Istanbul, which is very different from the picture in the 18th century. Remarkable is the number of manuscripts that have remained within southern Bilad al-Sham and that are today in libraries in Akka, Nablus, Jerusalem, Beirut and Damascus. Secondly, the paper will briefly present an automated search tool for identifying specific stamps, the Visual-Pattern Detector developed by Hussein Mohammad at the Hamburg Centre for the Study of Manuscript Cultures. VPD is a software tool that can be used to recognise and allocate visual patterns (such as words, drawings and seals) in digitised manuscripts automatically and is of crucial importance for projects such as ours.

Sinitic Buddhist Liturgy in a Mongolian Guise: A Newly Discoverd Mongolian Text Related to the Huayan Repentance Liturgy

Mengji Huang (Universität Heidelberg, Germany)

In 2015, a long scroll written in the Uyghur-Mongolian script, along with a few fragments of a similar codicological type, was excavated at the site of Toyuq in Turfan. The Mongolian text that survives in the manuscripts is identified as part of an important Buddhist liturgical text that has come down to us in Chinese, Tangut, and Old Uyghur. This finding not only presents us for the first time with a Mongolian version of this liturgical text, but also allows us to further identify another fragmentary Mongolian manuscript acquired in Turfan in the early twentieth century and currently housed at the Lüshun Museum in China as part of the same liturgical text. Aside from introducing the newly discovered manuscripts and explaining their archaeological context, this article also discusses the historical significance of the discovery and the new light it sheds on the history of the transmission and reception of the text.

Das Werk des Arztes Ibn al-Ġazzār im Lichte neuer Forschungen und Funde

Fabian Käs (Universität zu Köln, Deutschland)

Ibn al-Ġazzār wirkte in der zweiten Hälfte des 4./10. Jh. in Kairouan. Sein medizinisches Oeuvre ist im Abendland durch zahlreiche Übersetzungen beginnend mit Constantinus Africanus seit langem bekannt. Obwohl auch deren arabische Vorlagen bereits im 19. Jh. identifiziert werden konnten, ist sein Gesamtwerk bis heute nur wenig erforscht. Selbst von den lateinischen, hebräischen und mittelgriechischen Übersetzungen, die eminenten Wert für die Grundlegung der mittelalterlichen europäischen Medizin hatten, liegen bislang kaum kritische Editionen vor. Auch die arabischen Werke sind bei weitem noch nicht alle in verlässlichen Ausgaben verfügbar. Manche blieben bislang weitgehend unbeachtet oder galten irrtümlich sogar als verloren. Ausgehend von einem Werkstattbericht über seine Arbeiten am Kompendium Zād al-musāfir stellt Käs die neuesten Erkenntnisse zu Autor und Werk dar. Weitere Schwerpunkte bilden sein Sendschreiben über die sympathetischen Eigenschaften (Risāla fī l-Ḥawāṣṣ) und das Buch über die Gifte (K. as-Samā'im), welches erst unlängst in einer einzigen Handschrift identifiziert werden konnte.

The Afterlife of charaktêres in post-Antiquity: Pseudo-Scripts, Abstract Sign Systems and Multigraphic Written Artefacts in Jewish (and non-Jewish) Magic

Michael Kohs (Universität Hamburg, Germany)

Magic signs or charaktêres as a phenomenon originated in Roman and late Antique Egypt. Beginning in Late Antiquity, these magical signs were adopted and used in various (manuscript) cultures. Charaktêres, and the characteristic Brillenbuchstaben in particular, can be found in the Middle Ages and early modern times in Jewish, Islamic and Christian artefacts throughout the Mediterranean region as well as in large parts of Europe. Some of them have been handed down to the present day. In the process, this pseudo-script was often removed from its original ritual and textual context. Nevertheless, charaktêres retained their general significance as powerful, efficacious scriptural signs or material. Scholars of magic and of other arcane sciences have attempted time and again to analyse these signs, to explain their meaning and to systematise them.

Taking up the preceding talk by Leah Mascia, this paper will outline developments of charaktêres as pseudo-scripts with a focus on Jewish magical artefacts from medieval times onwards. Furthermore, I will also look into additional abstract signs that were used in the context of magical manuscript practices and will contrast particular aspects of multigraphic written artefacts of magic with and without pseudo-script. Finally, the paper will ask according to which criteria these pseudo-scripts can be systematised regarding their form and function and will take an attempt in explaining their persistent popularity.

Abstract signs on printed and manuscript maps of Tibet

Diana Lange (Universität Hamburg, Deutschland)

Particularly since the 18th century, the Tibetan highlands have been mapped by different agents, from different perspectives and in different "cartographic languages". As a result maps with very different visual representations of the area were produced. Some of these maps look – in very simplified terms – very abstract, others look more pictorial or like living landscapes. As multigraphic written artefacts most of them contain written elements in different Asian and European languages. Furthermore, they include graphic elements as well as pictorial or abstract signs (or a combination of both). Signs have been used over the centuries to record and communicate information on maps. Using the region of Tibet as a case study, I want to discuss how spatial information of a specific region was conveyed in different "cartographic languages" and what role abstract signs played in this process. The case of Tibet is of special interest in the context of mapmaking, as here we deal with multi-directional interaction between Tibet, China and the "West". The central questions I want to address: which mapmakers made use of abstract signs for the creation of maps of Tibet and for what purpose did they employ them? What does the use of such signs tell us about the cartographic framework which was followed for the maps' production? How did the different "cartographic languages" influenced each other concerning the use of abstract signs? Is it possible to identify a specific development in the use of abstract sign systems on the different maps of Tibet?

The Jazzār Pasha Library: Contemporary Perceptions and Parallels

Boris Liebreuz (Sächsische Akademie der Wissenschaften zu Leipzig, Germany)

At the end of the 18th century, Aḥmad Pasha al-Jazzār (d. 1219/1804) founded one of the most splendid book collections in the Arab provinces of the Ottoman Empire. He did this in the city of 'Akkā which, just a few years prior, had been little more than a fishing hamlet and which he had rapidly transformed into one of the larger and well-built urban centers on the Syrian coast. What role did the books play in this environment? What was the audience and purpose of this project?

This talk will approach an understanding of these questions through two main avenues. First, a sense of the meaning of this library can come from an analysis of contemporary reports by its visitors, the few European travelers and scholars who managed to gain access to it and published their impressions. Then, I will attempt a comparison of this collection with others that were formed by governors and elite actors in a similar fashion in other centers of Egypt and Syria in the same period.

From Pseudo-hieroglyphs to Charaktères: The Use of Pseudo-Scripts and Invented Signs in the Production of Multigraphic Written Artefacts in Roman and Late Antique Egypt

Leah Mascia (Universität Hamburg, Germany)

In Roman and Late Antique Egypt the production of magical and funerary written artefacts was characterised by the frequent interaction of different writing systems (i.e. hieroglyphic, hieratic, Demotic, Coptic, and Greek) as well as various typologies of pseudo-scripts and invented signs (i.e. charaktères, voces magicae, and pseudo-hieroglyphs). This recurrent coexistence between natural languages, invented scripts, and signs determined the multigraphic nature of numerous ritual artefacts produced during this historical phase, which varied greatly in terms of materiality and function (i.e. coffins, funerary masks, mummy bandages, papyri, magical bones). The reasons that led to the frequent interaction between natural languages, invented scripts and signs reside in the specific functions that each system was called to answer. Indeed, traditional writing systems served as a vehicle for specific information that was functional for the fulfilment of administrative and ritual duties. On the other hand, pseudo-scripts and invented signs were thought to activate the ritual potency of the artefacts, establishing a dialogue between the living and supernatural entities. In this sense, the simple act of writing these signs constituted a fundamental stage in the sacred procedures performed by Egyptian priests and other ritual experts.

The proposed talk intends to explore the interaction between traditional writing systems, pseudo-scripts, and invented signs in the production of ritual multigraphic written artefacts in Roman and Late Antique Egypt. This paper will offer an insight into this complex historical moment irremediably dominated by the tension between the resistance of the native culture and the influence of foreign traditions.

From Damascus to 'Akkā: Aḥmad Pasha al-Jazzār in the Damascene court records

Astrid Meier (University of Halle-Wittenberg, Germany)

Aḥmad Pasha al-Jazzār's endowments of 1786 for his compound in 'Akkā are well-known and have been thoroughly studied. It is less well known, however, that during his several tenures as Governor of the Province of Damascus (1785–1786, 1790–1795, 1798–1799, 1803–1804) he or his substitute used the courts of Damascus to document how they pooled various kinds of resources from the city of Damascus and its environs for the profit of his activities in 'Akkā. Whether such resources also included manuscripts from the lively Damascene book market or from Damascene private or institutional book collections is at this moment an open question.

On the basis of a growing sample of court documents related to Aḥmad Pasha al-Jazzār from the court records of Damascus (and perhaps also Hama), my contribution aims at shedding some light on these translocal activities, with a particular focus on another endowment for the mosque and madrasa in 'Akkā, registered in Damascus in 1795.

Pattern Analysis for Ancient Written Artefacts

Hussein Adnan Mohammed (Universität Hamburg, Germany)

Huge amount of research data is generated by scholars in the Humanities every day. This data can be row images of digitised artefacts, automatically generated measurements from material-analysis equipment, or even manually-generated data which reflects observations or calculations of certain features in ancient artefacts. The manual analysis of this data typically requires a lot of time and effort; furthermore, it can be subject to human error and bias. Therefore, automating the process of analysing, classifying, and detecting patterns in research data is becoming an essential need to sustain the productivity of scholars and benefit from the technological advancements in the field of pattern recognition.

Having proper and reliable interpretation of the generated results from automated pattern recognition methods often require experts from both computer science and the Humanities. In many cases, such close collaboration is not only desired, but rather necessary to have a fruitful outcome.

The cluster of excellence “Understanding Written Artefacts” offers a suitable environment for such collaborations to take place. Several innovative and state-of-the-art computational methods have been developed in close collaboration between computer scientists, natural scientists, and scholars from the Humanities in order to tackle actual problems from the research of ancient written artefacts.

Same but different – XRF study of inks from 13-14th centuries Torah scroll

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Nehemia Gordon (Bar-Ilan University, Ramat Gan)

Ira Rabin (Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin , Bar-Ilan University, Ramat Gan)

Ms Erfurt 7 (Berlin, Staatsbibliothek Preussischer Kulturbesitz, Ms. Or. fol. 1216) is a thirteenth century Torah scroll from the famous Erfurt collection kept at the Berlin State Library. Multiple corrections, reinking, and three replacement sheets testify to intense ritual use of the scroll. The scroll was investigated in order to compare the ink used in the original and replacement sheets, both for the main text and for corrections. Finally, we answered the scholarly question of whether there was a special practice of writing God's name. The first survey was performed on-site with a portable XRF spectrometer on a selection of spots, and later it was complemented with XRF scans of several paragraphs of interest with an imaging spectrometer, after permission was granted to bring the scroll to the laboratory. In the presentation, we will show how material analysis of inks can contribute to scholarly research on manuscript and compare what can be achieved on-site with spot analysis, and what questions can be addressed only with use of a scanning device.

Non-invasive unpacking of enclosed cuneiform tablets by visualization and printing of extracted and segmented surfaces from 3D CT volume data

Stephan Olbrich (Regional Computing Center (RRZ), Universität Hamburg, Germany), Cécile Michel (Centre national de la recherche scientifique (CNRS), France), Christian G. Schroer (Deutsches Elektronen-Synchrotron (DESY), Germany)

Enclosed cuneiform clay tablets are interesting research objects in Assyriology, but only investigable if their envelope is broken. Because 3D surface digitization cannot be applied for occluded objects, high-resolution X-ray microtomography is developed and applied to acquire volume data sets of this artefacts, finally to reconstruct the enclosed tablet non-invasively. Scalar data represents X-ray attenuation properties on a regular 3D grid. The data can be very noisy, especially under scan time limitations due to conditions of the artefact provider. Data of this characteristics cannot be rendered directly. Reconstruction, segmentation, feature extraction, and visualization of the tablet and envelope parts and its inscriptions are challenging tasks. Previous work regarding surface-oriented scanning, analysis and visualization of cuneiform tablets cannot be applied for such data. General-purpose tools for segmentation and visualization of volume data are typically not optimized for this purpose, and not sufficiently automatable and user-friendly for interdisciplinary application.

For these reasons, we are implementing an efficient data processing workflow:

- feature-preserving de-noising of volume data
- high-quality reconstruction of surface meshes
- feature-preserving smoothing of the meshes
- segmentation into partitions, e. g. separate enclosed tablet and envelope meshes
- curvature and ambient-occlusion based analysis of per-vertex features
- interactive visualization of partitions, exploiting feature data for coloring and lighting, optionally taking advantage of (auto-)stereoscopic displays and head-/gesture-tracking
- efficient intermediate storage and reload based on a compressed file format
- export of open file formats for research data repositories, 3D print, or as 2D "fat cross".

First results are presented, based on a case study of a replica.

Beyond Number: Numerals as Representatives of Words and Letters in Siamese Manuscript Culture
Peera Panarut (Universität Hamburg, Germany)

Numerals as language-related symbols used to denote numerical quantity are widely found in different cultures. Thai numerals, developed from Indic numerals through Old Khmer, are testified in the earliest epigraphic evidence (13 th century) and have continuously been used until present days. However, in Siamese manuscript culture, Thai traditional numerals were not only applied to notate numbers, but also to represent words and sometimes to substitute the letters in the writing system itself. In the calendrical notations found in traditional manuscripts and inscriptions, numerals were employed to represent a specific weekday, while they were also used in astrological manuscripts to represent the names of each planetary deity.

Furthermore, numerals were employed in different types of codes to represent vowels (in a code called aksòn lek) and consonants (in the code fon saen ha), in order to conceal the message of the written texts and to play with the readers' intellects. The actual use of these numerical secret writing is also attested in manuscripts dating from the eighteenth to the nineteenth centuries. Therefore, numerals as substitutions of words and letters constitute a multigraphic tradition within the Siamese manuscript culture, in which a language-related symbol such as a numeral is systematically used to represent regular writing. This "numeral writing" belongs to the higher level of traditional literacy, restricting the written text from the common literate, and at the same time revealing the dynamic within the Siamese writing culture.

Der Übergang von der schwarzen Tusche der Antike zu den Eisengallustinten des Mittelalters.

Ira Rabin (Bundesanstalt für Materialforschung und -prüfung (BAM) Berlin, CSMC Universität Hamburg)

Diese Forschung zielt in erster Linie darauf ab, eine soziogeografische Geschichte von Tinte, Pergament und Papyrus zu rekonstruieren, und umfasst die Materialanalyse der Schreibtinten der Schriftrollen vom Toten Meer, der antiken und hellenistischen Papyri in Ägypten, sowie der Koptischen und Europäischen Tinten des früheren Mittelalters. Zu diesem Zweck haben wir ein Protokoll für die zerstörungsfreie Tintenanalyse entwickelt. Es besteht aus einem ersten Screening mit Hilfe der NIR- und IRR-Reflektographie, um die Art der Tinte zu bestimmen, und einer anschließenden eingehenden Analyse mit verschiedenen spektroskopischen Techniken. Eine davon, die Röntgenfluoreszenzanalyse (RFA), spielt eine wichtige Rolle bei der Identifizierung der Metalle in den Ruß-Tuschen der Antike und der Bestimmung der charakteristischen Zusammensetzung metallhaltiger Tinten, um zwischen den verschiedenen Tinten zu unterscheiden.

Eine schnelle Entwicklung der zerstörungsfreien und mobilen Technologien lässt hoffen, dass die Identifizierung der Tintenart bald zu den wesentlichen Aufgaben der primären Manuskriptbeschreibung gehören wird, und damit zu einem Bestandteil der klassischen Kodikologie.

Dieser Beitrag bietet ein Panorama schwarzer historischer Schreibmittel und zeigt, dass der Übergang von den auf Ruß basierenden Tuschen zu den Eisengallustinten des Mittelalters über die Mischintinten führte, und schon in der hellenistischen Antike seinen Anfang fand. Die Präsentation zeigt, dass es eine Vielzahl schwarzer Schreibtinten gab, deren Herstellungstechniken das absichtliche Mischen von Ruß oder Holzkohle mit Tannin-Extrakten oder Eisengallustinte, oder die Anreicherung von Ruß mit Metallen umfassten.

A Successor Library of al-Jazzār: Abū Nabbūt's Library in the Great Mosque of Jaffa

Benedikt Reier (Universität Hamburg)

Aḥmad Pasha al-Jazzār did not only transform the coastal hamlet of Acre into a proper cityscape, including his famous mosque and its library, but he also influenced a similar project down the coast of Palestine. His confidant and former mamlūk, Muḥammad Āghā Abū Nabbūt, embarked on a comparable project in Jaffa when he became the governor of the harbor town in 1807. His activities included, amongst others, the upgrading of the town's fortifications, the building of a mosque and two fountains.

This paper will explore the library of Abū Nabbūt, attached to the Great Mosque of the port city and its madrasa. In how far can we compare his infrastructural project in Jaffa in general and the library in specific to al-Jazzār's undertaking in Acre? What does the library stock reveal about the profile of the library and the availability of manuscripts in early 19th-century Palestine? What happened to the books after the demise of its founder?

the oldest hanafism manuscript

MUHAMMED ŞAHİN (Marmara university, ISAM)

I will present a rare and early Iraqi manuscript. As much I saw it is the oldest reached manuscript in Hanafi school. this manuscript of Kafi by Al-Hakim al-shahid (d. 334/945) was written at 417 A.H by abu Abdullah al-Damgani. I found this copy of the book in the Reza Rampur Library in India. it is the oldest manuscript copy I have come across in Hanafi's books as much as tracing the manuscripts of the doctrine books.

What increases the importance of this copy is that it was written in the Damgani script, and he was a contemporary of the great scholars of the doctrine at the time.

Codicology and the Transformation of Islamic Law: The Tarjihāt al-bayyināt in the Princeton Garrett Collection

Tobias Scheunchen (University of Chicago, United States of America)

In Islamic law, preponderance (tarjih)—a practical method for mujtahids to resolve legal contradictions (ta'arud) between proofs—has been known in the uṣūl tradition from at least the tenth-century jurist al Jaṣṣāṣ (d. H. 370/981). Yet it is in several 17th and 18th century Arabic and Ottoman manuscripts of Princeton's Garrett collection that we encounter summary-like lists labeled "tarjihāt al-bayyināt" (from now referred to as TBs), which succinctly compile for readers the complex rules of preponderance in terse and memorable form. Organized into three-columned lists (MSS Garrett 5642Y and 5477Y) or as annotations in the margins (MS Garrett 4753Y), the TBs follow a grammatical structure and visual layout that makes them predictable, recognizable, and easy to navigate for manuscript readers. This paper examines the TBs as a codicological phenomenon, arguing that the TBs in MSS Garrett 5642Y, 4753Y, and 5477Y do not simply function as a genre but instead served as a useful shorthand to the main text which would have been especially advantageous for qāḍīs and muftīs already familiar with its positive legal content. The paper fleshes out its arguments through a codicological and textual analysis, using marginal notes, colophons, and clues about the manuscripts' compilation process to analyze the TBs' structural commonalities and their intended purpose. More broadly, the paper suggests that the presence of the TBs might hint at a broader transformative process of readers/legal practitioners' relationship with codices of positive law at this critical moment in the history of Islamic law.

Where light and dark meet: Multispectral recovery of text in Manichaean Papyri in Berlin, Dublin, and Warsaw

Ivan Shevchuk, Kyle Ann Huskin (Centre for the Study of Manuscript Cultures (CSMC), University of Hamburg, Germany)

This talk reports on the application of multispectral imaging (MSI), together with statistical image processing, for the purpose of the recovery of damaged writing in papyri manuscripts. To present the abilities and limitations of this non-destructive and non-invasive technique, we will focus on the CSMC's campaign to image a massive corpus of hitherto unpublished Manichean manuscripts, which survive in over 800 poorly conserved glass and plexiglass plates housed in four repositories in three countries. This text recovery initiative is only possible thanks to a mobile MSI system and recent advancements in deterministic image processing methods. Taking selected other papyrus manuscripts as case studies, we will also highlight MSI's role as a complementary material analysis technique, together with X-Ray Fluorescence (XRF) element mapping and Infrared Reflectography (IRR), for identifying inks and other materials.

Manuscripts with abstract sign systems deriving from the cuneiform script

Szilvia Sövegjártó (Hamburg University, Germany)

The cuneiform script is a mixed logographic and syllabic writing system that was used to write several languages of the Ancient Near East. The Sumerian cuneiform script had about 1000 distinct signs, this number was reduced to about 600 by the mid-third millennium, the beginning of Akkadian records. Nevertheless, despite the high number of cuneiform signs, individual signs had multiple, often both logographic as well as syllabic values. As the inventory of signs at one's disposal was fairly extensive, whenever an abstract sign system was constructed, no new signs were introduced, but existing signs gained a new function and thus a subsystem of the cuneiform script emerged.

In my talk I will present various manuscripts making use of abstract sign systems which are based on the cuneiform writing system, from different eras of the Mesopotamian culture of writing. These abstract sign systems, such as the use of numerical signs to substitute divine names, or a set of signs denoting solmisation sequences supporting the musical performance of compositions, will be presented on the basis of extant manuscripts allowing direct comparison between the cuneiform writing system as well as the abstract sign system intertwining in a written artefact to show that the two systems were fully integrated in most cases. As I will argue, abstract sign systems in Mesopotamia were invented and used by experts for scholarly purposes and were thus closed sign systems only accessible for those with an advanced education in the cuneiform script.

Understanding Decorated Paper from the Persianate World: Case Studies from the Staatsbibliothek Berlin

Ilse Sturkenboom (LMU Munich, Germany), Sebastian Bosch (CSMC, University of Hamburg), Claudia Colini (CSMC, University of Hamburg), Agnieszka Helman-Wazny (CSMC, University of Hamburg)

Decorated paper is a well-known feature of manuscripts from the later Islamic periods. Apparently initiated in fifteenth-century Iran, flourishing crafts of paper colouring, marbling and gold decoration soon spread over the Persianate and Islamicate worlds. Surprisingly enough, such decorated papers remain largely unstudied and, if at all, only receive marginal attention in monographic studies of particular manuscripts. Hence, main questions concerning the materials and techniques of paper decoration as well as its chronologies and geographical spread remain unaddressed.

Basing on initial analyses of six sixteenth- and seventeenth-century manuscripts from the Persianate world held in the Staatsbibliothek Berlin, this talk will address open questions relating to paper decoration in the Islamic world, suitable methods for the technical analysis of decorated paper - such as X-Ray Fluorescence (XRF), FTIR Spectroscopy, UV-VIS Reflectance Spectroscopy, microscopy and fibre analysis - and perspectives for their future application. The results will be discussed in light of previously analysed fifteenth-century Persianate manuscripts produced on Chinese decorated papers to compare paper technologies, artistic techniques, motifs and, ultimately, possible influences.

Bioinformatic Profiling of Written Artefacts

Lucas F. Voges, Anna Schulz, Stephan Seifert, Markus Fischer (Centre for the Study of Manuscript Cultures (CSMC), University of Hamburg, Warburgstraße 26, 20354, Hamburg, Germany; Hamburg School of Food Science - Institute of Food Chemistry, University of Hamburg, Grindelallee 117, 20146, Hamburg, Germany)

In the Cluster of Excellence 'Understanding Written Artefacts', various analytical techniques from the natural sciences are used to characterize the biological identity and the historical background of artefacts. However, since those techniques generate complex data, computer-aided methods for evaluation have to be applied. We apply bioinformatic and chemometric approaches, e.g. from machine learning, to reveal different properties of written artefacts including materials used for the production of writing supports, preservation states and environmental conditions. In particular, we focus on DNA analysis of palm leaf manuscripts, which can help uncover an artefact's rich past to discover new connections in philological investigations. For this analysis, we developed a minimally invasive DNA extraction protocol and data analysis workflows that take into account the characteristics of samples from old material, which are challenging due to the biochemical degradation of DNA molecules (ancient DNA). After sampling, the obtained DNA is sequenced and the endogenous palm DNA is compared with references retrieved from databases or previous experiments to determine the biological identity of the writing support. In addition, exogenous DNA (e.g. from bacteria) present on the surface of the artefact is also analysed to assess the environmental conditions that affected the artefact over time. In order to make the gained information usable and accessible to scientists from different disciplines, the presentation of data and results is an important part of our work.