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COMSt

Comparative Oriental Manuscript Studies

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Edited by
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COMSt

Comparative Oriental Manuscript Studies Bulletin is the biannual on-line and print-on-demand journal of the European research network Comparative Oriental Manuscript Studies. All issues are fully accessible at <http://www1.uni-hamburg.de/COMST/bulletin.html>.

Comparative Oriental Manuscript Studies Bulletin welcomes articles, project descriptions, conference reports, book reviews and notes on all topics connected with the written cultures of the Mediterranean Near and Middle East and related traditions. Contributions should be sent to Comparative Oriental Manuscript Studies, Hiob Ludolf Centre for Ethiopian Studies, Asia Africa Institute, Hamburg University, Alsterterrasse 1, 20354 Hamburg, Germany; *eugenia.sokolinski@uni-hamburg.de*. For submission guidelines visit <http://www1.uni-hamburg.de/COMST/bulletin.html>.

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Contents

Editorial

From the *Newsletter* to the *Bulletin*

Between the *Comparative Oriental Manuscript Studies Newsletter* (last issue, 8, appeared in July 2014) and the present first issue of the *Comparative Oriental Manuscript Studies Bulletin*, something important happened. What seemed very difficult has been done and the handbook *Comparative Oriental Manuscript Studies: An Introduction* appeared in January 2015. It can be purchased in book form, in two formats and at a very moderate price, and at the same time is freely downloadable, in accordance with the Open Access policy of the European Science Foundation (ESF). It will be a task for the coming months and years to record and register reactions and reviews, while several presentations are already planned, in order to understand better which is the actual follow-up of this enterprise and which will be its impact in the course of time. With this, the project Comparative Oriental Manuscript Studies (COMSt) as an ESF Research Networking Programme came to its end. The end was also marked by the formal evaluation of the project, which had started well before the publication of the manual and took other data in consideration. The final assessment report was more than positive in every respect, which is one more reason of great satisfaction since we are confident that the publication of the handbook can but confirm and substantially augment this encouraging result.

The report strongly stressed the wish that the co-operations founded and fostered within the framework of the COMSt network would continue to be fruitful also in the future and we all in oriental and comparative manuscript studies know how crucial it is for our small scientific communities to reach the necessary critical mass. This awareness also encouraged the decision of launching the *Comparative Oriental Manuscript Studies Bulletin* that, on the one hand, should continue the very positive experience of the *Comparative Oriental Manuscript Studies Newsletter* still taking advantage of the coordinating facilities in Hamburg, where the COMSt web site is based, and, on the other, should also support and if possible enhance the impact and follow-up of the handbook, serving as a network basis for eventual and further projects. Some members of the COMSt Steering Committee and COMSt Handbook Editorial Board have accepted to engage directly in the editorial work or to act as members of the Advisory Board, which has come to include additional scholars who have manifested their interest to COMSt in the course of time.

Scope and objectives of the *Comparative Oriental Manuscript Studies Bulletin* remain within the traditional framework of the COMSt interests, yet there is an even more pronounced ambition of documenting immediately, clearly, still with a standard of excellence and according to the most advanced

scholarly requirements, new ideas, experiences, projects and approaches within the whole world of oriental and comparative (even non-oriental, this is in the end the twofold valence of the red dot in our logo) manuscript studies, both in the form of longer articles, notes, projects announcements and reviews.

Alessandro Bausi
Hamburg, March 2015

Articles and notes

The manuscript as a leaf puzzle: the case of the *Gädlä säma*ʿ*tat* from ʿUra Qirqos (Ethiopia)*

Antonella Brita, Universität Hamburg

Summary

Dismembered manuscripts are a particular challenge for book conservators, cataloguers, and philologists. The article describes the process and the result of an international multidisciplinary effort towards the reconstruction and conservation of a fifteenth/sixteenth-century multi-text manuscript from Ethiopia.

In the course of time, the life of a manuscript can be affected by a series of transformations which, very often, have an impact on its material appearance. These changes can depend on several factors. A manuscript can change its function, its recipient, its owner, or it can be reused for different purposes till its final demise. Usually these factors leave one or more marks on the body of the manuscript which can be immediately visible and detectable, or, on the contrary, need to be revealed through a more accurate autopsy. These marks, if not identified in time, can radically influence the perception of the manuscript and compromise the result of the study focusing on it.

The manuscript protagonist of this article was indeed affected at least by one of these factors. It was used till a certain time as a liturgical book but was then gradually relinquished. Its dismissal brought about a sort of disinterest among its owners: not being concerned anymore about its text, the priests started to neglect also the object, that is, the manuscript. This fact led to a gradual dismemberment of the codex that had a dramatic impact on its codicological structure. Its complete disintegration and breaking down were avoided by a hair's breadth, thanks to the efforts of a group of people who worked hard for saving it from falling apart.

* The research was carried out within the framework of the sub-project C05 'Cross-Section Views of Evolving Knowledge: Canonico-Liturgical and Hagiographic Christian Manuscripts as Corpus Organizers' directed by Alessandro Bausi, SFB 950, 'Manuskriptkulturen in Asien, Afrika und Europa' (Centre for the Study of Manuscript Cultures), Hamburg University, funded by the DFG. A slightly different version of this paper was presented on the occasion of the '2. Tag der Offenen Tür' of the Centre for the Study of Manuscript Cultures on 31 May 2013.

The manuscript

The manuscript is written in Gəʿəz (Classical Ethiopic) and contains a collection of hagiographic texts identified at least from the thirteenth century with the label of *Gädlä säma'tat*, 'Spiritual Combat of the Martyrs'. These collections have as their core texts translated from other languages into Ethiopic, and were later implemented with new Ethiopic original texts. These hagiographies refer to both non-Ethiopian (oriental, mostly Egyptian) and Ethiopian martyrs and saints, although the former exceed the latter in number and the Ethiopian characters are rarely attested. The texts are arranged within the manuscript according to the commemoration day of the relevant saints and follow the order of the calendar.

The collection

The manuscript is part of the collection of the church ʿUra Qirqos,[1] located in Təgray, the northern region of Ethiopia, in the area of Zäla Ambässa, close to the border with Eritrea. The church stands on the crest of the highland and is dedicated to Cyricus (or Quiricus; Qirqos in Ethiopic), one of the Christian martyrs who suffered his martyrdom together with his mother Julitta (Iyäluṭa in Ethiopic) in Tarsus, in south-central Turkey, at the beginning of the fourth century CE.[2] It is not a mere coincidence that the church where the manuscript is preserved is dedicated to Qirqos: he is among those whose martyrdom is narrated in this codex.

Most the manuscripts and objects of the church collection had once belonged to the church of ʿUra Mäsqäl, which stands on the opposite side of the plateau, on top of a high rock pinnacle, and is extremely difficult to access. According to the local priests, the manuscripts were carried to ʿUra Qirqos when the monks decided to abandon ʿUra Mäsqäl soon after the beginning of the Ethiopian-Eritrean war in 1998. The church is actually close to the border where the fights took place; there were (and still are) land mines scattered in the whole valley between the two crests of the highland, and it might have been extremely risky for the people to climb up the mountain in order to reach the church. Nowadays the church of ʿUra Mäsqäl has been rebuilt, but the service there takes place only on the occasion of few annual festivities, and it does not have a new collection of manuscripts of its own yet, apart from the few books used for the liturgical service.

1 A description of the church and its manuscript collection is provided in Nosnitsin 2013, 3–8.

2 The Ethiopic tradition of the martyrdom of St Quiricus with a critical edition of the text, consideration of its oriental parallels, and an analysis of 21 manuscript witnesses was the object of study of the PhD thesis by Pisani (2013). Cf. now Pisani 2015.

First contacts

I first saw the manuscript in June 2006, during one of my field trips in Ethiopia. It was kept in a chest together with other manuscripts, all in rather bad conditions; many of them were unbound and their leaves were mixed up. At that time I was working on a different topic, so I did not digitize it.

In 2010 Denis Nosnitsin and his team carried out the first mission of the project Ethio-SPaRe. During this mission they had the chance to visit the church of ʿUra Qirqos and to see and digitize the manuscript of the *Gädlä säma ʿtat* (assigning to it the project shelfmark UM-018).[3]

Preservation, reconstruction and conservation of the manuscript

The preservation and conservation efforts took place within the framework of a partnership between the projects Ethio-SPaRe and Sonderforschungsbereich (SFB) 950, both of Hamburg University. A large group of people cooperated: for Ethio-SPaRe, Denis Nosnitsin (head of the project), Stefan Ancel, Vitagrazia Pisani and the book conservators sponsored by the Ethio-SPaRe project, mainly Marco Di Bella (University of Palermo, Italy) and Nikolas Sarris (University of Zakynthos, Greece); for SFB 950, Alessandro Bausi (head of the sub-project C05), Antonella Brita (sub-project C05), Ira Rabin (sub-project Z02); besides, Meseret Hailesellassie (Tigray Culture and Tourism Agency, Ethiopia) provided essential logistical support in Ethiopia. The work was carried out in several phases:

Phase 1: acquisition of the documentation (*Ethio-SPaRe*).

In 2010, the members of Ethio-SPaRe were able to digitize, among others, the manuscript of the *Gädlä säma ʿtat*. Prior to photographing, they numbered the leaves of the manuscript with a pencil[4] (in the following and in Table 1: 1st seq.).

3 See Nosnitsin 2013, 5, fig. 3.

4 The numbering of the leaves, which could seem an impious act, is, instead, a fundamental operation. The pages of the Ethiopic manuscripts are normally not numbered and do not contain catchwords, like in other manuscript traditions; only quires are sometimes numbered. In normal condition, the numbering of the leaves helps the scholars in tracking easily the alteration of the sequence of leaves of a manuscript in the course of time, when the bindings get broken. In extreme conditions, like in this specific case, numbering the leaves is extremely important because it helps to document a "before and after", that is the state in which the manuscript was initially found and the state it acquired after the reconstruction. Furthermore, in our case it also fulfils a practical need since the numeration represents the only point of reference for the book conservators (who cannot read Ethiopic) to maintain the correct order during the conservation process.

Phase 2: philological work (*SFB 950*).
I received from Denis Nosnitsin the image set of the *Gädlä säma*ʿ*tat* in 2011, with the aim of providing a description for the Ethio-SPaRe cataloguing database and studying it for my sub-project in the SFB 950. It became clear immediately that it would have been very difficult to work on the manuscript. Many of the leaves, 280 in total, were mixed up to such an extent that it was impossible to identify the individual hagiographies. Sometime in the past, at a moment difficult to determine, the binding was broken, and quires, bifolia, and single leaves started to mingle. Although some leaves show traces of repair, the binding was not restored. This could be due to the negligence of the priests who, in general, do not have the resources to take proper care of the items of their collection, but also, and primarily, to the fact that the manuscript was not used in the liturgy any longer.

I first had all the images printed out to produce a sort of a model of the manuscript to work upon. Not having the physical manuscript in my hands, I had to set temporarily aside the codicological features (apart for the very few ones detectable from the pictures) and focus on the textual aspects. I identified the *incipit*s of the hagiographies, the layout of which is easily recognizable, and started to reconstruct the sequence of the plot of each single text with the help of other manuscripts of the *Gädlä säma*ʿ*tat* available in microfilm copies. After that I identified the sequence of the reconstructed textual units wherever no material boundary was present (that is when the beginning of a text and the end of the previous one were placed on the same page or on the same folium). When the reconstruction was completed, I renumbered the leaves of my model manuscript, arriving at a new sequence. This preliminary work allowed me to identify the number of the single hagiographic texts, the presence of three different hands, and to recognize that at least two leaves must have gotten lost in the course of time and were now missing. To facilitate further work steps, I then prepared a table containing the correspondence between the previous numbering and my new numbering.

Phase 3: comparison between the textual reconstruction and the codicological structure (*SFB 950, Ethio-SPaRe*).
Once the plot and the sequence of the hagiographies were reconstructed from the textual point of view, it was necessary to verify if the reconstruction tallied with the physical structure of the manuscript. This was decisive mainly for the non-continuous sequence of the texts, interrupted by a caesura[5] (that is when a new text starts on the recto leaf of the first folium of the quire and the previous one ends on the verso leaf of the last folium of the preceding quire).

5 On the codicological concept of caesura see Gumbert 2004, 24.

Fig. 1. ʿUra Qirqos, May 2012: from left to right: Vitagrazia Pisani, Nikolas Sarris, Marco di Bella, Antonella Brita, Denis Nosnitsin examining MS UM-018.

In May 2012, I joined the Ethio-SPaRe mission to ʿUra Qirqos, together with the book conservators, with the aim of reordering the sequence of the leaves of the manuscript according to my reconstruction (fig. 1). On that occasion, a first attempt at describing the quire structure and identifying the hair and flesh sides of the parchment sheets was also done but, due to the difficult work conditions, it was only a preliminary effort. On verifying the correctness of the reconstructed sequence, the leaves of the manuscript were then numbered with a pencil for the second time (below: 2nd seq.; see Table 1) and digitized again by Ethio-SPaRe according to the new reconstructed sequence.

Phase 4: codicological analysis and conservation (*SFB 950 and Ethio-SPaRe book conservators*).

In November 2012 it was possible to carry out a careful codicological analysis of the manuscript and also to start the work of conservation. Two volunteers additionally supported the book conservators: Robert Procter (London, UK), and Teresa Zammit Lupi (Valletta, Malta). A conservation lab was installed in one of the rooms of the Təgray Culture and Tourism Agency building in Mäqälä[6] (North Ethiopia) and the manuscript was carried, with a special per-

6 Since it is impossible to find in Ethiopia all the necessary equipment for manuscript conservation, organizing a lab was a very difficult task both in terms of logistics, coordination, work place comfort, and in terms of costs (the conservation of the manuscript was funded by the Ethio-SPaRe project). Work conditions in Ethiopia are not comparable to those in a European library. All the necessary materials were bought in Europe and brought to Ethiopia, with enormous efforts. Each day it was necessary to try to find solutions to problems. Still, Marco Di Bella and Nikolas Sarris revealed great patience, creativity and ability to adapt to this situation. Just

Fig. 2. ʿUra Qirqos, November 2012: matching the folia in UM-018.

mission obtained by Ethio-SPaRe, from ʿUra Qirqos church to Mäqälä. The codicological examination allowed us, on the one hand, to reconstruct properly the structure of the quires and the way the single leaves bearing a stub had been originally folded into the quires; on the other hand, it set us before some problems not always easy to understand or solve, like, for instance, if two separated leaves were, in origin, one bifolium. At least in one case, the inner margins of two single leaves without stub were too damaged to be able to determine on the basis of the breaking traces if they had formerly belonged to one folded sheet, simply because they did not match. In that case, following the suggestion of Marco Di Bella, we put the two leaves close together, backlit them, and took into consideration other elements, such as the direction of the hair on the hair side and the direction of the ruling lines (fig. 2).

The first operation of the conservation work was the removal of the remnants of the old binding from the manuscript. A quire scheme was sketched on a sheet of paper: each quire was visualized by an empty line, and the old threads were attached with a sticker according to their original position in the manuscript (fig. 3). Subsequently the conservators started to repair the damaged corners of the sheets and the split bifolia (fig. 4).

In the meantime I crosschecked one more time the sequence of the quires, both on the manuscript and on my paper scheme, and I noted that one

an example: the month of May can be very hot and dry in Təgray, and it is difficult to handle the parchment since it becomes dry and hard. To get around this problem, the book conservators created a rudimentary but efficient humidifier from an old electric fan and a wet cloth placed over a chair in front of it. Soaking repeatedly the cloth in the water, they managed to maintain a relatively high and constant level of humidity in the lab.

Fig. 3. ʿUra Qirqos, November 2012: registering the old binding threads.

Fig. 4. ʿUra Qirqos, November 2012: repairing the damaged leaves.

quire at the end of the manuscript seemed misplaced: according to the usual arrangement of the collection, the text it contained would be expected in a different place. We tried then to place the quire exactly where, I assumed, it was expected to be and, at the same time, we cautiously looked for clues that could justify the displacement. Finally the evidence: blots of ink on the first (recto) page of the quire corresponded to the ink melted from the last (verso) page of the preceding quire, showing that the two leaves had once been contiguous. The stains of ink by themselves of course only show that the fascicle was in that position at a certain time, but along with the evidence provided by the textual analysis this demonstrates that this was the original position of the quire in the manuscript.

In January and February 2014, the conservation work proceeded, and it

Fig. 5. ʿUra Qirqos, June 2014: examining the inks with the help of X-ray fluorescence spectroscopy.

was completed during the mission of June 2014. In the last trip, the conservators Marco Di Bella and Nikolas Sarris were supported by the volunteers Desiree Domec (Essex, UK) and Niki Pantazidou (Zakynthos, Greece).

Phase 5: material analysis (*SFB 950, Ethio-SPaRe conservators*).
In June 2014 a new joint mission was organized; its aim was to carry out the material analysis of selected manuscripts of the collection, including the manuscript of the *Gädlä sämaʿtat*. Ira Rabin analyzed the inks using a portable X-Ray Fluorescence Spectroscopy Tracer (fig. 5). The results are currently being prepared for publication.

Upon the completion of the conservation, the manuscript, provided with new binding and wooden boards, was brought back to the church of ʿUra Qirqos, in a grey acid-free cardboard box containing, apart from the manuscript, also the original fragments of thread from the old binding. Marco Di Bella and Nikolas Sarris instructed the priest on how to take the manuscript out from the box and how to put it back without damaging it.

On that occasion, a bunch of loose leaves, previously unknown, was found in the church. Among these leaves, I identified a fragmentary leaf belonging to the *Gädlä sämaʿtat*, which is one of the two leaves that had been missing. Thus, before the end of the mission, the conservators took the newly discovered leaf to the workshop in Mäqälä, made the necessary restoration and went back to ʿUra Qirqos to accommodate it within the manuscript. The pages of the codex were then re-numbered again (below: 3rd seq.; see Table 1), and the manuscript was digitized for the third time, by myself and Alessandro Bausi.

Description of the manuscript

Codicological description[7]

Parchment. Fifteenth–sixteenth century. 535 × 380 × 200 mm, 281 leaves (at least one is missing).[8] Guard leaves missing.

Text area: 390 × 260 mm; intercolumn: 15 mm.

Margins: top: 60 mm; bottom: 80 mm; left: 15 mm; right: 80 mm.

Dimension of letters: height: 10 mm; width: 7 mm.

Ruling pattern (Muzerelle): 1-1-11/0-0/0-0/C. Pricking and ruling are clearly visible.

Hand: three different scribes wrote the manuscript; change of hand on ff. 132rb, 259vb, 264ra.

Rubrication: *incipit*, indications of liturgical reading, boundaries, caesurae, numerals, punctuation, aides-memoire punctuation.

The structure of the hair and flesh sides is generally consistent (H-H/F-F); incongruences are visible between the 6th and the 7th quires (F/H) and between the second and third leaves of the 30th quire (F/H).

One leaf is missing at the end of the 34th quire.

Quire structure:[9] 1^8-5^8; 6^3 (single leaves); 7^8-9^8; 10^8; 11^8 (single leaves: 3,6); 12^8-15^8; 16^6 (single leaves: 1,2,3,6); 17^8-19^8; 20^8 (single leaves: 3,6); 21^8; 22^8 (single leaves: 3,6); 23^8-29^8; 30^3 (single leaf: 2); 31^8-32^8; 33^6 (single leaves: 2,3); 34^8 (single leaves: 3,6, missing leaf: 8); 35^8-36^8; 37^8 (single leaves: 3,6).

See Table 1.

Content description

(1) Yoḥannəs Mäṭməq (1 *Mäskäräm*) [ff. 1ra-9va];
(2) Mamas, Tewodoṭos, Tewofina (5 *Mäskäräm*) [ff. 9va-21rb];
(3) Ǝsṭifanos (15 *Mäskäräm*) [ff. 21va-31vb];
(4) The discovery of St Ǝsṭifanos's relics (1 *Ṭərr*) [ff. 32ra-35ra];
(5) Ewosṭatewos (23 *Mäskäräm*) [ff. 35ra-43vb];
(6) Kirakos (5 *Ṭəqəmt*) [ff. 44ra-47vb];
(7) Ṗänṭälewon *zäṣoma ʿt* (6 *Ṭəqəmt*) [ff. 48ra-56ra];
(8) Ṗänṭälewon the physician (6 *Ṭəqəmt*) [ff. 56ra-64va];

7 The description is made on the basis of the reconstructed manuscript, just before the conservation. The measurements are done on the f. 143r. The foliation is according to the last numbering (3rd seq.).

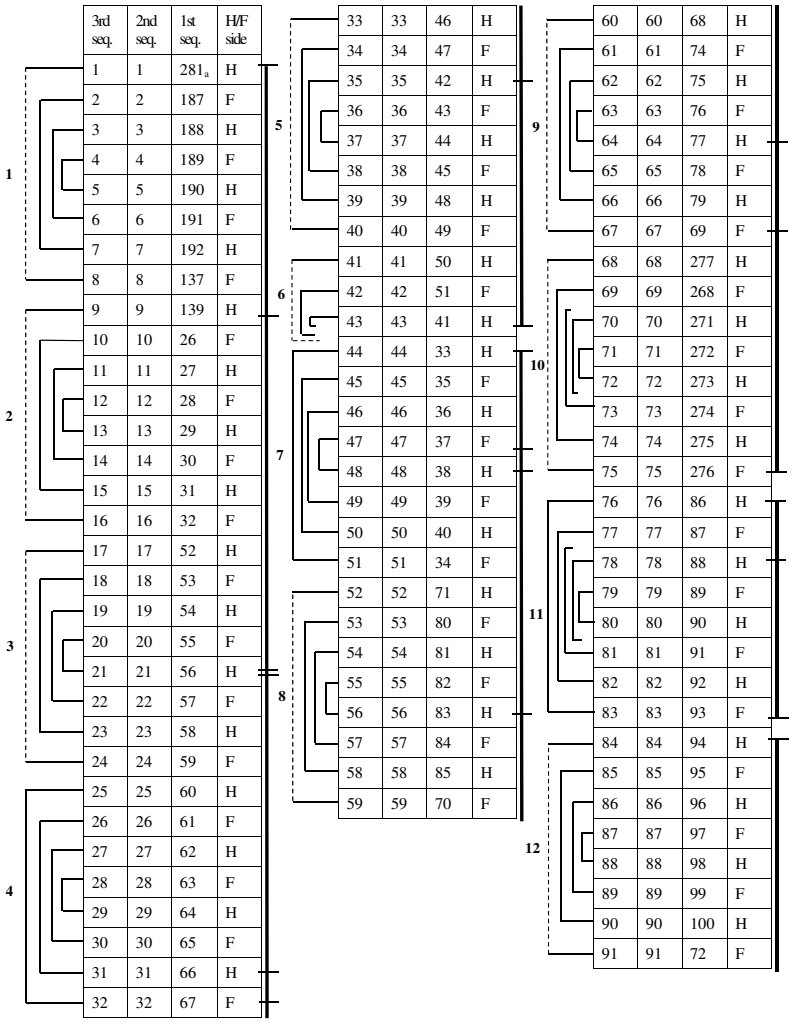
8 With the last fragment found, the total number of leaves is 281. During the first foliation, no. 122 was skipped by mistake. As a consequence, in the 1st seq. the final leaf is numbered 281 (even if the last leaf discovered was not known then; f. 122 does not appear). I will refer to f. 281 of the 1st seq. as f. 281_a.

9 Here, the formula of M.R. James has been used, see Petrucci 2012, 83.

(9) Qoḍryanos and Iyosṭa (7 *Ṭəqəmt*) [ff. 64va-67ra];
(10) Sərgis and Bakkos (10 *Ṭəqəmt*) [ff. 67ra-75va];
(11) Filəyas (17 *Ṭəqəmt*) [ff. 76ra-78va];
(12) Romanos (18 *Təqəmt*) [ff. 78vb-83vb];
(13) Yoḥannəs Däylami (19 *Ṭəqəmt*) [ff. 84ra-93ra];
(14) Zinobis and Zänobya (6 *Ḫədar*) [ff. 93ra-96va];
(15) Ṭaṭus (17 *Ḫədar*) [96va-100ra];
(16) Elewtəros and Ǝntəya (18 *Ḫədar*) [ff. 100ra-103rb];
(17) Tewoflos, Ṗaṭroqya and Dämalis (19 *Ḫədar*) [ff. 103rb-106va];
(18) Qozmas and Dəmyanos (22 *Ḫədar*) [ff. 106va-113vb];
(19) Azqir (24 *Ḫədar*) [ff. 113vb-115v];
(20) Märqorewos (25 *Ḫədar*) [ff. 116ra-121va];
(21) Ḫirut and the martyrs of Nagran (26 *Ḫədar*) [ff. 122ra-137ra];
(22) Yaʿqob the Intercised (27 *Ḫədar*) [ff. 137ra-141rb];
(23) Ṗeṭros (26 or 29 *Ḫədar*) [ff. 141rb-146rb];
(24) Elyas Näbiy (12 *Ṭərr*) [ff. 146rb-151vb];
(25) Arsima (6 *Taḫśaś*) [ff. 152ra-179ra];
(26) Bäʾamin (9 *Taḫśaś*) [ff. 179ra-181vb];
(27) Tälasəs and Alʿazär (10 *Taḫśaś*) [ff. 181vb-182vb];
(28) Anqitos (12 *Taḫśaś*) (ff. 182vb-193vb).
(29) Märbəhnam (14 *Taḫśaś*) [ff. 194ra-202ra];
(30) Gorgoryos (15 *Taḫśaś*) [ff. 202rb-207vb];
(31) Absadi and Alaniqos (27 *Taḫśaś*) [ff. 207vb-210vb];
(32) Martyrs of Aḫmim (29 *Taḫśaś*) [ff. 210vb-228vb];
(33) Tewodros Bänadlewos (12 *Ṭərr*) [ff. 229ra-243rb];
(34) *Säbʿatu däqiq zäʾefeson* (13 *Ṭərr*) [ff. 243va-248vb];
(35) Ǝmərays (14 *Ṭərr*) [ff. 249ra-250va];
(36) Qirqos and Yäluta (15 or 16 *Ṭərr*) [ff. 251ra-259vb]; Note: lacuna between f. 257v (ending with **ዖ** and to be followed in the missing leaf by: **ንድዱ ፡ ወቂጽሎሂ ፡ ይዕቀቡ ፡፧ ሐሰ ፡ ለከ ፡ እግዚኦ ፡ ዕዖሂ ፡ ዕቀብ ፡ ከመ ፡ ይርአዩ ፡ ኵሎሙ ፡ እለ ፡ አምኑ**…) and f. 258r (after **ዝውእቱ ፡ ከይሲ ፡ እምቅድመ ፡ መስሕቱ ፡ ወዕድውሰብአ ፡፧ ወእምዘ ፡ ርእየ** in the missing leaf, resuming with **ኒዝ**…);
(37) Äkawəḥ (28 *Ṭərr*) [ff. 259vb-269rb];
(38) Orni (30 *Ṭərr*) [ff. 269va-275rb];
(39) Ṭeqäla (30 *Ṭərr*) [ff. 275rb-277ra];
(40) Abuqir and Yoḥannəs (6 *Yäkkatit*) [ff. 277rb-281v].

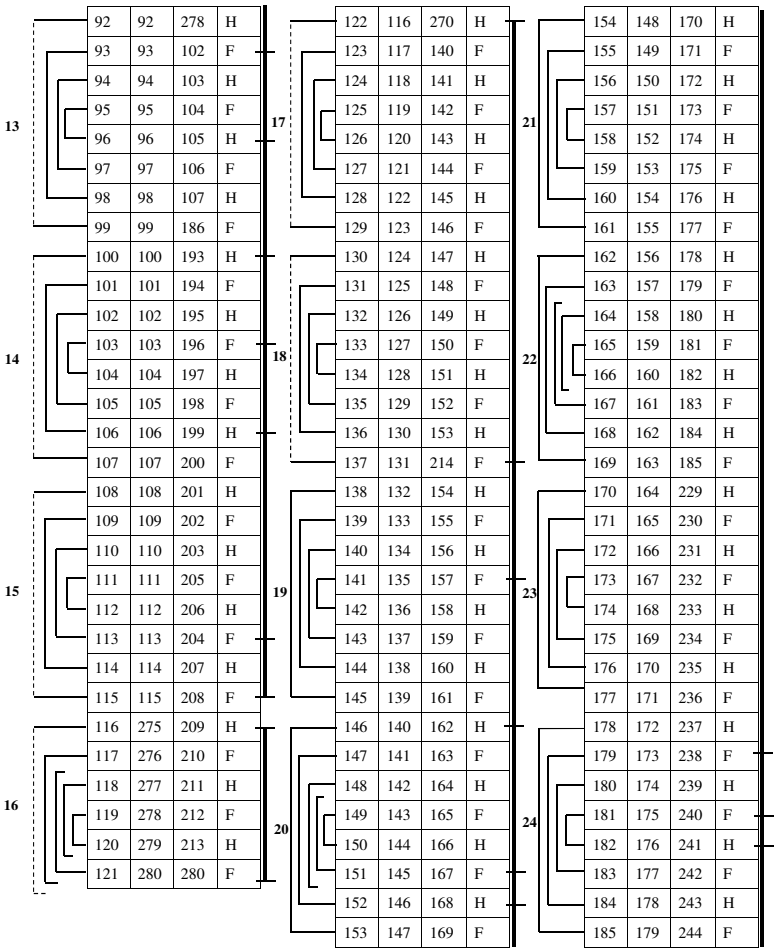
Table 1. Manuscript collation

On the left: quire numbering (the dotted lines represent only a hypothesis of reconstructions, since in these cases the inner margins of the leaves were damaged). The first three columns show the concordance for the three foliations, while the fourth indicates the hair/flesh sides. The continuous black vertical lines on the right show the sequence of the reconstructed textual units in the absence of a material boundary; they are interrupted in presence of a caesura. The short perpendicular lines on the right show the limits of individual text units; when only one horizontal line is located in correspondence of the folium, it means that the end of the previous text and the beginning of the following one are on the same page; when two horizontal lines are located on the same folio it means that the end of the previous text is on the verso while the beginning of the following text is on the recto of the leaf.



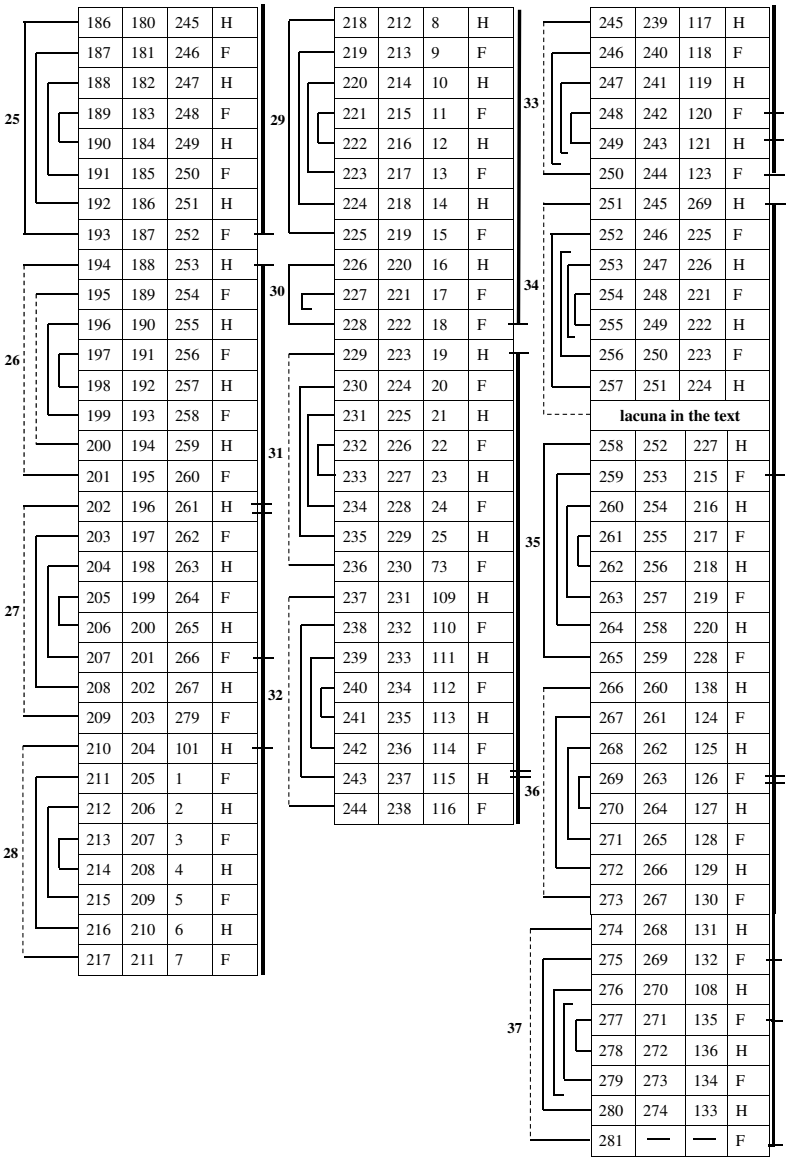
3rd seq.	2nd seq.	1st seq.	H/F side
1	1	281$_a$	H
2	2	187	F
3	3	188	H
4	4	189	F
5	5	190	H
6	6	191	F
7	7	192	H
8	8	137	F
9	9	139	H
10	10	26	F
11	11	27	H
12	12	28	F
13	13	29	H
14	14	30	F
15	15	31	H
16	16	32	F
17	17	52	H
18	18	53	F
19	19	54	H
20	20	55	F
21	21	56	H
22	22	57	F
23	23	58	H
24	24	59	F
25	25	60	H
26	26	61	F
27	27	62	H
28	28	63	F
29	29	64	H
30	30	65	F
31	31	66	H
32	32	67	F
33	33	46	H
34	34	47	F
35	35	42	H
36	36	43	F
37	37	44	H
38	38	45	F
39	39	48	H
40	40	49	F
41	41	50	H
42	42	51	F
43	43	41	H
44	44	33	H
45	45	35	F
46	46	36	H
47	47	37	F
48	48	38	H
49	49	39	F
50	50	40	H
51	51	34	F
52	52	71	H
53	53	80	F
54	54	81	H
55	55	82	F
56	56	83	H
57	57	84	F
58	58	85	H
59	59	70	F
60	60	68	H
61	61	74	F
62	62	75	H
63	63	76	F
64	64	77	H
65	65	78	F
66	66	79	H
67	67	69	F
68	68	277	H
69	69	268	F
70	70	271	H
71	71	272	F
72	72	273	H
73	73	274	F
74	74	275	H
75	75	276	F
76	76	86	H
77	77	87	F
78	78	88	H
79	79	89	F
80	80	90	H
81	81	91	F
82	82	92	H
83	83	93	F
84	84	94	H
85	85	95	F
86	86	96	H
87	87	97	F
88	88	98	H
89	89	99	F
90	90	100	H
91	91	72	F

Table 1 continued



92	92	278	H	
93	93	102	F	
94	94	103	H	
95	95	104	F	
96	96	105	H	
97	97	106	F	
98	98	107	H	
99	99	186	F	
100	100	193	H	
101	101	194	F	
102	102	195	H	
103	103	196	F	
104	104	197	H	
105	105	198	F	
106	106	199	H	
107	107	200	F	
108	108	201	H	
109	109	202	F	
110	110	203	H	
111	111	205	F	
112	112	206	H	
113	113	204	F	
114	114	207	H	
115	115	208	F	
116	275	209	H	
117	276	210	F	
118	277	211	H	
119	278	212	F	
120	279	213	H	
121	280	280	F	
122	116	270	H	
123	117	140	F	
124	118	141	H	
125	119	142	F	
126	120	143	H	
127	121	144	F	
128	122	145	H	
129	123	146	F	
130	124	147	H	
131	125	148	F	
132	126	149	H	
133	127	150	F	
134	128	151	H	
135	129	152	F	
136	130	153	H	
137	131	214	F	
138	132	154	H	
139	133	155	F	
140	134	156	H	
141	135	157	F	
142	136	158	H	
143	137	159	F	
144	138	160	H	
145	139	161	F	
146	140	162	H	
147	141	163	F	
148	142	164	H	
149	143	165	F	
150	144	166	H	
151	145	167	F	
152	146	168	H	
153	147	169	F	
154	148	170	H	
155	149	171	F	
156	150	172	H	
157	151	173	F	
158	152	174	H	
159	153	175	F	
160	154	176	H	
161	155	177	F	
162	156	178	H	
163	157	179	F	
164	158	180	H	
165	159	181	F	
166	160	182	H	
167	161	183	F	
168	162	184	H	
169	163	185	F	
170	164	229	H	
171	165	230	F	
172	166	231	H	
173	167	232	F	
174	168	233	H	
175	169	234	F	
176	170	235	H	
177	171	236	F	
178	172	237	H	
179	173	238	F	
180	174	239	H	
181	175	240	F	
182	176	241	H	
183	177	242	F	
184	178	243	H	
185	179	244	F	

Table 1 continued



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Critical editions and the complementary apparatuses to a critical apparatus*

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Summary

The present paper aims to contribute to the discussion about a) the complementary information in an edited text, namely sources, parallel or similar passages, or the later use of texts and text elements, b) the classification of this information and c) its distribution in apparatuses. Using the guidelines of the *Association Guillaume Budé*, the *Union Académique Internationale* and the *Association Internationale des Études Byzantines*, it raises the question of conformity among editors and points up the need for consistency, at least as regards terminology and the treatment of clear cases.

The note aims to provide a brief glimpse of the methods and practices applied in editions of Byzantine texts with regard to supplementing information on sources, parallel or similar passages, or later use of texts and text elements.

Fontes and *parallela* (or *similia*) along with *imitationes* and *testimonia* constitute essential material for the *constitutio textus* as well as for the better appreciation of the text, in particular its composition technique and literary impact. Hence, the related indications are regarded as proper complements to the *apparatus criticus*. However, the difficulty in distinguishing between these categories of material is reflected in their distribution in the relevant apparatuses. What to include in what involves critical issues of the editorial technique.

There are two main sources at our disposal, namely (A) the official *guidelines*, and (B) the *introductions* to the editions.

A. Definitions of complementary material and classifications

1. *Guidelines of the Association Guillaume Budé*

In the first guidelines for the critical editions of the Association Guillaume Budé published by Louis Havet in 1925[1] there is no mention of the material in question. It was not until 1972, when Jean Irigoin revised the guidelines in his *Règles et recommandations pour les éditions critiques*, that he considered *tes-*

* This contribution is based on the paper 'Apparatus fontium, similium etc. (Byzantine Greek)' presented at the COMSt workshop 'Specific Issues in Oriental Philology' at the National Research Institute in Athens, 8–9 December 2011. It was submitted for the COMSt Handbook in July 2012; some parts of it have found their way into the published *Comparative Oriental Manuscript Studies. An Introduction*, ed. A. Bausi et al. (Hamburg: Tredition, 2015).

1 Havet 1925.

timonia as one of the proper components of a critical edition. Under the term *testimonia* he includes citations, excerpts, etc. without further distinction.[2] His aim was the same as that of his predecessor, namely to avoid anarchy and enhance consistency and conformity in the Greek editions of the 'Collection Budé' or the 'Collection des Universités de France', without excluding possible adaptations in the details.[3] Irigoin suggested that *testimonia* should precede the *apparatus criticus* and be distinguished by the prefixed abbreviated designation 'TEST', since they constituted an indirect tradition of the edited text.[4] The form of the citation was also precisely defined. There is no explicit mention of the rest of the complementary material. But, from his remarks about the form of the references and citations in the introduction, the preface and the notes we may infer that he is suggesting that this material should be treated in one or more of these three.[5]

2. *Guidelines of the Union Académique Internationale*

More detailed definitions and specific directions are contained in the guidelines first elaborated by Joseph Bidez and Anders Bjørn Drachmann at the behest of the Union Académique Internationale (Académie royal de Belgique) and published in 1932. The guidelines were reworked by Armand Delatte and Albert Severyns in 1938.[6] The aim of the recommendations was to achieve a certain standardization in the critical editions of ancient Greek and Latin texts. The information presented below is based on the 1938 edition.

2.1. *Fontes – imitationes – testimonia*

In terms of definition, the complementary indications of the *apparatus criticus* are divided into the following three categories and subcategories.[7]

2.1.1. The first category, the *fontes*, includes:

a) the sources of the edited text, i.e. the passages from earlier authors on which the author of the edited text drew and

b) parallel passages, i.e. the passages from authors who had treated the same subject, using the same sources.[8]

2 Irigoin 1972, 1 and 23–24.
3 Irigoin 1972, vii.
4 Irigoin 1972, 24, where he also comments on the rest of the material contained in the *apparatus criticus*, namely *lectiones*, conjectures accepted or proposed, etc.
5 Irigoin 1972, 2 and 59–63.
6 Bidez and Drachmann 1938, 1.
7 Bidez and Drachmann 1938, § 30 (pp. 32–33).
8 For example, passages which go back to the same Byzantine collection of laws, as explained by Fögen 1990, 153–214, esp. 160: 'Als *loci paralleli* werden solche Texte notiert, die entweder wörtlich mit einem Lexikoneintrag übereinstimmen

2.1.2. The second category, *imitationes,* includes passages by contemporary or later authors, who were inspired by the edited work.

2.1.3. Finally, the third category, *testimonia* or *testes*, includes copies, i.e. 'the passages of later authors which copied, reproduced or literally quoted passages of the edited work'.

It is clear from the above mentioned definitions and recommendations that, on the one hand, *fontes* and *parallela* (or *similia*) refer to the content of the edited text, while, on the other, *testimonia* and *imitationes* refer to its impact on other writers. Therefore, it is arguable that these categories of information should be presented differently.

2.2. *'Parallel' and 'indirect' tradition*

A further distinction between the 'parallel' and 'indirect' tradition of the edited text was suggested. The first two categories (*fontes* and *imitationes*) were classified in the 'parallel' tradition and the third category (*testimonia*) in the 'indirect' tradition, since this last category involves complementary information of varied quality and nature. This second distinction and especially the use of the term 'parallel' to include the (actual) sources (i.e. category 2.1.1a) raises questions and introduces an element of ambiguity.

2.3. *Disposition of the complementary material*

For the sake of clarity, it was recommended that the three categories of complementary material in question appear separately from the rest of the *apparatus criticus* but also from each other, i.e. by category, with each one being prefixed by the initial letter of the relevant Latin term, i.e. *F*(*ontes*)*, I*(*mitationes*)*, T*(*estes*).[9]

2.4. *Placement*

The *T*(*estes*) should be placed between the text and the rest of the *apparatus criticus* and next to the *sigla* of the manuscripts, to facilitate consultation of the apparatus. The *F*(*ontes*) and the *I*(*mitationes*), on the other hand, should be placed below the *apparatus criticus*.

2.5. *Appearance*

All three categories should consistently use certain abbreviations and symbols and follow a standard format.[10]

oder—trotz sprachlicher Varianten—eine gemeinsame Quelle mit dem Lexikoneintrag haben. Da diese gemeinsame Quelle regelmäßig das justinianische Corpus Iuris ist, wird dieses neben den Basiliken zitiert'.

9 Bidez and Drachmann 1938, § 30 (pp. 32–34). On the other hand, emendations and conjectures should be denoted all together in the *apparatus criticus*, *ibid*. §§ 26–28 (pp. 29–32).

10 See examples in Bidez and Drachmann 1938, § 30 (p. 33).

3. *Guidelines of the Association Internationale des Études Byzantines*

The concise guidelines for one of the most renowned international series of editions of Byzantine texts, the *Corpus Fontium Historiae Byzantinae* (henceforth *CFHB*), published in 1968, mentions three categories, *fontes*, *testimonia* and *parallela*, and suggests they should be presented together but apart from the *variae lectiones*.[11] Despite the listing of the three categories, no special directions concerning the disposition of the material are offered. There is an explicit reference to the aforementioned 1938 revised guidelines for further consultation.

B.1. Editorial practice

In practice, despite theoretical guidelines, diversity continues to dominate both the presentation of the material and the use of terminology. To better illustrate this situation, I will focus on the last mentioned series, the *CFHB*, which since its inauguration in 1967, has seen almost fifty editions. Taking the guidelines as our starting point, we can deduce the following from an examination of the practices followed in the various editions in the series.

1) The optional character of the guidelines has led to this material being presented in a variety of ways within the same series. The arrangement of the apparatus with the complementary material may, of course, differ from case to case, according e.g. to the originality of the text being edited (namely if it is an original, a paraphrase, a compilation, a florilegium etc).
2) It is fortunate that in their introductions most editors of this series refer, in more or less detail,[12] to the policy followed in the construction of the apparatuses. Yet in almost 30% of the published volumes explicit mention of the arrangement of the complementary material is lacking. In these cases the editor's decisions can be deduced from the edition itself. However, sometimes such material is either absent from the apparatus, or treated in the commentary, or is collected without further designation in the apparatus. For example, Mango (1990) and Haldon (1990) preferred a commentary to an *apparatus fontium*. Dennis (1981) recorded extracts from the edited work preserved by later authors (i.e. *testimonia*) in an individual apparatus.[13]
3) Apart from variations in the arrangement of the material, a really problematic issue concerns the term *testimonia*, the liberal use of which causes some confusion (more especially when it is contrary to the conventional meaning

11 'Règles …' 1968.
12 Usually in a sub-section entitled 'Comments on / Principles / Method of the present edition'.
13 Mango 1990, 13–18; Haldon 1990, 195–293. Dennis and Gammilscheg 1981, 45–47.

established in the 1938 Guidelines by Delatte and Severyns). A couple of illustrative examples attest to this:

a) In his introductory chapter, J.L. van Dieten (1972), refers explicitly to the composition of the apparatuses and to the terms *testimonia, fontes, loci paralleli, imitationes*. But in his preliminary comments he considers the term *testimonia* a superordinate, with *fontes, loci paralleli, imitationes* as its subordinates.[14] This is why he presents all this material without further distinction in one apparatus, which he designates 'das sogenannte Testimonienapparat'.

b) Likewise in the introduction to another edition two years later, J.L. van Dieten[15] explains that, in 'the so called *apparatus testimoniorum'*, he will take into account other works of the author he is editing (i.e. Nicetas Choniates), as well as three earlier works, which his author (Nicetas) certainly consulted. By this he means *fontes*.

c) Also Giuseppe Schirò (1975), editing the verse Chronicle of the Toccos, describes the complementary material he had collected for the apparatus, which he designates *testimonia* (T) and *parallela* (P).[16] He explains that the term *testimonia* is used for other evidence corroborating the facts mentioned in the chronicle he is editing, while the term *parallela* refers to the evidence which comes from works written in the demotic. It is clear that the editor was using these terms in a way that deviated from their conventional understanding in the Guidelines.

B.2. Modern recommendations

This list can be further supplemented with editions from other series. Including quotations and parallels (*similia*) in one apparatus may have been a practical decision for editors, who were attempting to overcome the difficult and sometimes uncertain distinction between (actual) sources and parallels. But it is misleading for the modern reader, blurring the picture of the Byzantine author's education and the range of his actual readings.[17] Above all, this practice can lead to terminological confusion.[18]

14 van Dieten 1972, xx.

15 van Dieten 1975, civ.

16 Schirò 1975, 205–206 the introductory subchapter *testimonia e parallela*.

17 Cf. Littlewood 1988, 139. On the difficulty in distinguishing the sources from the parallels, see Knoche 1940, 526, n. 1.

18 On the mistaken use of *testimonia* for *fontes* see Reinsch 2006, 301ff. Cf. also *ibid*., p. 303: 'die undifferenzierte Bezeichnung „Zitat" für wirkliche Zitate und für Wendungen, welche Anna Komnene mit früheren und späteren Schriftstellern als an der allgemeinen Literatursprache Partizipierende teilt, führt auf methodische Irrwege dieser Art'.

The observations made above may suffice at this stage to support the recommendation made by Dieter R. Reinsch at the 21st International Congress of Byzantine Studies in London, 2006, in respect of the need to distinguish between the various types of complementary material in question.[19]

Given that both Byzantine authors and audiences appreciated quotations from, and references to literary models from classical antiquity but also from later periods, the editors of these texts should handle the relevant information more carefully for the sake of the modern reader.

Even if it is not desirable to follow a rigid system, it should be possible to pursue conformity as regards the terminology and the treatment of clear cases. For this reason, I will repeat three recommendations in relation to the material in question:

– an introductory presentation of the methodology followed;
– definition of the terminology used and consistency in its use (if possible throughout the editions of a series);
– the differentiated presentation of the material either in a single apparatus—introduced by the relevant qualifying verbs (such as *confer*, *alludit ad*, *more confer exempli gratia*)—or in separate ones (at least distinguishing *fontes* and *parallela*, from *testimonia* and *imitationes*, since they are not equal or equivalent). In this respect, the *index locorum* will be more useful, once the material is appropriately designated.

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19 Reinsch 2006, 304. He recommends (I am summarizing): a) For actual quotations (with or without citation of the source used by the author) an exact demarcation of the quotation indicating the first and the last word; it should be followed by a colon and the reference to the quoted work. If the quotation is not too extensive, the quoted text could be written out in full for the sake of the reader. b) For modified quotations (with or without citation of the source used by the author), the same procedure is recommended, but with the stipulation that a tilde (~) or some other diacritic should be added after the colon. c) Where there are similarities that could be quotations, the abbreviation 'cf.' should be used in place of the colon. For further suggestions see also Reinsch 2010, 442

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More red ink on the Qumran manuscript 11Q22

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Summary

This article presents a new case of a Qumran fragment,11Q22 fragment 6, employing red ink, a very rare feature so far. While the word is fragmentary, the red ink was plausibly for a *nomen sacrum*. This find confirms indirectly the hypothesis of the *editio princeps* that fragment 1 of the same scroll, which is lost, also used red ink for a *nomen sacrum*. The rest of the paper contextualizes this finding.

In the Mediterranean world, the use of two ink colours as a layout device is attested extremely early.[1] The first apparition of the red ink can be found in *The Book of the Dead* from Egypt, 18th dynasty (1479–1400 BCE).[2] Iconography depicts some scribes using several writing tools.[3] Egyptian literary and documentary papyri but also texts on statues frequently use red ink in order to distinguish some words or the beginnings of sections to (1) emphasize, (2) divide, (3) isolate, and (4) differentiate.[4] Posener notes in particular the standard use of red for names and surnames as well as for Seth and the enemies of the gods in the Ptolemaic period.[5]

In Hebrew-Aramaic texts, the first attestation of red next to black ink are the rubrics in the Deir ʿAlla *Balaam* inscription from around the ninth or eighth century BCE that indicate some beginnings.[6] Red ink is also used in some of the inscriptions in Kuntillet ʿAjrud, but the purpose is less clear. After this, there are very few attestations of bicoloured Hebrew manuscripts. Tov mentions four Dead Sea Scrolls using red ink: 2Q14 (2QPs), 4Q27 (4QNum^{b}), 4Q270 (4QD^{e}), and 4Q481d (4QFragments with Red Ink).[7] In the first three, the red ink is used for a heading or for the first lines or verses of a new section. The purpose of the use of red ink in 4Q481d fragments 1 i–ii and 2 is unclear. In those small 4Q481d fragments, some words are written in black ink, and others in red ink, but in the present remains there is no line which contains

1 Nicholson and Shaw 2000, 238–239.
2 Posener 1951.
3 Posener 1951, 75.
4 Posener 1951, 77.
5 Posener 1951, 77.
6 Hoftijzer and van der Kooij 1976.
7 Tov 2004. For an analysis of the red ink cf. Nir-El and Broshi 1996.

both black and red ink.[8] Therefore any evidence for further use of red ink is important, especially if it concerns other practices than beginnings of units.

In addition to the four examples above, the *editio princeps* of 11Q22 suggested that one word indicating God had been written in red ink while the other words had been written in black (DJD 23: 413, 415, לאלהיכ towards the end of this second line of fragment 1). As the fragment was already lost during the preparation of the *editio princeps* (it is only found on PAM [Palestine Archaeological Museum] 42.175, and not any more on the subsequent photographs of Cave 11 materials, nor on any of the Cave 11 Museum Plates), an autopsy was impossible. However, on the one existing image the letters לאלהיכ and the following word-dividing dot are written in an ink that displays faintly compared to the pitch black of the other words in the infrared photograph PAM 42.175. Because the actual fragment could not be checked, 11Q22 was not included in lists of Dead Sea scrolls manuscripts with red ink.

The remains of this manuscript 11Q22 (11QpaleoUnidentified Text) consist of seven small fragments written in palaeo-Hebrew script, only one of which (fragment 1) has more than two complete words. In the second line of fragment 1 one can read תהיה עדי נגה באהבתכ לאלהיכ, 'you shall be a shining ornament because of your love for your God', followed by the broken word וילב, possibly to be restored to וילב[יש, 'and he will clothe'.

After Tigchelaar alerted Perrot to his hypothesis that 11Q22 fragment 1 had contained red ink, Perrot and Stoekl ben Ezra inspected the new images in the Leon Levy Digital Library of the Israel Antiquities Authority of the still extant fragments of 11Q22, and discovered traces of red ink in the second line of fragment 6, representing the letters יכ followed by a trace of yet another letter or of a word-dividing stroke (see fig. 1ab).

The *editio princeps* had described these traces as very faint on the infrared image and not visible on the fragment itself (DJD 23: 418).[9] This discovery of red ink on fragment 6 thus corroborates the interpretation of לאלהיכ in fragment 1 having been written in red ink. If the red letters יכ in fragment 6 are from the end of a word, then this word might have been אלהיכ, just as in fragment 1.[10] The ductus of the letters written in black and red seems to be the same. The additional trace after יכ in fragment 6 is unlike the word-dividing

8 4Q481d fragment 3 should probably be reassigned to 4Q387; cf. Qimron 2003:101 and Davis 2014. For the images see <http://www.deadseascrolls.org.il/explore-the-archive/manuscript/4Q481-5>.

9 Compare how red ink sometimes cannot be seen at all on black and white infrared photographs, such as in 4Q481d on PAM 43.550.

10 The new Israel Antiquities Authority images also show clearly that in line 1 of fragment 6 one should read the letter sequence חרבותי instead of חרפותי. This corrected letter sequence חרבותי, perhaps to be restored to חרבותי]הם or חרבותי]כ is, however, of no help for the identification of this hitherto unidentified text.

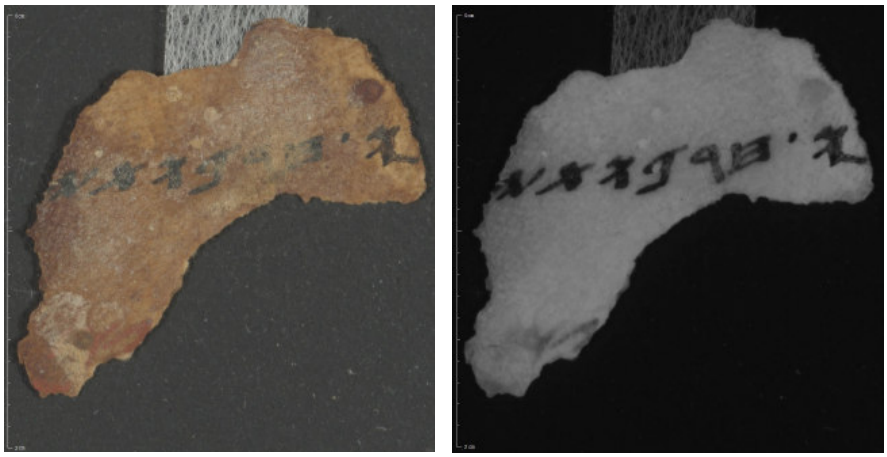

Fig. 1ab. MS 11Q22, fragment 6, recto, photograph July 2013 by Shai Halevi, <http://www.deadseascrolls.org.il/explore-the-archive/image/B-367042> (colour image); <http://www.deadseascrolls.org.il/explore-the-archive/image/B-367043> (infrared image).

dot in the writing in black ink, but can better be compared with the word-dividing strokes that are also found in 11Q1.

With the confirmation from fragment 6 that 11Q22 indeed contains red ink, the number of Qumran manuscripts with red ink therefore increases from four to five. The four other manuscripts are all written in the square Hebrew script. 11Q22 is thus unique for being the only palaeo-Hebrew manuscript among the scrolls that contains red ink.[11] Also, the use of red ink for a divine name, לאלהיכ in fragment 1, is unmatched in the scrolls.[12]

It is possible that fragment 6 line 2 also contained this word אלהיכ. It is however certain that not all divine names were written in red ink in this manuscript, since fragment 7 preserves the tetragrammaton written in black ink. Although fragment 7 contains only a few letters, the form of its letters seem to be identical to those of the other 11Q22 fragments. One may hypothesize that the use of red ink for לאלהיכ in this palaeo-Hebrew text, served the same purpose as the use of palaeo-Hebrew for divine names in texts written in square

11 For red ink used for this older kind of Hebrew-Aramaic script, cf. the red ink for rubrics in the Deir ʿAlla *Balaam* inscription.

12 Fitzmyer 1979, 127, mistakenly refers to the writing of the tetragrammaton in Qumran literature 'in square characters, but in red ink' but refers in a footnote to Cross' description of 4QNum^{b}— this misunderstanding has been quoted by many subsequent scholars! Cf. also Tov 2004, 220, 'only recognizable instance of the special treatment of a divine name in a text completely written in paleo-Hebrew characters'.

Hebrew: through a different way of writing (a different colour or a different script) the divine name is highlighted. Whereas the use of palaeo-Hebrew letters for the divine name in texts written in square characters might suggest a sacred character of the palaeo-Hebrew letters, the use here of a different colour rather suggests the need to mark the divine name.

The use of red ink for divine names

The occasional use of red ink for divine names in Hebrew manuscripts may be suggested by a rabbinic reference to an Alexandrian Torah in which divine names were written in gold letters (*Sof*. 1.8): 'One is not allowed to write in gold [as can be shown from the] story about the Torah of Alexander/the Alexandrians in which all occurrences of Him were written in gold. When this tale came before the sages, they said '[The Torah] has to be hidden''.[13]

Among Greek manuscripts, we are acquainted only with one example with a *nomen sacrum* written in red ink, the letters ΠΕΤ in the Fayyum Gospel (*P. Vindob.* G. 2325), which would of course be quite an exceptional *nomen sacrum*.[14] On the other hand, most later Latin purple Gospel codices write nomina sacra in gold with the remaining text in silver.[15] All these are of course considerably later than the Egyptian texts and statues. Posener notes in particular the standard use of red for names and surnames as well as for Seth and especially for the enemies of the gods in the Ptolemaic period.[16] Explaining the use of red ink for nomina sacra in the palaeo-Hebrew text 11Q22 on the background of Egyptian custom seems therefore the most probable hypothesis until further evidence is found.

13 Reference found in Tov 2004, 54. שהיו כל אזכרותיה כתובות בזהב, ובא מעשה לפני חכמים ואמרו תיגנז, אין כותבין בזהב, מעשה בתותרו של אלכסנדרוס. Cf. for the interpretation of Alexandrians, rather than Alexander, e.g. Efrón 1987, 205–206; Arist. 176 refers more in general to a Torah written in letters of gold in Jewish characters.

14 In the *Sinaiticus* (MS London, British Library, Add. 43725 plus fragments in Sinai, St Catherine's Monastery, Leipzig, Universitätsbibliothek, Cod. gr. 1, and St Petersburg, Rossijskaja Nacionalnaja Biblioteka, gr. 2, gr. 259, gr. 843, OLDP.O.156) and *Alexandrinus* (MS London, British Library, Royal 1. D. V-VIII), Greek manuscripts dating from the fourth and fifth century CE, some titles or beginnings of chapters are written in red. For example, Psalms superscriptions are sometimes written in red ink like the Ps 103.1 in 2Q14 at Qumran. Later, several Greek medieval manuscripts contain indications in red. In Syriac, many headers are written in red in the *Codex Ambrosianus* of the Peshitta (Milan, Biblioteca Ambrosiana, B. 21 inf.).

15 VL [Vetus Latina] 2 (fifth century, CLA 437), VL 4 (fifth century, CLA 481), VL 15 (eighth century, CLA 1642), VL 17 (fifth century, CLA 399), but not VL 10 (CLA 281) and possibly in VL 22 (sixth century, CLA IV 436a), cf. Jerome, *Praefatio in librum Job*, PL 28:1142 'Habeant qui volunt veteres libros, vel in membranis purpureis auro argentoque descriptos'.

16 Posener 1951, 77.

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Initial inspection of reagent damage to the Vercelli Book

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Summary

The use of chemical reagents for text enhancement was quite common in the nineteenth century. Their application resulted in permanent damage, irreversibly obscuring the writing. This paper describes an effort to find a suitable technique to read the passages in the Vercelli Book that were obliterated by the use of the gallnut tincture.

Reuse of parchment, well attested since late Antiquity, involved erasure of the primary inscription and production of pristine-looking material ready for the new ones. Wattenbach reports that this practice, very common in the Middle Ages, destroyed a huge number of extremely important texts.[1] Fortunately, abrasive or chemical action did not remove completely the original inks that deeply penetrate the writing supports. In many cases ageing and oxidation processes reveal the old text in varying degrees of clarity under the overlying inscriptions.

Throughout the nineteenth century, great difficulties experienced by the scholars in their attempts to read and describe erased or faded texts led to application of chemical reagents to enhance the readability of the primary inscriptions. Their effect, however, was short-lived, and the inscriptions became completely obliterated soon after. As a general rule, one used the reagents capable of producing visible precipitates with iron from the ink. The recipe for gallnut alcohol extracts that bind free Fe^{2+}-ions and mimic the production of iron gall ink appeared first in Caneparius' *De atramentis cuiuscunque generis* in 1619[2] and remained in use until the twentieth century, albeit at a certain

1 Wattenbach 1896, 299–317.
2 Caneparius 1619, 179.

time the gallnut extract was replaced by gallic acid.[3] The effectiveness of this tincture depends strongly on the sufficient presence of free Fe^{2+}-ions in the faded areas. In erased and rewritten manuscripts (palimpsests), free Fe^{2+}-ions from the overlying text would also respond to the infusion and produce permanent black staining. Therefore, in the worst case the application of the gallnut tincture covered the page with black iron(III) gallate whereas the minimal damage resulted in brown staining of the parchment from tannins. Objections to the application of this pernicious and often counterproductive tool voiced as early as 1825[4] were followed by suggestions of alternative chemical means, namely, various sulphur-based compounds to produce black iron sulfide or acidic solution of potassium ferrocyanide to produce a blue complex of iron known as Prussian blue. This latter reaction, suggested by Bagden in 1797 as a test for presence of iron in the inks entered the history of chemical treatments of palimpsests under the name of Gioberti tincture and proved to be as hazardous as gallnut infusion.[5] Ironically, the damage inflicted on the manuscripts can only be compared with the production of the palimpsests themselves. Luckily, by the end of the nineteenth century, photographic methods for the separation of under- and overtexts became available to scholars.[6]

Ever accelerating translation of scientific knowledge into technologies greatly supported a complete re-thinking of the attitude towards the ancient manuscripts that are considered now to be valuable artefacts *per se* rather than mere text carriers. The use of UV and IR light has replaced chemical reagents in new attempts at deciphering faded iron gall and carbon inks, respectively. In the first case, UV light enhances contrast between non-tanned parchment and the residual tannins of the ink, as tannins are effective scavengers of fluorescence. In the second, the enhanced contrast is due to the difference in reflectance at long wavelengths between parchment and amorphous carbon of the inks.

Further technological development has yielded multi-spectral imaging (MSI) applications to recover obscured writing and other information from damaged, deteriorated manuscripts or palimpsests. The Eureka Vision system (MegaVision) collects high-resolution images at 13 wavelengths (365 nm to 1040 nm) and supports the differentiation of UV reflectance and UV fluorescence data and the differentiation of UV fluorescence data into blue, green, orange, and red components. Experience has shown that the collection of both UV fluorescence images at various colours and UV reflectance images makes

3 Mitchell 1925; Cunha 1971, I, 171.
4 Ebert 1825, 83, 230.
5 Handbuch 1905.
6 Pringsheim and Gradenwitz 1894.

possible the recovery of obscured writing and reveals distinctive features of the ink and its support. In addition, the collection of images from UV to the near IR contributes to the identification of classes of inks (e.g. iron gall or carbon-based inks).

If the differences between ink and substrate across the wavelength bands are very subtle, methods that evaluate the statistical properties across the ensemble of bands may be necessary to find the combinations of bands that enhance the text contrast. For example, principal component analysis (PCA) analyses an image set consisting of N bands to find an equivalent set of N bands ordered by variance. The most subtle differences in contrast may be isolated into a small subset of processed bands that may then be combined to form pseudocolour renderings with legible text.

Recently a new method for the reading of erased or damaged texts written with inks containing metal-ions was demonstrated by Bergmann.[7] Using xy scanning X-ray fluorescence (XRF) the text can be retrieved by detecting metallic components of the inks. Here incident X-rays cause characteristic X-ray emission from the irradiated matter. Currently employed systems do not deploy vacuum or purging with helium, and therefore only elements heavier than potassium can be detected and imaged. Until now, successful results were achieved with the incident X-ray beams of high intensity at the synchrotron facilities. However, recent development of a new high-speed XRF scanning device raises hopes for a wider application to palimpsests. Here, as in the case of the chemical reagents, a sufficient amount of detectable elements in the areas of the damaged text presents the crucial condition for the success of the enterprise. It is to be hoped that in future both methods—MSI and XRF—will be used together to complement each other and to improve retrieval of the damaged texts. In this context it is important to emphasize that both methods are non-invasive and do not harm the manuscripts under investigation.

In this work we report our investigation of the portions of the texts in the Vercelli Book that were obliterated by the use of a chemical reagent in the nineteenth century.

The Vercelli Book (Vercelli, Biblioteca Capitolare, MS 117) is a compilation of poems, homilies, and a prose saint's life in Old English dating to the second half of the tenth century.[8] It is among the oldest examples of Anglo-Saxon in existence and is the only manuscript to preserve the famous poem 'The Dream of the Rood'. Why it travelled from England to Vercelli is still a matter of scholarly dispute;[9] what is not in dispute is that it arrived there before the middle of the twelfth century. Its linguistic oddity amidst the Latin

7 Bergmann 2011.
8 Förster 1913, 28, Ker 1957, 460-464.
9 Halsall 1969, 1545-1550, Sisam 1976, 45-50.

tomes of a Northern Italian cathedral school contributed to its desuetude for six centuries in which it languished under the title *Homiliarium liber ignoti idiomatis* ('A book of homilies in an unknown language').

In 1822, the German philologist and legal historian Friedrich Bluhme made the adventitious find and identified the Vercelli Book as having been written in Old English, duly reporting it in several publications.[10] Indirectly through Bluhme it came to the attention of Charles Purton Cooper, secretary of the Record Commission in London, a decade later. Charged with gathering important documents of the realm, Cooper sought an appropriate transcriber for the manuscript in Germany, and by the recommendation of the historian Leopold Warnkönig at Ghent University, settled in 1833 on a recent doctoral graduate of Tübingen named Christian Maier who happened also to be a protégé of Bluhme's. In 1823, Maier had spent some time with Bluhme in Vercelli and it was from him that Maier seems to have learned the formulation and use of chemical reagents that he was to deploy later on the Vercelli Book.

Maier arrived in Vercelli in late autumn of 1833, but was able to begin work in earnest only in January of 1834, finishing his transcription in early March. Despite the fact that the manuscript had only a small number of erasures, Maier treated it with reagent on 33 leaves of which folio 1 shows the most serious damage. Maier's transcript of the Vercelli Book, now held at Lincoln's Inn Library in London, remains a witness of enduring value inasmuch as it records unique readings now invisible from reagent damage.

In our study of the Vercelli Book in 2014, we performed full multi-spectral imaging of the book and inorganic trace analysis using X-ray fluorescence on the selected ink and reagent spots. For imaging we used the Megavision imaging system, whose LED light sources provide narrowband illumination from the UV (365 nm) through the visible spectrum to the near IR (940 nm). LED illumination offers several advantages over traditional light sources: it does not expose vulnerable originals to heat, minimizes the light exposure necessary for multi-spectral imaging, and supports pixel-for-pixel registration of images captured with high-resolution cameras. The system features a 50 MP monochrome camera and a specially-designed 120 mm quartz lens that achieves sharp focus (i.e. is apochromatic) at all 12 wavelengths of illumination. A dual filter wheel in front of the lens enables the capture of images of UV reflectance and of different colours of UV fluorescence. Raking lights in blue and IR provide low incidence angle illumination to discern the topography and fine surface texture of parchment, papyrus or paper originals, while a transmissive light provides illumination from beneath the folio in seven wavelengths between 450 nm and 940 nm.

10 E.g. Bluhme 1836, I, 99.

Fig. 1. The Vercelli Book. F. 26r (left) and f. 25r (right).

To check whether the crucial condition of the sufficient presence of the detectable elements was fulfilled we used a commercial micro-XRF spectrometer specially designed for the study of archaeometric objects *in situ* (ArtTAX, Bruker Nano GmbH). It consists of an air-cooled low-power X-ray tube, polycapillary X-ray optics (measuring spot size 70 µm in diameter), an electro-thermally cooled Xflash detector and a CCD camera for sample positioning. To obtain statistically relevant characterization of the ink, staining, and parchment we used line-scan modus with at least 10 points per scan. All measurements were made using a 30 W low-power Mo tube, operated at 50 kV and 600 µA, and with an acquisition time of 20 – 100 s (live time). For semi-quantitative determination of the composition we used the commercial software 'Spectra', by Röntec, that fitted the spectra and calculated the net peak areas.

The 33 leaves treated by Maier display damage of varying degrees of severity ranging from the tracing of single letters and words to the generous application of the tincture over large areas. The brown to black colour of the staining fits perfectly the description of the damage induced by gall-nut

extract well described in many sources.[11] In the first instance, this hypothesis is supported by the fact that Maier learned the handwork from Friedrich Bluhme, an ardent defender of the merits of gallnut infusions.[12] Below we will present more evidence for our identification on the basis of the XRF analysis.

In his excellent study, Bock considers various reasons for the bizarre text mutilation performed by Maier and the interested reader is invited to consult his work.[13] In short, in some cases Maier tried to retrieve previously erased texts whereas in the others, namely the administering of the tincture to the intact text, is attributed to the trials. We agree that Maier was most probably testing the effect of the solution as it must have been known to him that the desirable effect strongly depended on the type of ink. It remains unclear, though, how Maier determined the quality or effectiveness of his tincture. Moreover, it is improbable that Maier applied all the tincture in one day. On one hand, only fresh solution could yield a desirable result. On the other, the effect is not immediately obvious as exposure to light and to air is needed to complete the reaction. This last observation may explain one of the most striking features of the damaged pages: the stains' colour varies from light beige to brownish black. The latter seems to occur when the tincture was applied more than once to the same spot, notably to the previously erased text.

Furthermore, it would be desirable to establish whether the infusion was indeed prepared from the crushed gall nuts and white wine as suggested in the original recipe or rather from the chemically pure reagents, gallic acid and alcohol.[14] Only in the latter case could a fresh solution be easily prepared. The processing of the galls, on the other hand, is less simple. In such a case, Maier would have used the same solution more than once, increasing the damage.

Optical properties of a pure tannic solution would allow its differentiation from the iron-gall inks that become transparent at longer wavelengths.[15] However, the brown to black stains on the Vercelli book display much lower reflectance in the NIR region than that of the untempered ink. The dark colour results most probably from the iron(III) gallate produced when the tincture came in contact with free Fe^{2+}-ions that could be either washed out of the ink during the application or present in the parchment.

As explained above, subtle differences in reflectance behaviour of the support (in this case stained parchment) and the inks are exploited by the MSI to obtain images of a contrast sufficient to make text legible. In fig. 2 we compare reflectance curves of the ink and the stains on page 26r shown

11 Albrecht 2012.
12 Bluhme 1864, 451.
13 Bock 2015.
14 Handbuch 1905.
15 Rabin et al. 2012.

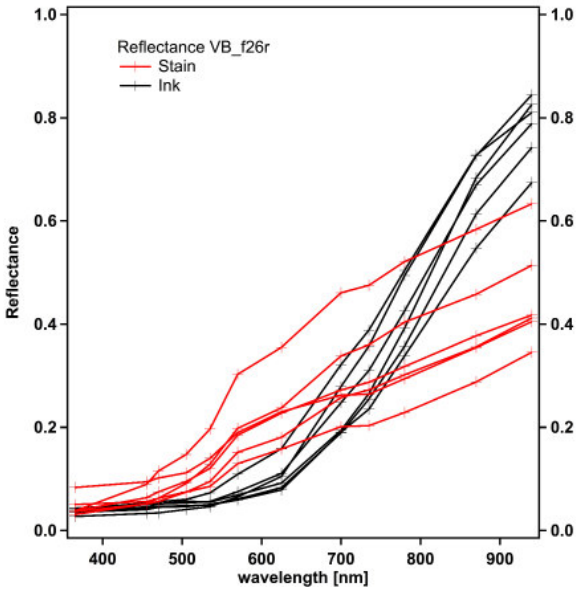

Fig. 2. Reflectance curves of the non-tampered ink (black) and stains (red) on f. 26r.

above (fig. 1, left). From the curves' profile we conclude that the original ink is more opaque in the spectrum region between 505 and 625 nm than the stained parchment. And indeed in several lines the intact text can be still read under the tincture. However, in the second of the treated lines no ink can be discerned anymore: it may have faded previously or been smeared by the infusion. To investigate the presence of the ink obscured by the stains, we have tested the ink response by XRF. Figure 3 shows a scan across the intact and damaged text.

Such a profiling of the inks delivers information on the elemental composition of the materials along the scan. In fig. 3 the first two group of peaks centred at 0.75 mm and 2.1 mm, respectively, correspond to the inks of the letter 'ð' (eth); the third group at 3.5 mm coincides with a partly obscured letter whereas the last group around 4.9 mm displays the existence of a letter not discernible optically. The first two groups display identical patterns with enhanced intensities of the elements calcium (Ca), iron (Fe), potassium (K), lead (Pb), manganese (Mn) and zinc (Zn) belonging to the ink while the intensity of chlorine (Cl) is depleted because it originates from the parchment only. Note that the intensity of Ca though somewhat enhanced in the ink is mostly derived from the parchment. In contrast, abundance of Fe grows by only one order of magnitude, raising the question of whether we are dealing here with an iron-gall ink. Both the presence of the elemental satellites Mn and Zn, commonly encountered in vitriols, and reflectography would support

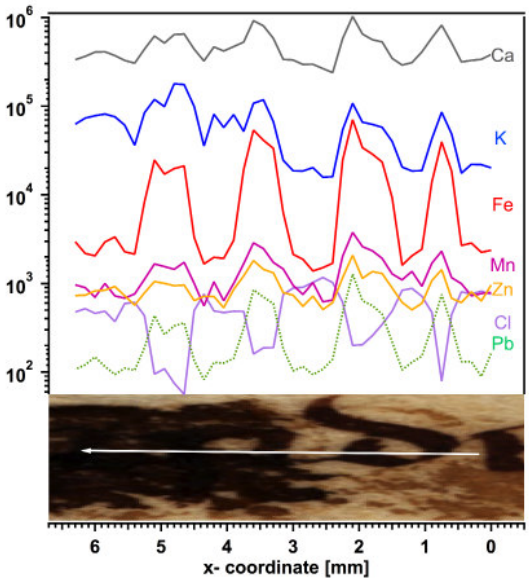

Fig. 3. Net peak intensities of the elements extracted from the scan across a line with partially obscured inks. The white arrow in the image in the lower part of the diagram indicates the position of the line scanned, with the step of 0.15 mm.

this identification: the ink is faintly visible in the NIR region. Yet the amount of iron in this ink is very low. In contrast with the ink in the Vercelli Book, the intensity of iron in a classical iron gall ink on the parchment exceeds by far that of Ca from the parchment as well as that of K. The latter may originate from three different sources: alum ($KAl(SO_4)_2 \cdot 12H_2O$), occasionally present in the recipe of the iron gall ink; gum arabic, a common binder; and tannins from the gall nuts. The fact that the intensity of K exceeds that of Fe in the ink of the Vercelli book implies that the type defining component of the ink in the Vercelli book is rather of plant or tannic nature. The trace amounts of lead (Pb) do not derive from the intentionally added components but most probably arise from the water used in the ink preparation.

The third and the fourth groups of peaks in our scan have the same structure indicating that the ink is hardly disturbed by the presence of the overlaying tincture. The only detectable change associated with the presence of the tincture concerns the element K that is associated with the tannins. Abundance of K does not return to the level characteristic of the parchment but steadily grows throughout the staining. However, at the location of the obscured ink the intensity of K is higher than in the stain around it leading us to a tentative conclusion that the desirable reaction between the added gallnut infusion and iron from the ink indeed took place in this case. Furthermore, the results of this scan would indicate that XRF imaging would be capable of unveiling the preserved text.

Let us turn now to another spot. In the last line of page 25r (fig. 1, right) the tincture was thickly applied to the remains of the previously erased or faded text. The colour of the line turned blackish brown with a very low reflectance throughout the visible and NIR regions. Figure 4 shows an XRF line scan that similar to the previous example starts in the visible ink and ends in the stain region. For clarity we drew the lines separating regions of the scan corresponding to the intact ink (I), intact parchment (II) and stain (III). The first and second regions display already familiar patterns of an ink and parchment, respectively. The boundary of the ink is easily recognized by a sharp fall of the intensities to their background values in the parchment. A rise in the intensity at 3.7 mm just before the end of the region II corresponds to the remains of the original text not covered by the tincture. Yet once the scan reaches the region III, that is, arrives in the stained area, we find no features that can be associated with localized ink. Instead we observe a 'smear' of the iron intensity on the background of risen intensity of K and slight decrease of that of Ca. We also observe an insignificant growth in the intensities of Mn and Zn confirming that the shapeless curves correspond to the delocalized ink. In other words, heavy application of the tincture must have mobilized the metallic ions and spread them over the whole region. In this case, the crucial condition for recovering the text does not seem to be met anymore.

Let us return now to the questions raised before: what reagent Maier used and whether he succeeded in enhancing the ink colour. Detection of the element K in the stains indicates infusion obtained from the natural gall-nuts rather than chemical reagent gallic acid. Though K would have been found in the rests of the Gioberti tincture we can safely exclude it since we observe neither a considerable increase in iron intensity nor blue discolouration of the parchment. Therefore, we may conclude that Maier made the tincture according to the original recipe requiring extraction of tannins from the crushed nuts. Furthermore, if he was working in a clandestine manner he must have found it difficult to strictly follow the instructions requiring each administration to be performed with a fresh solution, perfectly clean brush and quick removal of the excess of the solution. Given his relatively short stay in Vercelli and the number of treated pages we believe that he increased the damage considerably by multiple applications of contaminated solution and by the transfer of the mobilized iron from one spot to another.

XRF results suggest that Maier succeeded in enhancing the colour of the undamaged native inks, which encouraged him to try the reagent on the erased portions of the text. Multiple application of the tincture at the same spot suggests that some enhancement may indeed have occurred but was found by Maier insufficient for secure reading. Given the low amount of iron

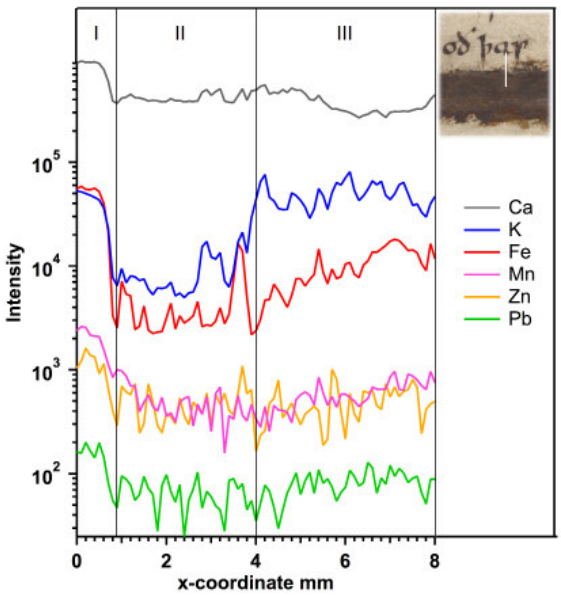

Fig. 4. Net peak intensities of the elements extracted from the scan indicated in the insert. The white line in the image indicates the position of the line scanned, with the step of 0.1 mm. Region I – intact ink; region II – intact parchment; region III – stain.

in the original ink it is highly unlikely that he could improve readability of the erased portions.

Conclusion

Our observations suggest the impossibility of establishing *apriori* whether localized text can be found under the tincture throughout the Vercelli Book. XRF imaging in this case may offer a worthwhile alternative for recovery.

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Projects in manuscript studies

Orient-Digital database and Islamic book art

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Book art, including calligraphy, illuminations, and illustrations, embellishes the great manuscripts of the Islamicate world and comprises one of the finest artistic traditions of humankind. The database *Orient-Digital* at the Staatsbibliothek zu Berlin Preußischer Kulturbesitz (<http://orient-digital.staatsbibliothek-berlin.de/>; see *Comparative Oriental Manuscript Studies Newsletter* 6, 2013, 7–8) pays respect to this book culture: a unique art description module, conceived by the art historian Friederike Weis and the Arabists Thoralf Hanstein and Christoph Rauch, has been embedded in the database.

More than 8,200 art elements from 310 Persian, Arabic, Ottoman Turkish, and Javanese manuscripts have been so far described and made accessible online. The great span of time covered—the illustrated manuscripts date from between the fourteenth and twentieth century—and the vast geographic scope—the Persian world, the Ottoman Empire, Southeast Asia—account for the great variety of forms and styles of book decoration. The database catalogues calligraphies whether collected in albums or transmitted as single leaves, Persian and Mongol miniatures in the renowned Diez albums from the fourteenth and fifteenth century, luxuriously illuminated and illustrated Persian manuscripts such as Firdawsī's *Šāhnāma*, Niẓāmī's and Amīr Ḫusraw Dihlavī's *Ḫamsa*, sixteenth- and seventeenth-century miniatures from the Mughal India in the Ǧahangir album, al-Qazwīnī's cosmography *ʿAǧāʾib al-maḫlūqāt wa ġarāʾib al-mawǧūdāt*, devotional literature such as Muḥyī al-Dīn Lārī's *Futūḥ al-ḥaramayn* and al-Ǧazūlī's *Dalāʾil al-ḫayrāt*, astronomical manuscripts with drawings of constellations, and Arabic grammar books with later added illustrations.

In the database, each book art element gets its own description (fig. 1). First, general data are provided: the shelfmark of the manuscript and the page on which the element is found; a short title in English and German; and a thumbnail image linked with the digital collections of the Staatsbibliothek zu Berlin. Following the link, the user can view a high resolution photograph of the book art element (fig. 2)—and of the entire manuscript. A link to the

Classmark	Ms. or. fol. 359, f.451r
Catalogue no.	VOHD 16,1, 317
Short title	Bahrām Gūr kills those two lions guarding the crown
Link to image	**Digitale Bibliothek der SBB** 
Type	illustration → miniature
Sheet size	49 x 31,5 cm
Size with frame	36 x 22,4 cm
Date	drittes Viertel des 16. Jahrhunderts, ca. 1560-1570
Place of origin	wahrscheinlich Shiraz
Description	Unter den Augen seiner Männer erschlägt Bahrām Gūr nahe einem Fluss einen der beiden Löwen mit seinem Stierkopfstock, die die Krone bewachen. Der zweite Löwe beobachtet ihn dabei. Aus weiter Ferne beobachten weitere Männer das Geschehen hinter Felsen stehend. Goldener Himmel mit weißen vorbeiziehenden Wolken.
Motif	person → ruler person → hero animal → lion scenery → animal fight scenery → landscape/garden plant → tree scenery → heaven/clouds
Support material	Papier
Link to manuscript	**Ms. or. fol. 359, Šāhnāma, Firdausī**
Editor	Beez
Status	first input complete
Static URL	**http://orient-digital.staatsbibliothek-berlin.de/receive/SBBMSIllustration_illustration_00003246**

Fig. 1. A book art entry in the *Orient-Digital* database.

metadata describing the parent manuscript is equally provided for a broader context.

For each element, physical description is provided (material; dimensions); the date and place of origin; transcription of the text(s) embedded into the art element; information on the kind of ink, and the state of preservation.

The core of the entry is constituted by the content and history of the art piece: a picture description and a multiple classification of motifs contextual-

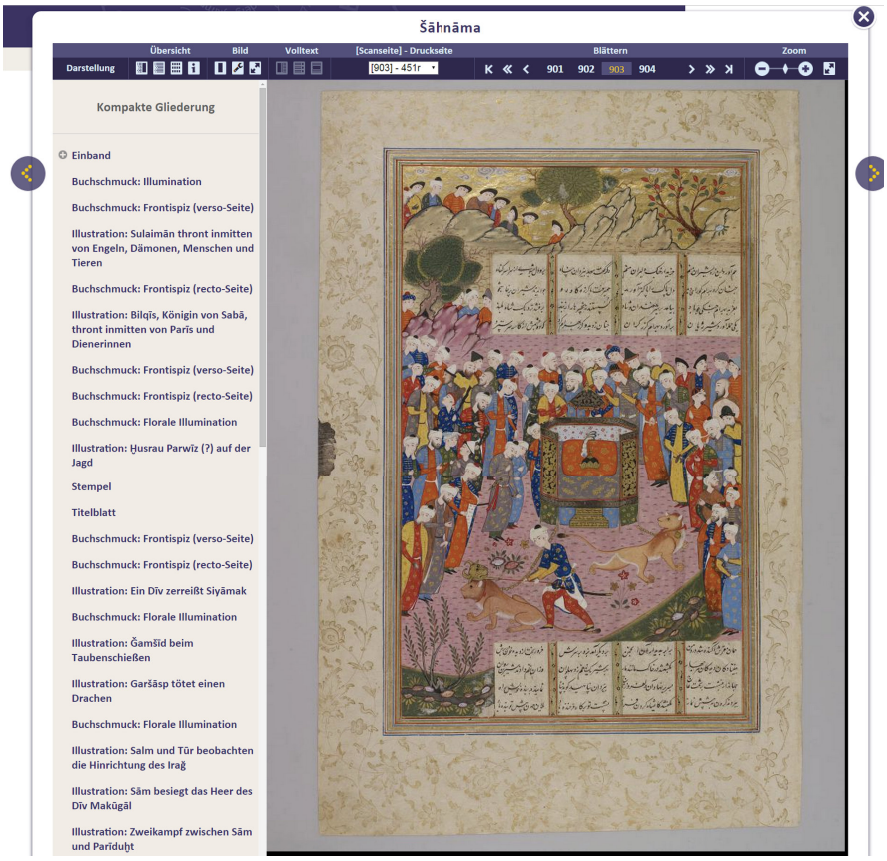

Fig. 2. A zoomable and downloadable representation of the book art element in the Digital Library, <http://digital.staatsbibliothek-berlin.de/werkansicht/?PPN=PPN731527356&PHYSID=PHYS_0903>. For the parent entry of the entire manuscript see <http://orient-digital.staatsbibliothek-berlin.de/receive/SBBMSBook_islam-hs_00002496>.

ize the book art element. Specific categories have been introduced by the database. Every book art element is first defined as illumination (here defined as a form of pictorial book art complementing texts, calligraphies and paintings, mostly with gilding), illustration (an image that has a clear connection to the text of the manuscript), non-illustrative image (that does not refer explicitly to a text, mostly a decorative motif), or calligraphy. Illustrations may be either miniatures (fully coloured) or line drawings (often monochromatic). The decorations are further classified according to the motifs represented; here, the categories include animal, fabulous creatures, plant, scenery, map, and

ornament. Information on reference literature and the exhibition history shed additional light on its reception.

Besides the usual search and PDF export possibilities, the users are given the opportunity to provide their input by sending remarks or error reports.

In cooperation with the Data Processing Centre of Leipzig University, the Staatsbibliothek zu Berlin has developed an exemplary research tool presenting its Islamic book art in a comprehensive and clear manner.

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CIMA (Centre of Image and Material Analysis in Cultural Heritage), Vienna

Ana Čamba und Heinz Miklas, Universität Wien

> *Es gibt Dinge, die nicht einmal das geschulteste Auge von WissenschaftlerInnen sehen kann. Wenn der Kunsthistoriker das Geheimnis der Unterzeichnungen eines Gemäldes erforschen möchte oder Altphilologen sich anschicken, den mit Schulp abgekratzten Urtext einer wiederbeschriebenen Handschrift* (*eines sog. Palimpsests*) *zu entziffern, dann führt dies notwendigerweise zu einem fruchtbaren Austausch zwischen verschiedenen Wissenschaftsdisziplinen.*

Basierend auf einer nationalen und internationalen Kooperation wurde im Rahmen des HRSM-Programms (Hochschulraum-Strukturmittel 2013) des Österreichischen BM:WFW das interdisziplinäre Forschungszentrum für die Bild- und Materialanalyse von Kunst- und Kulturgut (<http://hrsm.caa.tuwien.ac.at/>) zwischen der Wiener Akademie der bildenden Künste, der Universität Wien und der Technischen Universität Wien gegründet. CIMA ist eine interuniversitäre, international tätige Einrichtung, die im Spannungsfeld von Technik, Natur- und Geisteswissenschaften Forschung und wissenschaftliche Beratung betreibt. Zu Jahresbeginn 2014 wurde im Rahmen des HRSM-Projekts *Erschließung und Erhaltung von Kulturgut – Moderne bildgebende und materialanalytische Verfahren zur Visualisierung, Dokumentation und Klassifikation von Handschriften* der Grundstein dafür gelegt.

Ausgezeichnet durch seinen interdisziplinären Zugang zur Erforschung von Kulturgut vereint CIMA die Expertise dreier Fachdisziplinen: der Philologie (Universität Wien), der Informatik (Technische Universität Wien) und der Chemie (Akademie der Bildenden Künste Wien).

Die Einrichtung ist spezialisiert auf die Entwicklung und Weiterentwicklung von Verfahren zur Bildgebung (MultiSpectral Imaging), Bildverarbeitung und Bildverbesserung sowie die chemische Untersuchung der zur Herstellung historischer Objekte verwendeten Materialien und deren Veränderungen mittels modernster technischer Geräte und stellt auftraggebenden ForscherInnen aus den Geistes- und Kulturwissenschaften neue, grundlegende Erkenntnisse zu archäologischen Artefakten, Gemälden, Handschriften und anderem Kulturgut zur Verfügung. Während die chemischen Untersuchungen Aussagen zur Beschaffenheit von Farbmitteln (Pigmenten und Farbstoffen), Tinten und dem Beschreibstoff liefern, führen Multispektralaufnahmen sowie die anschließenden Bildverarbeitungs- und Bildverbesserungstechniken

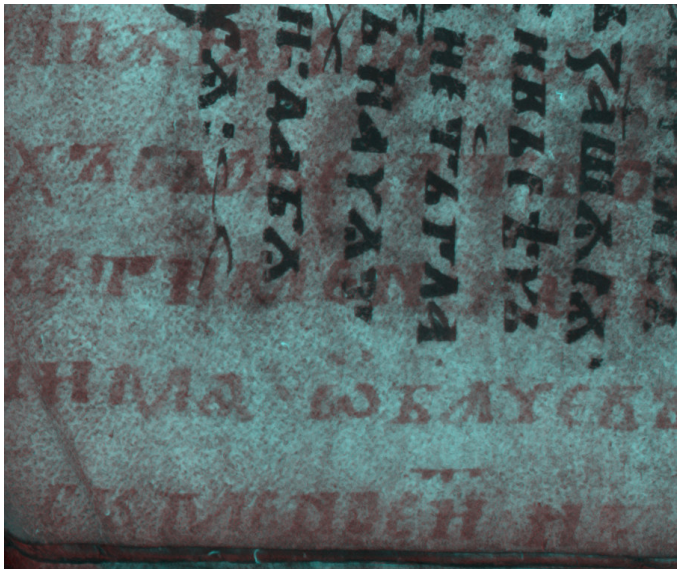

Fig. 1. Kyrillisches Palimpsest im Cod. Serd. slav. 880 aus dem 12. Jh.

durch versierte InformatikerInnen zur Sichtbarmachung von (durch mannigfaltige Beschädigungen) schwer oder nicht mehr sichtbarem Text- oder Bildmaterial. Alle eingesetzten Verfahren sind nicht-invasiv und eignen sich daher auch für äußerst fragile Untersuchungsobjekte.

Längerfristiges Ziel ist es, durch einen breit angelegten Vergleich der gewonnen Daten aus den Aufnahmen, Bildverbesserungen, den chemischen und philologischen Untersuchungen Korrelationen zwischen Daten aus unterschiedlichen Modalitäten aufzudecken sowie allgemein, neue Entdeckungen auf den drei zusammengeschlossenen Gebieten zu tätigen.

Die Objektauswahl umfasst vorerst vor allem Pergamenthandschriften des 8.-14. Jh., die aufgrund von Beschädigung oder bewusster Texttilgung (Palimpseste) besondere Anforderungen an die Philologie stellen. Hinzu kommen Handschriften, die aufgrund ihrer reichen oder vielfältigen Ausstattung (Miniaturen, Illustrationen, Initialen etc.) das besondere Interesse der naturwissenschaftlichen Forschung wecken. Später wird diese Auswahl erweitert werden, und zwar sowohl innerhalb der Gattung Schriftgut (etwa durch den Einbezug von Inschriftenmaterial auf unterschiedlichen Media) als auch darüber hinaus (z. B. historische Gemälde).

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The Rock Inscriptions and Graffiti Project of the Hebrew University of Jerusalem

Michael E. Stone, Hebrew University of Jerusalem

The Rock Inscriptions and Graffiti project at the Institute of Asian and African Studies of the Hebrew University of Jerusalem is approaching the end of an extended process of digitization.

I was drawn to establish the Rock Inscriptions and Graffiti Project by the discovery of the Armenian graffiti in the Sinai, which happened in the last years before the Sinai Peninsula reverted to Egyptian sovereignty under the 1979 peace treaty between Israel and Egypt. These inscriptions, many only containing the pilgrim's name and sometimes a cross or an appeal for Divine mercy and protection, had been scratched on prominent rocks in the Sinai Desert. Most of the graffiti were located along the routes to Jebel Musa (Mt Moses), that is the mountain traditionally identified as the biblical Mt Sinai. At its foot stands St Catherine's Monastery and scholars are familiar with the collections of manuscripts and icons for which this ancient monastery is renowned.[1] In the Mt Sinai area too, on the ancient wooden doors of the basilica, and by the famous steps up to the mountain peak, Armenian pilgrims had left their names and petitions.

I undertook a series of five expeditions to the Sinai in the late 1970s and continuing to mid-1980. My primary goal was to document the Armenian inscriptions of which I had been informed. By way of background, I should say that the oldest Armenian inscription known before the Sinai discoveries was from the very end of the fifth century. It was on a basilica in Tekor, now in the Kars province of Turkey. The inscription is lost, but photographs of it survive.[2] The Armenian alphabet had been invented by St Mesrop Maštocʿ at the beginning of the fifth century, and it was a crucial element in the evangelization of Armenia.[3] My own interests were primarily philological, relating to texts and their transmission. Although many Armenian manuscripts preserve scribes' colophons, a substantial number do not. Palaeography is, therefore, the main tool used to date these manuscripts.

The oldest dated Armenian manuscript is the Gospels of Queen Mlkē, dated to 862 CE, preserved in Venice, at the Mekhitarist Monastery. Fragments of older manuscripts exist, often preserved as *feuilles de garde* in later manu-

1 Forsyth and Weitzmann 1974.

2 Stone et al. 2002, illustrations 2 and 3.

3 The story of its invention is preserved in the *Life of Maštocʿ*, composed in the fifth century by his student Koriwn; translated by Norehad 1982.

scripts. But none of these bears a date[4] and the dating by palaeographic typology has been impressionistic. A firm developmental palaeographic analysis based on dated manuscripts was called for and to answer this need the *Album of Armenian Palaeography* was prepared, which contains very high quality images of nearly 200 dated manuscripts.[5] Tables of letter-forms and a detailed introduction complement the images. The *Album* is based on dated manuscripts,[6] all of which are later than rock inscriptions.

On my first trip to the Sinai, in 1978, I saw inscriptions that impressed me as being very old indeed. Later developments enabled me to date the oldest of them on archaeological grounds to the first part of the fifth century, that is, within decades of the discovery of the alphabet, traditionally dated to 406. In the course of the subsequent expeditions that were designed initially to clarify the routes that the pilgrims who left the graffiti travelled, broader issues concerning Christian pilgrimage arose that demanded resolution. Since travel routes in the desert are determined by the goal of the journey—Mt Sinai for the Christian pilgrims—and by the topography, issues of human traffic in the desert became of increasing interest to me. This interest extended beyond the Christian pilgrims themselves, and came to include the various travellers and tribes that lived in and moved through the desert. These were not only the Arabic speaking Bedouin but, in Roman times, the Nabateans, who wrote in Aramaic in the form of Semitic script that eventually developed into the 'normal' Arabic script, as well as some inscriptions in Greek. Speakers of close to a dozen and a half languages left graffiti in the desert.

The particular significance of graffiti from a palaeographic point of view and their bearing on the study of manuscripts is the following. It is the usual assumption that the traditions of manuscript copying and of the incision of inscriptions, in particular the formal inscriptions of funerary or dedicatory character, were distinct, particularly because the artisans expert in stone masonry are different from scribes. Thus, in the Armenian tradition, which I know well, and in other languages, formal stone inscriptions tend to be more conservative in style than manuscript book hands. In Armenian, indeed, manuscript hands changed over the centuries far more than the formal epigraphic hands and, to this day, formal inscriptions may be written in a script form that is extraordinarily archaic. This gap can be seen by comparing printed books, not to speak of informal book hands, with contemporary stone inscriptions.

4 As far as is known today, and certainly none bears a fifth century date.

5 Stone et al. 2002.

6 Armenian manuscripts often contain colophons, which form the basis of dating. On the colophons see Sirinian 2014 and Stone 1995.

Graffiti, for the most part, were not written by trained masons, but by literate people accustomed to writing on leather, papyrus, or paper. The hands used in graffiti should be viewed, therefore, as part of the series of manuscript hands and not of epigraphic ones.[7] In fact, some graffiti are written in a formal hand, and others in semi-formal, or occasionally informal hand. This is true, I can say, of Armenian. Experts in other scribal traditions must make their own determinations. In view of considerations like these, however, the discovery of graffiti in Armenian in the Sinai desert is most significant. Because of their early date, they partly fill the gap in the series of book hands from the inception of writing down to the Queen Mlkē Gospels.

After the end of the expeditions in mid-1980, I realised that I had at my disposal an extraordinary corpus of images of Sinai inscriptions. They included more than just Armenian, for many of the sites that contained Armenian were covered in inscriptions in various languages—Greek, Nabatean, Georgian, Latin, and Arabic among them. Photographs of Armenian inscriptions frequently included those in other languages, and I had photographed hieroglyphic inscriptions, Nabatean, Greek and Latin, as well as Ancient North Arabian. I decided to establish a database to organize this material and which would list and provide information about all graffiti and other rock markings. To my own numerous photographs from the Sinai, I was able to add more photographs provided by a number of scholars, mainly archaeologists, and also to include in the data of many published inscriptions, from the *Corpus Inscriptionum Semiticarum*, from the book by Abraham Negev on the inscriptions from one main site Wadi Haggag in Eastern Sinai, and certain other inscriptions.[8] Moreover, I was able to undertake one further expedition to the Negev desert in the South of Israel. To clarify the pilgrims' routes I studied and also photographed many graffiti from Christian holy places in Jerusalem, in Nazareth and in Bethlehem.

7 This is my conclusion after comparing the scripts of graffiti with the scripts of formal inscriptions and of manuscripts. Formal inscriptions—foundation, dedicatory or similar—are written in the uncial script down to this day. This script was falling out of use by the tenth century in manuscripts. Such formal inscriptions are very occasionally written in the later, formal minuscule hand (*bolorgir*), but virtually never in any of the other book hands. The scripts of graffiti resemble book hands, or sometimes even less formal hands than that. Among the reasons, to think that graffiti were written by people untrained in stone masonry are instances where two lines forming an angle do not meet, or meet, but one continues beyond the other, and other such 'lapses' of the execution.

8 Negev 1977; *Corpus Inscriptionum Semiticarum* II, 1889–1942, Euting 1891, and more.

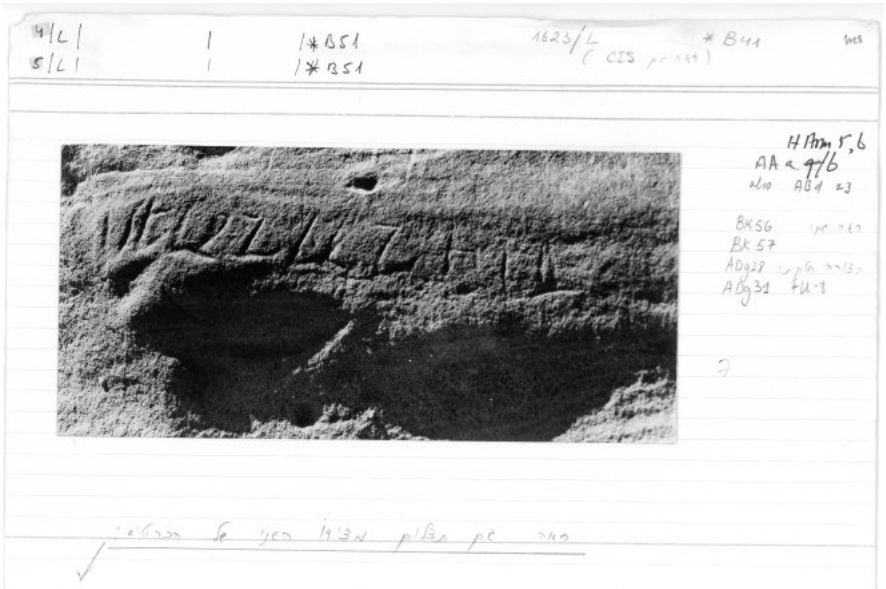

Fig. 1. Rock 3, Wadi Haggag, the oldest Armenian inscription H Arm 6, (ԱՆԱՆԻԱ / ANANIA), 4.5 x 3.5 cm, photograph and the original handwritten notes by the Rock Inscriptions Project team.

Although this was early in the development of computer applications to the humanities, I wished to do as much of the work as was feasible on computer. Internet was not yet available; external hard drives were limited in size and very expensive. Initially we worked with DOS and the program dBase 2, were able to catalogue the thousands of inscriptions, rock drawings and Bedouin signs, and to produce two main results. One was a physical file of images, mainly black and white negatives and prints and a number of coloured slides; the other was the computerized data resource which showed the location of the inscriptions, the language, a copy of the inscription and relevant bibliography. In the early stages of the work, it was impossible to store digital images. After the Project migrated to Macintosh, using 4D relational database management system, we prepared a sample with images integrated, but that was shortly before the main thrust of the work ended.

In 1992 the project produced a three-volume catalogue of the images we held, totalling 8,500 inscriptions, petroglyphs, *wasems* (Bedouin tribal markings) etc.[9] In the *Introduction* to the *Catalogue* I wrote: ‘This catalogue is to be viewed, therefore, as an invitation to scholars to pursue further research on

9 Stone 1992 and 1994.

these epigraphs'.[10] Sadly, I must say, this invitation was little utilized, though some scholars have done work on the hieroglyphic inscriptions, the one Geʿez inscription, and some of the Nabatean.[11]

I myself published the Armenian inscriptions in 1982 in a volume in which the late Michel van Esbroeck contributed a publication of the Georgian inscriptions, and William Adler two Latin inscriptions.[12] Subsequently I published a few more Armenian inscriptions of which people gave me photographs.

About two years ago, the decision was made to mount the whole corpus onto Internet. This way the material in the catalogue and the black and white images could be made available to interested scholars, together with images of the inscriptions. They can be accessed by geographic area, by language, by date (when such survived), and so forth. The database is now up and running and available at <http://rockinscriptions.huji.ac.il>.

Nearly all the images have also been mounted on-line, and at the time of writing, the final stages of this labour are still underway. I am pleased to repeat here the invitation that I extended in the printed *Catalogue* in 1992: scholars are invited to research and publish the material, and the only requirement the Project has is to acknowledge its contribution. We can also make high-resolution images available for the cost of the preparation involved. The black and white photographs are available in the Project's room at the Institute of Asian and African Studies of the Hebrew University.

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10 Stone 1992, I, 9.

11 The unpublished Nabatean inscriptions are the largest group.

12 Stone 1982, 1985; Stone and van Lint 1989.

13 I take this opportunity to thank not just programmers Oron Joffe (the project itself), Ephraim Damboritz (migration to Internet), Editorial Assistant Avital Kobayashi Pinnik, but also the graduate assistants who contributed so devotedly to this work. Various bodies helped fund the work including the Research Fund of the Israel Academy of Sciences (now Israel Science Foundation), the Antiquities Authority of the State of Israel, the Research and Development Authority of the Hebrew University, Mr James D. Wolfensohn, the Sarkes Tarzian Fund of the University of Pennsylvania, and the Harvard Semitic Museum.

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Conference reports

The Tenth Islamic Manuscript Conference
Manuscripts and conflict
Cambridge, 31 August–2 September 2014

Since its founding, The Islamic Manuscript Association has annually held conferences, with the overarching aim to stimulate the preservation and increase accessibility of Islamic manuscript collections around the world. In 2014 the Tenth anniversary of the Islamic Manuscript Conference was celebrated, hosted in Cambridge in cooperation with the Thesaurus Islamicus Foundation and the HRH Prince Alwaleed Bin Talal Centre of Islamic Studies, University of Cambridge. The conference's special theme, 'Manuscripts and Conflict', was far from celebratory. It reflected the effects of recent and current crises, in the Balkans, the Middle East and Africa, and addressed acute needs resulting from these political and social conflicts. Case studies were presented of manuscript rescue efforts, and the role of the international community and enforcement of international laws were discussed. The conference also provided an optional special programme, including a workshop on disaster planning for Islamic manuscript collections.

The first day, focussing on 'Manuscripts and Conflict', opened with a contribution by András Riedlmayer, bibliographer in Islamic Art and Architecture at Harvard University. During the Balkan Wars of the 1990s, he travelled through the region and documented the dramatic consequences of the conflict for manuscript collections. Riedlmayer reported about looting and the role of the international art market; he also described how manuscript collections can be ideologically targeted. His account illustrated the fragile situation of collections, when apart from destruction of physical collections their catalogues were damaged and digital or other surrogates of catalogues were lacking. The casus Riedlemayer presented contained a clear message which resonated with the audience.

Several other impressive contributions followed, for example by Father Columba Stewart, of the Hill Museum and Manuscript Library, Saint John's

University, Minnesota. He presented the difficulties and successes of a long-term project: the digital preservation of endangered manuscripts in the Middle East, in Africa, and India, including work evolving from the recent rescue operation of manuscript collections in Timbuktu.
Assistant Professor of Arabic Language and Religious Literature, Department of Religious Studies, David Hollenberg, University of Oregon, presented another project that connected digitisation with manuscripts in conflict. He talked about the practical needs during an operation that aimed to digitise as many Yemeni manuscripts as possible, in sub-optimal conditions in a destabilised region.

The role which manuscript collections can play in post-conflict recovery was addressed by Anahita Shahrokhi, Institute of History, Archaeology and Ethnography, Dagestan. She used the North Caucasus Ethnic Conflicts of the 1990s and its destructive impact on Islamic manuscripts, particularly on research and publishing, as a case study.

Gaia Petrella and Irene Zanella, both Italian independent paper and manuscript conservators, provided insight in the organisation and realisation of a conservation training programme in Erbil.

For the purpose of this education programme, they developed a conservation survey form and terminological glossary in the Arabic, Kurdish (Sorani), and English languages.

During day two and three, new studies and best practices were presented. But, since this year's conference was the Tenth Anniversary of the Islamic Manuscript Association, the opportunity was also used to reflect on the undertaken projects and achievements of the years past, and to look ahead. This formed the context for the recurring subject areas: cataloguing, conservation, digitisation, and research relating to Islamic manuscripts and manuscript collections, which were covered during day two and three.

For a full programme of the conference, visit http://www.islamicmanuscript.org/biennialconference/2014conference/programme.aspx.

Throughout the first decade of TIMA activities, the organisation has helped shaping networks and the exchange of knowledge. TIMA supported a substantial number of projects in the above subject areas and established its own corporate journal, *Journal of Islamic Manuscripts*. For the next period, there will be a focus on disseminating knowledge by organising or supporting courses and workshops. It was therefore decided to start of a new conference schedule which will be biennial from now on; this will allow the organisation to spend more time on the development of this programme.

Karin Scheper, Leiden University

Comparative codicology, 9th–10th centuries AD
London, 31 October 2014

A one-day workshop dedicated to *Comparative Codicology in the Ninth and Tenth Centuries AD* took place on 31 October 2014 at Brigham Young University, London Centre. It was convened by Sebastian Brock (University of Oxford, UK) and Myriam Wissa (University of London, UK), and organized by the latter with the support of James Faulconer, academic director of Brigham Young University, London.

As Myriam Wissa's research on craftsmen in Egypt and their commercial networks from Justinian to the Abbasids (sixth to tenth centuries) showed, these communities of artisans include, among other people, scribes and secretaries, and therefore involve their codicological works. Thence, the idea of a workshop on comparative codicology was borne, with the intention to survey various codicological traditions. While working on cataloguing the Syriac fragments at Saint Catherine's monastery on Mount Sinai, Sebastian Brock was struck by the multiplicity of the languages of Sinai in the ninth and tenth centuries—the period covered by the workshop presentations. In addition to the potential interest for the multilingual Greek, Georgian, Syriac and Arabic manuscripts, which were used simultaneously in Sinai, new insights can be gained from the change of material from parchment to paper.

The day was organized into three sessions. The first session was dedicated to Hebrew, Syriac and Coptic manuscripts. It featured presentations by Maria Gorea (University of Paris VIII, France), *Du volumen au rotulus: pratiques scribales en Syrie-Palestine dans les communautés juives de la diaspora*, by Sebastian Brock, *Syriac codicology*, and by Myriam Wissa, *Inks and the written word in the ninth and tenth century Coptic and Coptic-Arabic manuscripts*.

The second session focused on Greek manuscripts. Federico Montinaro (University of Cologne, Germany) spoke on *Histories of Byzantium: the early manuscripts of Theophanes' Chronicle*, and Georgi Parpulov (University of Oxford, UK) on *Codicological peculiarities of ninth and tenth-century Greek manuscripts*.

The third session combined papers from Armenian, Georgian, and Arabic studies. Vrej Nersessian (British Library, London, UK) presented a talk on *The dating systems used by scribes in colophons of Armenian manuscripts*, Nino Sakvarelidze (Innsbruck, Austria) spoke of *Georgian manuscripts as witnesses to a 'mixed tradition*', finally, Alasdair Watson (Bodleian Library, Oxford, UK) reported on *The 3rd-4th centuries of the Ḥijrah: scribal reforms, and the transition from parchment to paper*.

The workshop proved to be exceptional merging of diverse codicological approaches, the mingling of which opened out into a fascinating range of topics. The success of this workshop stemmed not only from its size and intimacy but also from the speakers and their creativity. The papers will be published.

Myriam Wissa, University of London

Bible as Notepad

Oslo, 10–12 December 2014

The *Bible as Notepad* conference, organized by Liv Ingeborg Lied and Matthew Monger, was held from 10 to 12 December 2014 in Oslo, hosted by MF – Norwegian School of Theology in cooperation with The University of Agder, The Norwegian Bible Society and the Fritt Ord Foundation. The goal of the conference was to gather an international and interdisciplinary group of scholars to study notes, comments, and scribbling in biblical and related manuscripts. The result was a stimulating discussion of annotations in different manuscript and language traditions, the various relationships between text in the column and notes in the margins, and the roles and functions of annotated manuscripts as cultural artifacts.

At the beginning of the conference, Liv Ingeborg Lied provided introductory reflections on the topic of *Bible as Notepad,* setting the tone by pointing to the methodological and theoretical importance of marginalia and annotations in the study of manuscripts. Another methodological contribution was provided by Hindy Najman (Yale), who drew lines between traditional philological methodologies and material philology in her paper ‘‘Philologie der Philosophie’: Revisiting the Limits and Possibilities of Philology’.

A considerable number of papers treated oriental traditions. Ethiopic manuscript tradition was discussed by Ted Erho (Munich) in his paper ‘A Classificatory Survey of Marginalia in Ethiopic Old Testament Manuscripts’, and by Loren Stuckenbruck (Munich), who led the group on a virtual journey to Ethiopia while discussing the liturgical use of Enoch in the Ethiopian tradition in his paper ‘Marginal Notes on the Liturgical use of Enoch in the Ethiopian Tradition’. The Medieval Hebrew tradition was represented by James R. Davila (St. Andrews), who offered a close reading of sections of the Hekhalot Rabbati in his paper ‘Notes in the text? The

unique secondary readings in MS Leiden Or. 4730's text of the Hekhalot Rabbati', and Malachi Beit-Arié (Hebrew University), who presented data on a wide range of manuscripts in his paper 'Glosses by users of Hebrew handwritten books'. The Greek manuscript tradition was discussed by Patrick Andrist (Fribourg/Basel), who combined practice in theory in his paper 'Notes, Graffiti and Paratexts in the Manuscripts of the Greek Bible. Some Theoretical Questions'. Annotations in Syriac Manuscripts were discussed in three papers: Michael Philip Penn (Mount Holyoke) showed how Syriac scribes maintained the integrity of the manuscripts while still making their opinion of the text very clear in his paper 'Commenting on Chalcedon'. Mor Polycarpus Augin Aydin discussed the metaphoric poetry of Syriac manuscripts in his paper 'The Poetic Art of East and West-Syriac Colophons'. Jeff Childers (Abilene) showed how Biblical manuscripts were used for other purposes than reading in his paper 'Divining Gospel: Classifying manuscripts of John used in Sortilege'.

Three papers focused on the Dead Sea scrolls. Annotations in Qumran manuscripts were the topic of the final day of the conference. Daniel Falk (Penn State) discussed 'Marginal Marks in Psalms scrolls and Liturgical Manuscripts from Qumran'. Kipp Davis (Agder) offered new perspectives on a long scribal emendation in the oldest known Jeremiah manuscript in his paper 'Margins as Media: The Long Insertion in 4QJer-a (4Q70)'. Finally, Årstein Justnes (Agder) and Torleif Elgvin (NLA University College) discussed scribal practice in the Great Isaiah scroll and the implications this might have for understanding wider phenomena at Qumran in their paper 'In the footsteps of the scribes of the great Isaiah scroll (1QIsa a)'.

The occidental traditions were represented by Marilena Maniaci (Cassino) who reported on 'Written evidence in the Italian Giant Bibles: Around and beyond the sacred text', and Otfried Czaika (MF – Norwegian School of Theology), who discussed the evidence for the use of different kinds of religious literature in fifteenth and sixteenth-century Scandinavia in his paper 'Used Theological and Spiritual Books in Scandinavia ca. 1450-1600'.

As a part of the conference, an exhibition of annotated Scandinavian Printed Bibles dating from 1550 to 2011 was hosted by the library at MF – Norwegian School of Theology. In addition, the participants of the conference could participate in a private viewing of selected biblical and religious manuscripts from the Schøyen Collection.

For the full programme, visit http://www.mf.no/en/about-mf/events/bible-notepad.

Matthew P. Monger, MF – Norwegian School of Theology

Christian and Islamic manuscripts of Ethiopia: A comparative approach (12th-20th centuries)

Paris, 12–13 December 2014

On 12 and 13 December 2014 the Bibliothèque nationale de France hosted the workshop 'Manuscrits chrétiens et islamiques d'Éthiopie: une approche comparative (XIIe-XXe siècle)' organized by Claire Bosc-Tiessé (CNRS, Institut des mondes africains, Paris, hereafter IMAF) and Anne Regourd (CNRS, 'Proche Orient - Caucase' and ERC project 'Islam in the Horn of Africa', University of Copenhagen). The workshop was devoted to various aspects of the Christian and Islamic manuscript book culture and gathered specialists in both fields, giving them opportunity to widely discuss the common research issues.

After the welcoming words offered by Dominique Charpin (Collège de France, deputy director of the unit 'Proche Orient - Caucase') and Marie-Laure Derat (CNRS, deputy director of the IMAF Malher unit) the first session, chaired by Judith Olszowy-Schlanger (EPHE, Paris) discussed the problems concerning scribal practice, codicology and the use of manuscripts. Steve Delamarter (George Fox University) reported the results of statistical analysis showing how the Ethiopian scribes working with the Psalter solved three technical problems arising in connection to copying of this text: the long sentences not fitting to a single line prescribed by the tradition, rubrication of the names of Mary and God, and marking the midpoint of the text in Psalm 77. Stéphane Ancel (IMAF) described outcome of the comparative studies focusing on the dimensions, proportions and page layouts applied to a large corpus of manuscripts (fourteenth to twentieth century) recorded in the Təgray province in northern Ethiopia in the framework of the ERC project 'Ethio-SPaRe' (Hamburg). Éloi Ficquet (Centre d'études interdisciplinaires des faits religieux, École des hautes études en sciences sociales, Paris) shared the observations about the use of manuscripts and other writings in the mystical ceremonials of the Ethiopian Muslims. The presentation of the *Handlist of the Manuscripts in the Institute of Ethiopian Studies*, II: *The Arabic Materials of the Ethiopian Islamic Tradition* (by Alessandro Gori, with contributions by Anne Regourd, Jeremy R. Brown, and Steve Delamarter; Ethiopic Manuscripts, Texts, and Studies, 20 (Eugene, OR: Pickwick Publications, 2014)) closed the session.

Two panels were devoted to literature; they were chaired by Tal Tamari (CNRS, IMAF) and Bertrand Hirsch (Université Paris-I, IMAF). Ahmed Hassan Omer (Institute of Ethiopian Studies, Addis Ababa) gave a general overview of the currents characteristic for the literary traditions flourishing in the

Horn of Africa focusing on the works by four writers: *aläqa* Tayyä, *märigeta* Ləsanä Wärq Gäbrä Giyorgis, *šayḫ* Bakri Sapaaloo and *ustaz* Abdäl Kadir Hagos. Andreas Wetter (Humboldt Universität, Berlin) presented the methods used for recording of Amharic *aǧamī* manuscripts and signalled the difficulties faced by the scholars. Alessandro Gori (University of Copenhagen) dealt with the opposite phenomenon, that is Arabic texts written in Ethiopian script, on the example of MS Collegeville, Hill Museum and Manuscript Library, EMML 6239: a work by *šayḫ* Zäkkarəyas, a learned Muslim who converted to Christianity and wrote a commentary on the Qurʾān from the point of view of his new faith. Another Muslim convert to Christianity, *abba* Ǝnbaqom, his ecclesiastical career, and his main work, the *Anqäṣä amin* ('The Gate of Faith'), a polemic treatise against Islam, were the subject of presentation delivered by Margaux Herman and Deresse Ayenachew (Däbrä Bərhan University). Amélie Chekroun (IMAF) spoke about the connection between the Arabic *Futūḥ al-Ḥabaša* ('The Conquest of Ethiopia'), a Muslim account of the military conflict with Ethiopia during 1527–1534, and the Ethiopic *Mäṣḥafä səddät* ('The Book of Persecution'), representing the Ethiopian view of the war.

The archival and diplomatic subjects were discussed in a session chaired by Marie-Laure Derat (CNRS, IMAF). Anaïs Wion (CNRS and Centre français des études éthiopiennes, Addis Ababa) provided an overview of the documents written in Coptic and in Arabic, giving insights into the complex relations between the Ethiopian Church and Alexandrian patriarchate.

A session offering space to the papers addressing art history was chaired by Claire Bosc-Tiessé. The influences of Islamic art transferred to Ethiopia via Coptic Egypt and reflected in the decoration of some Ethiopian manuscripts were highlighted by Ewa Balicka-Witakowska (Uppsala University, Institute of Linguistics and Philology), while Sana Mirza (New York University, Institute of Fine Arts) brought to attention the splendidly illuminated Harari Qurʾān in *biharī* script dating to 1746 (presently London, Nasser D. Khalili Collection of Islamic Art, QUR 706) and the history of its wide circulation reconstructed from the owners' notes.

The final discussion moderated by the organizers of the workshop summarised the results of the debates and stressed the importance of further cooperation.

As the closing event, several Ethiopian and Islamic manuscripts in the collection of the Bibliothèque nationale de France relevant to the subjects discussed were presented to the participants of the workshop and interested audience.

For the full programme of the workshop see http://calenda.org/311193.

Ewa Balicka-Witakowska, Uppsala University

Ordering knowledge: listing, shelving, and structuring manuscripts

Hamburg, 30–31 January 2015

On 30 and 31 January 2015, the workshop 'Ordering Knowledge: Listing, Shelving, and Structuring Manuscripts' took place at the Centre for the Study of Manuscript Cultures in Hamburg. Organized by the Centre's project area C (Collections), it aimed at understanding how manuscripts as material objects are arranged in a three-dimensional space within the different manuscript cultures. It also addressed questions concerning the way in which the knowledge is organized within the single manuscript.

The workshop started with a general introduction by V. Lorusso and A. Brita about the reconstruction of the physical arrangement of manuscripts within a specific collection as well as of texts within a multiple-text manuscript (MTM). Here, lists, catalogues, inventories and indexes play an important role, since they allow to define several aspects of the life of a collection: content, interests of a specific collector, and so forth.

Different manuscript cultures were covered by the workshop: three papers dealt with Europe, two with South Asia (India and Nepal), one with China. On the basis of the medieval catalogues of the Abbey Library of St Gall and the inventories of the Monastery of Lake Constance, A. Ulrich reconstructed the development of these collections during their lifetime. L. Orlandi's paper was devoted to reassembling the dismembered manuscript collection of Andronicus Callistus (fifteenth century) by considering catalogues, signatures, ownership marks, and written traces left on the manuscripts. A. Lissa presented archival documents dealing with the Conference for the Readmission of the Jews in the Kingdom of Naples (1739–1740). G. Hidas focused on some MTM containing Buddhist spell-texts, the so-called *Dhāraṇīsaṃgrahas* (Dhāraṇī Collections), that were produced at various points of time in the second millennium CE. He showed that there seem to exist no clear criteria for the inclusion or exclusion of certain texts and their arrangement within the individual manuscripts. A. Krause focussed her attention on the way in which manuscripts were arranged and stored in such old collections in India as the Jain temple libraries in Gujarat, Rajasthan, and other places, both from the spatial and from the conceptual viewpoint. C. Moretti spoke about the organization of the libraries of Chinese Buddhist monasteries, taking into consideration elements such as *sūtra* wrappers, envelops or labels containing codicological devices, e.g. shelf marks, which allow to speculate about the precise location of the manuscripts on the shelves as well as the sequence of the collected texts.

During the final discussion, chaired by M. Delhey, it emerged that both collections and MTMs can be ordered either according to material/formal criteria or according to criteria of contents. Lists do not necessarily follow the order of the manuscripts or texts they are listing. This may have practical reasons (e.g. alphabetical arrangement), but it can also reflect a different way of structuring the contents than can be seen in their actual spatial arrangement in a collection or within a single manuscript. Lists are often our only ways to reconstruct the content of dismembered collections or lost MTMs. But the information they can give us is not as straightforward, and not as limited. On the one hand, lists can be an incomplete or unreliable witness for the contents of collections. On the other hand, they can also give us more information than the collections themselves, for instance regarding the history of the collection or, again, regarding the conceptual arrangement of the collection. Moreover, it became clear during the discussion that the implications of the term 'composite manuscripts' can be very different depending on the writing support and manuscript culture to which it is applied. Finally, the choice of texts in a MTM can become very arbitrary, if it is not mainly intended to be read or studied. The best example for this fact was presented by G. Hidas, who found several instances of manuscripts mainly produced for apotropaic purposes, where one and the same text appears several times within one and the same MTM.

For the full programme visit http://www.manuscript-cultures.uni-hamburg.de/cal-details/WS_Programme_Ordering_Knowledge_2015.pdf.

Antonella Brita, Martin Delhey, Vito Lorusso, Universität Hamburg

Sephardic book art of the fifteenth century

Lisbon, 25–27 February 2015

There are few areas within Jewish Studies where a methodology based on the study of the cultural and intellectual context is as essential as in medieval manuscript culture and Jewish art. Current comparative approaches in Hebrew manuscript culture are opening up the field to new perspectives and ideas concerning book production, circulation and use. Similarly, the contextual study of Hebrew manuscript illumination can tell us something about networks of artists and craftsmen, collaboration in workshops, and manuscript mobility. Yet, few projects on Jewish manuscript illumination address the general aesthetic trends at a particular place and time and their impact on the artistic features—not only illuminations but all types of decorations as well as

page layout—present in medieval Hebrew manuscripts. This is precisely the objective of 'Hebrew Illumination in Portugal during the 15th Century', a project at the University of Lisbon under the direction of Luís Urbano Oliveira Afonso, who has also organized, together with Maria Adelaide Miranda, the international conference 'Sephardic Book Art of the 15th Century'. This conference took place at the National Library of Portugal in Lisbon, on 25–27 February 2015, and brought together a group of scholars working on different cultural and artistic questions posed by Sephardic Hebrew manuscripts from the fifteenth century, including aspects relating to production, circulation and, of course, decoration and illumination.

Day 1 started with the presentations by Katrin Kogman-Appel, Sonia Fellous and Sarit Shalev-Eyni. In the opening lecture, Kogman-Appel presented her ongoing research on the famous Farhi Codex and its creator (in both the intellectual and the material sense), Elisha ben Abraham Benvenisti Cresques. According to Kogman-Appel, the cultural context of this Majorcan Jew played a significant role in the conception and production of his codex. In the following session, Fellous stressed the significance of the Iberian cultural and political context as a key concept for understanding illuminated Iberian manuscripts, and Shalev-Eyni offered a brilliant analysis of the use of Mudéjar visual culture in the production of illuminated Iberian Hebrew Bibles. In the afternoon, Helena Alvear and Luís Ribeiro, members of the team of the project 'Hebrew Illumination in Portugal', presented their work on Jewish astrological and medical manuscripts produced in fifteenth-century Portugal, and Tiago Moita, another project member, focused on the artistic analysis of the decorations in a Hebrew scientific manuscript kept at the Reynolds Historical Library in Birmingham (Alabama). A third paper, not related to the project but also touching on the analysis of decorative patterns in manuscripts, in this case calendrical tables, was given by Ilana Wartenberg.

Day 2 brought together diverse papers on art, palaeography and codicology. Art was the focus in the early morning, when Maria Portmann opened the first session discussing the topic of identity and otherness in Sephardic book art. After her, Aron Sterk focused on the possible identification of characters in the late fifteenth-century panels dedicated to St Vincent from the Museum of Ancient Art in Lisbon and the alleged meaning of one of them, a figure holding a book, identified as Joseph Ibn Yahya. Codicology took over with María Teresa Ortega Monasterio, who offered the results of her research on some fifteenth-century Hebrew Bibles at the Bodleian Library in Oxford. In the afternoon, Javier del Barco presented on questions concerning page layout, Bible study and the transformation of reading practices as reflected in the production of glossed Hebrew Bibles from the thirteenth to the early

sixteenth century, while Aléxia Teles Duchowny focused on the paleographical analysis of a fifteenth-century Sephardic manuscript written in Portuguese with Hebrew letters. The day culminated with the opening of an exhibition at the National Library of Portugal, also organized by Oliveira Afonso and Miranda. Some facsimiles reproducing illuminated Hebrew manuscripts and incunabula editions produced or printed in Portugal were on display, together with the library's famous Cervera Bible—the early fourteenth-century illuminated Hebrew Bible produced through the collaborative efforts of Samuel Ibn Nathan, Joshua Ibn Gaon and Joseph Hatsarfati. This exhibition offered a perfect complement to the conference, providing a visual and material context for the presentations.

Day 3 was dedicated to issues concerning the history of manuscripts and the impact of the invention of printing on their production. In the first session, Tali Winkler and Yitzchak Schwartz presented their work on particular manuscripts—on the history of a Hebrew Bible at the Free Library in Philadelphia (Pennsylvania) and on the decorations of another Hebrew Bible at the Hispanic Society of America in New York, respectively. The history of some Sephardic Hebrew Bibles and the impact of different owners' ways of using and reading the manuscripts was the topic of Andreina Contessa's paper, who rightly stressed the change in meanings and aesthetics that is behind the interventions in some manuscripts once they are already in use. After her, Luís Urbano Oliveira Afonso—whose presentation attempted to account for how one particular Sephardic Hebrew Bible now held at the Bibliothèque nationale de France in Paris made its way to Yemen—contributed to a better understanding of the trade routes and commercial networks between Europe, the Middle East and Southeastern Asia in the fifteenth century and their importance in the mobility of manuscripts and aesthetic ideas. In the afternoon, Adelaide Miranda, Catarina F. Barreira, and Paula Cardoso presented a panorama of the little studied art of illumination in fifteenth-century Portugal, by analyzing some illuminated manuscripts from the few known Portuguese scriptoria. The closing lecture by Shalom Sabar, on the first Hebrew printed books, contextualized Hebrew incunabula within a manuscript culture that was still dominant, but on the verge of a radical transformation.

To sum up, this conference stressed how important context and networks are, and that Jewish art, as well as Hebrew manuscript culture, benefits much more from New Historicist and comparative methodologies than from linear and essentialist analyses.

For the conference programme, visit http://hebrewilluminationinportugal.weebly.com/conference-2015.html.

Javier del Barco, CSIC, Madrid

Traditions of Papermaking in the Islamic World
London, 23–27 March 2015

From 23 to 27 March, the four-day course and one-day symposium 'Traditions of Papermaking in the Islamic World' was held at The British Library Centre for Conservation (BLCC) in London, UK. The course—sponsored by The Islamic Manuscript Association in cooperation with The Thesaurus Islamicus Foundation and The British Library—offered participants engaged in work with the papers of Islamic manuscripts a chance to gain a greater practical knowledge of papermaking itself. The Islamic Manuscript Association hopes that this will be the first of several such courses on the materials and techniques of Islamic manuscript production.

The course began with a brief overview of approaches to the study of Islamic papers and papermaking and the state of the field from librarian and manuscript specialist Evyn Kropf. Next, papermaker-historians Timothy Barrett and Katharina Siedler introduced the specific work that directly inspired and informed the practical content of the course—observation, documentation, and replication of the traditional practices of living Indian papermakers. Siedler in particular has been modelling these traditional practices in her experiments with equipment and techniques—first at the Center for the Book at the University of Iowa and now in Berlin at her papermaking studio. Kropf next reviewed sources for study, including primary historical sources and secondary sources from the literature, as well as bibliographic resources for ongoing study. Barrett introduced the preparation of fibre for papermaking. Finally, conservator Cathleen A. Baker introduced techniques for material investigation of fibre type, degree of processing, sizing agents and fillers which she and Kropf conducted in their study of a selection of dated and localized papers from the Islamic Manuscripts Collection at the University of Michigan. The second and third days of the course were filled with practical, hands-on papermaking sessions conducted in the BLCC Mary Welch Conservation Studio. After an introduction by Siedler and Barrett to the practical steps of sheet formation and couching, participants took their own turns at the vats, working separately with hemp and flax at different degrees of processing and in different concentrations (in order to produce thicker and thinner sheets). They formed and couched their own sheets, and then were guided in pressing, parting and drying the sheets. The next day, Siedler and Baker introduced participants to the steps of sizing dried sheets with starch paste, allowing them to dry, and then burnishing them with smooth agate stones. All participants had a chance to attempt sizing and burnishing before continuing to make sheets of paper at the vats. Papermaker Jacques Brejoux introduced fiber beaten in his

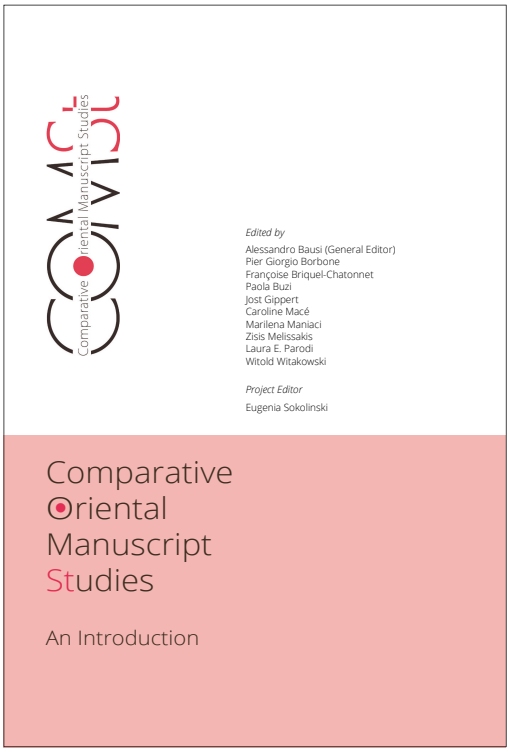
reconstructed medieval stampers, and participants also produced sheets from the resulting pulp. The newly made sheets were again pressed and dried. That afternoon, Brejoux introduced some of his attempts at replicating historical papermaking techniques, and anthropologist and paper historian Alexandra Soteriou briefly surveyed her travels through areas of India documenting the practices of living papermakers. Barrett taught participants to sort their newly made papers by quality. On the last day of the course, participants were introduced to a selection of historical paper samples and subsequently to examination techniques for papers appearing in manuscripts working from a few samples from The British Library collections.

On 27 March 2015, a symposium was held with a number of contributions from course instructors, participants and British Library colleagues. Siedler presented on reconstruction of Islamic papers and Kropf presented on assessing the material qualities of Islamic manuscript papers in the course of cataloguing and more sophisticated material investigation. Next, conservators Zoe Miller and Flavio Marzo presented on their work with Islamic manuscripts from The British Library's collections. Soteriou presented her journey through India to document the extant papermaking heritage there, researcher Jean-Louis Estève presented the results of his investigations of the zig-zag in Arabo-Andalusian papers, and Brejoux presented some of his experiments with historical papermaking practices. Finally, a few of the symposium participants were treated to a demonstration of papermaking by Barrett and Siedler.

For the full programme visit http://www.islamicmanuscript.org/symposia/traditions-of-papermaking-in-the-islamic-world/programme.aspx.

Evyn Kropf, University of Michigan, Ann Arbor

Comparative Oriental Manuscript Studies. An Introduction



With contributions by: Felix Albrecht; Per Ambrosiani; Tara Andrews; Patrick Andrist; Ewa Balicka-Witakowska; Alessandro Bausi; Malachi Beit-Arié; Daniele Bianconi; André Binggeli; Pier Giorgio Borbone; Claire Bosc-Tiessé; Françoise Briquel-Chatonnet; Paola Buzi; Valentina Calzolari; Alberto Cantera; Laurent Capron; Ralph M. Cleminson; Marie Cornu; Marie Cronier; Lorenzo Cuppi; Javier del Barco; Johannes den Heijer; François Déroche; Alain Desreumaux; Arianna D'Ottone; Desmond Durkin-Meisterernst; Stephen Emmel; Edna Engel; Zuzana Gažáková; Antonia Giannouli; Jost Gippert; Alessandro Gori; Oliver Hahn; Paul Hepworth; Stéphane Ipert; Grigory Kessel; Dickran Kouymjian; Paolo La Spisa; Isabelle de Lamberterie; Hugo Lundhaug; Caroline Macé; Marilena Maniaci; Michael Marx; Alessandro Mengozzi; Manfred Mayer; Joseph Moukarzel; Sébastien Moureau; Mauro Nobili; Renate Nöller; Denis Nosnitsin; Maria-Teresa Ortega Monasterio; Bernard Outtier; Laura E. Parodi; Tamara Pataridze; Irmeli Perho; Delio Vania Proverbio; Ira Rabin; Arietta Revithi; Valentina Sagaria Rossi; Nikolas Sarris; Karin Scheper; Andrea Schmidt; Denis Searby; Lara Sels; David Sklare; Wido van Peursen; Annie Vernay-Nouri; François Vinourd; Sever J. Voicu; Witold Witakowski; Jan Just Witkam; Ugo Zanetti.

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