

Chapter 4. Cataloguing

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1. What a catalogue is and the emergence of scientific cataloguing (PB)*

The history of catalogues is strongly interwoven with that of book collections. A book collection without a catalogue would be just a repository, while a catalogue without a book collection would be a *contradictio in adjecto*. This statement is even more valid in the case of manuscript collections, since a manuscript, unlike a printed book, represents an *unicum* and only a detailed and precise description may tell its complete history.

Outlining the long history of catalogues in a few pages, even if limited to catalogues of manuscript books, is not an easy task. Descriptive models have undergone profound changes over the centuries, both because of the different cultural contexts in which they have been conceived and because of the diverse organization and function of the book collections over the ages. Moreover, it is undeniable that the dimensions of a collection have a strong influence on the applied descriptive models: large collections, accessible to the public, require longer and more detailed descriptions compared with small, private collections.

Despite these necessary preliminary remarks, it is possible to state that three main aims have more or less always characterized cataloguing praxis: 1) identification of a book within the collection in which it is preserved; 2) economic evaluation of a book as a precious object; 3) identification of a book for administrative purposes.

The first of these aims, in particular, involves the double nature—physical and intellectual—of the ‘accessibility’ of a book, the first being guaranteed by the description of the most evident external features (such as the bookbinding or the dimensions, but also the mention of the most important work contained in the book). The intellectual ‘accessibility’, on the other hand, is clearly related to the interests and the purposes of the person who makes use of the collection and consults its catalogue(s). Since traditionally these interests have been almost exclusively limited to the texts (and sometime extended to the decorations) contained in a manuscript, for a long time catalogues have been mainly conceived as the answer to the questions of philologists, and sometimes of art historians. Dealing with a text, a scholar might need to discover how many manuscripts were involved in its transmission; being aware of the existence of a specific manuscript (or of its shelfmark) he might want to know which texts it contained; knowing that a manuscript contained a specific work, he could be interested in finding out if the text was complete and in comparing it with that transmitted by other manuscripts; or, more simply, he could be interested in defining, at least approximately, the date of the manuscript or its history (its owners, its passages from one library to another, etc.).

In brief, texts (including music) and decorations are the main elements which for centuries have conditioned the preservation and the use of manuscripts, and therefore also the structure of catalogues. Consequently, it is not surprising that the ‘modern’ catalogues of western and oriental manuscripts compiled by learned scholars who visited European libraries during Renaissance, were merely inventories which only mentioned the texts. On the other hand, the material aspects of books have been neglected for a long time, to the point that the first ‘scientific’ catalogues (eighteenth century) limited the physical description to the writing support and the date. Only from the nineteenth century have other features been slowly taken into consideration systematically: dimension of the leaves, layout (mainly in one, two or more columns), decoration, bookbinding, provenance, and later, number of lines.

Only very recently have catalogues tried to satisfy other kinds of interests, providing information about the physical and material characteristics of manuscript books, about their manufacture and their nature of complex objects, in order to endeavour to answer the questions of other categories of scholars, such as codicologists and historians of manuscript books.

Remaining in the geo-chronological limits of this volume (cf. General introduction § 1) and therefore excluding archives and libraries of more ancient cultures—such as those found in Ebla (Syria), in Tell el-Amarna (Egypt) or in Mesopotamia—, which would require a separate analysis, we will try to summarize here—without any claim of being exhaustive—some of the main steps in cataloguing history.

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It can be asserted that the necessity of cataloguing books dates back to the end of the fifth or the beginning of the fourth century BCE, a period that marked a crucial moment in the history of culture, which has been appropriately defined as the passage from the ‘civilization of the oral word’ to the ‘civilization of the written word’ (Cavallo 1988, 29–67).

At that time, oral tradition was no longer perceived as a satisfactory means of preserving the contents of a literary product, and extensive efforts were made to fix the ‘official version’ of it, often under the supervision of its own author or of the cultural milieu related to him. At the beginning, it was judged sufficient to preserve only one copy of a work—sometimes authenticated by means of a seal or a sign—normally depositing it in the main town temple or within the ‘school’ of its author. At that time the few structures where books were kept (temple storerooms, private buildings or philosophical schools) were intended mainly as places for conservation and not for consultation.

The situation changed completely with Hellenism and the creation of the first libraries (in Rome they would appear only at the end of the Republic), many of which were founded in lands of conquest (Alexandria, Pergamum, Antioch, etc.). The book, from a mere mnemonic aid and guarantee of the official character of the text, then became a tool for conservation of knowledge and, slowly, also of cultural circulation. At the same time the nature of the places where manuscripts were preserved changed radically from archives to scriptoria and reading places, although only accessible to a select group of people (Cavallo 2004a, 2004b; Andrisano 2007).

The next logical and indispensable step was that of controlling the book patrimony of a library, which was in continuous growth and therefore in need of a classification. It is the birth of the catalogue.

The first example of such a new tool about which we have enough information is represented by the *Pinakes*, attributed to Callimachus of Cyrene (fourth–third century BCE), first librarian of the library of Alexandria. Composed of 130 books, later enlarged by Aristophanes of Byzantium, Callimachus’ work not only registered the volumes contained in the library, systematically describing the physical aspect of each manuscript, but also provided a brief profile of the authors, who, subdivided according to the literary genre—tragic poets, historians, philosophers, rhetoricians, etc.—were listed in alphabetical order, mentioning all the works attributed to them. The title of the works—probably introduced systematically specifically in this period—was followed by the literary genre, the dialect, the number of books the work was composed of, the incipit, the number of lines, and a brief summary (this last only for tragic poems). It is extremely interesting to notice the presence of a systematic mention of the *incipit*, which has represented for a long time—and in a way it continues to do so—the most trustworthy means of identifying a work transmitted by a manuscript, especially in the case of works with the same title or in that of more recensions of the same work (cf. Ch. 3 § 2.1).

From that moment on, the description and quantification of the book heritage of a library—no matter if private or public, big or small—became a necessity, and, although we do not have many other examples of ancient catalogues as articulated and detailed as the *Pinakes* (and very likely the library of Alexandria itself was also provided with more concise inventories), Ptolemaic-Roman Period and Late Antiquity produced a long list of catalogues and indexes of different nature. Book lists and inventories of monastic communities, private collections and ‘state libraries’—on *ostraca*, papyri, parchments, wall paintings (White Monastery of Shenoute, Egypt) and inscriptions (Basilica of Rhodes, harbour of Piraeus)—have been found during several excavations carried out in Egypt, Greece and Rome. Literary sources are no less generous. Athenaeus of Naucratis (VIII, 336e) and Dionysius of Halicarnassus (*Dein.*, 1,2; 11, 18), for instance, confirm that the library of Pergamum also had its own *Pinakes*. In Rome, Quintilian (*Inst. or.* X, 1, 57) stresses the importance, even for a private library, of being equipped with an index, while Seneca (*De tranq. an.* 9, 4) laughs at those who collect hundreds of books but during their lifetime do not even find the time to read the catalogue. Thematic catalogues are also well attested, such as those which list works of the same literary genre or of the same author. This is the case of the *index philosophorum* that Seneca recommends Lucilius to consult (*Ep. ad Luc.* 39,2) or of the so-called ‘Lamprias catalogue’ (third–fifth centuries?) mentioning Plutarch’s works thematically.

The catalographic praxis of the Middle Ages, both western and oriental, until at least the end of the fifteenth century, normally consists of very concise lists characterized by rather brief descriptions—limited to the title and the author’s name—often intended to assess the value of the book collection for probate purposes (cf. for instance the six mediaeval inventories preserved in the Capitulary and Episcopal archives in Pistoia, Italy; Fiesoli – Somigli 2009, 243–257).

These inventories are mostly lists of *auctoritates* (Bible, Early Church Fathers, etc.) and do not follow any ‘model’—even in the same document, books may be described in different ways—although, as is obvious, the features which are more often taken into consideration are the most evident ones (format, bookbinding, writing, etc.). On the other hand, more accurate descriptions, which required a longer preparatory work, are not absent, above all in the case of large libraries.

Sometimes, book inventories of private collections are compiled in order to be included in a will. Representing an important part of the property of an individual, it is not rare for a description of a private library also to include the economic value of a book, a datum which does not appear in the inventories of monastic libraries, their books being less subject to be sold, exchanged or dispersed.

Slowly, however, the physical description of books was integrated with information about their use (prayer, meditation, exercise of a profession, etc.) or about the place where specific manuscripts were preserved, combining the traditional necessity to identify a book as a precious object with the cultural interest it represents (Nebbiai-Dalla Guardia 1992; Petrucci 2001).

Among examples of mediaeval oriental catalogues there are several inventories found in Egypt, mainly on *ostraca* and mostly to be attributed to monastic communities (seventh to eleventh centuries), which list nothing more than the contents of the works, the language (Greek or Coptic) and sometimes the writing support (papyrus or parchment).

It is worth mentioning also the existence of numerous book lists found in the Cairo Geniza (see Ch. 1 § 9.1.2), which represent the earliest surviving catalogues of Hebrew manuscripts (eleventh to thirteenth centuries), recording the contents of private libraries, booksellers’ collections, synagogue libraries, etc., where the books are listed by subject, author, or shelf on which they are preserved in the library. They do not describe anything more than texts and, sometimes, bookbinding (cf. Ch. 4 § 2.7).

More accurate, on the other hand, is the inventory of the library of the monastery of St John the Theologian on Patmos (c.1200), written on an oriental paper roll, where information about the contents, the material (parchment or paper), and sometimes the date and the dimensions of manuscripts are provided (Diehl 1905; Astruc 1981; Bompaire 1979; see also Ch. 4 § 2.6).

The necessity of describing manuscript books in a way which was detailed enough to enable their identification and their use by the owner of the library or other users is a later achievement, which took place during the age of the Renaissance and, above all, during the age of the Enlightenment in Western Europe, but had a strong influence also on the cataloguing of oriental manuscripts.

Good examples of this progress are represented by the ‘old’ catalogues of the Burgerbibliothek in Bern and in particular by that compiled by Samuel Hortin (1634). Almost six hundred Greek, Arabic and Hebrew manuscripts—plus more than three thousand printed books—are subdivided in thematic classes and described both under the textual and the material aspect; an index of the authors is also provided (Andrist 2007a, 36–43).

Several elements contributed to such decisive progress in cataloguing in general and in the cataloguing of oriental manuscripts in particular: the formation of more and more private and public libraries, the systematic acquisition of manuscripts from the Near and Middle East, the interest in the witnesses of the spread of ancient Christianity in exotic lands, the foundation of oriental studies all over Europe, the increasing activities and travels of philologists, often operating under the protection of owners of libraries (this is the case, for instance of Stefano Borgia or Giacomo Nani who both had important collections of manuscripts, in Rome and Venice, respectively), most of whom were specialists in oriental languages, and the consequent edition of unknown texts, to mention but a few of them.

Slowly but progressively the catalogue stopped being a mere list of books, and began to fulfil the task of scientifically describing a manuscript, answering all the possible questions of users—although, at the beginning, mainly those of philologists (we should not forget that accurate cataloguing is the necessary premise for any serious study of a text, see Ch. 3 § 2.1.3), and of art historians, and only much later those of other scholars, such as codicologists, palaeographers, historians of books, etc.

Unlike a printed book, a manuscript represents an *unicum* and only a detailed and precise description can tell its complete history. In brief, a catalogue of manuscripts, whatever the catalographic choice behind it—analytical or summary catalogue (see Ch. 4 § 3)—and the cultural and linguistic area to which it is applied (see Ch. 4 § 2), is a scholarly tool, produced by someone other than the authors of the manuscripts themselves, which should provide, in a clear and consistent form, all the information that a scholar

would expect to find and which allows him to work on a manuscript for his own research even before an inspection *de visu* or, at least, prior to obtaining photographic or digital reproductions of it.

This chapter outlines the history of cataloguing of the main oriental manuscript traditions (Arabic, Armenian, Coptic, Ethiopic, Georgian, Greek, Hebrew, Persian, Slavonic, Syriac, Turkish), describing how the ‘philosophy’ of description has changed over the centuries, from the first scientific catalogues, normally dating back to the age of Enlightenment, to the most recent projects of digital catalogues (see Ch. 4 § 2). Two brief sections dedicated to describing the different types of catalogues in use—checklists or inventories, summary catalogues, analytical catalogues—and the catalogues of decorated manuscripts follow (see Ch. 4 § 3). The analysis of new trends in codicology and study of the history of books, which look at the ancient manuscript as a complex object, and the consequent ‘stratigraphic’ organization of the codicological descriptions in some recent cataloguing projects is the topic of Ch. 4 § 4. This section aims to suggest the best practice of cataloguing when time and economic conditions permit an accurate approach. The elements that cannot in any case be omitted from the description of a manuscript are the subject of the fifth subchapter (see Ch. 4 § 5). Lastly, the closing section is dedicated to the cataloguing of oriental manuscripts in the digital age, to the description of ongoing projects and to the different descriptive and methodological choices which are behind them (see Ch. 4 § 6).

References

Andrisano 2007; Andrist 2007a; Astruc 1981; Bompaire 1979; Cavallo 1988, 2004a, 2004b; Diehl 1905; Fiesoli – Somigli 2009; Hortin 1634; Nebbiai-Dalla Guardia 1992; Petrucci 2001.

2. A summary history of cataloguing

2.1. Catalogues of Arabic manuscripts (IP)

Arabic manuscripts were written during a period of fourteen centuries starting in the seventh century CE and extending to the first half of the twentieth century. The estimates of Arabic manuscripts that have survived and are held in various libraries and private collections vary. *The World Survey of Islamic Manuscripts* edited by Geoffrey Roper and published in 1992–1994 provides information on numbers of Arabic manuscripts in various holdings world wide. Although the information given is not complete, a total estimate of seven million provided recently seems probable. Approximately one third of the existing manuscripts have been presented in published catalogues. A further third is recorded in unpublished catalogues or hand lists in various collections. The final third lies uncatalogued in cupboards, on open shelves, in sacks, and in wooden or cardboard boxes in private and public libraries in the Middle East, Asia and Africa.

The World Survey of Islamic Manuscripts, mentioned above, provides titles and occasionally even short descriptive comments on catalogues published up to early 1990s. The survey is complemented by the more recent ‘Catalogues of catalogues’ and ‘Catalogues and lists of rare manuscripts’ in Adam Gacek’s *The Arabic Manuscript Tradition* (Gacek 2001) with further updates in the *Supplement* (Gacek 2008). These bibliographies replace older surveys such as Vajda – Durantet 1949, Huisman 1967, Pearson 1971, and the lists of catalogues given in volumes VI and VIII of Fuat Sezgin’s *Geschichte des Arabischen Schrifttums* (Sezgin 1967–2010). A good list of on-line manuscript catalogues can be found in the Islamic Manuscript Studies section of *Research & Technology Guides* provided by University of Michigan Library <<http://guides.lib.umich.edu/islamicmsstudies/onlinecatalogues>>.

The earliest catalogue containing Arabic manuscripts was *Bibliotheca Orientalis Clementino-Vaticana* by Assemani, printed in Rome 1719–1728. Assemani wrote the catalogue in Latin but added the titles in original languages. The catalogue focused on the content of the texts but codicological details were also given, yet not in a systematic order (Heinen 1994, 631). Further early catalogues were Casiri 1760–1770 on manuscripts in the Escorial Library and Uri 1787 on manuscripts in the Bodleian Library, Oxford. In these catalogues the manuscripts were arranged first thematically and then according to size (*folio*, *quarto*, *octavo*). The titles and the names of authors were given in Arabic and the short descriptions are in Latin. The same method continued to be observed in many of the catalogues published up to the middle of the nineteenth century, among them William Cureton’s catalogue of the Arabic manuscripts in the British Museum, printed in London in 1846. The focus of these early catalogues was in establishing the identity of the text and in defining its content and subject matter. The description of the physical details of the manuscript was restricted to the absolute minimum, listing support material (paper, parchment), approximate size (*folio*, *quarto*, *octavo*) and number of folia. Any major damage was mentioned. The calligraphic style was only rarely specified and sometimes a comment on the quality of the calligraphy is added (*nitide exaratus*, *elegantissime*, *manu rudi*) and, when relevant, the decoration was briefly described. The binding was never described and only sparse information on provenance was given.

In the latter part of the nineteenth century, Latin gradually lost its position as the western scholarly language. This is reflected in the manuscript catalogues, as well, and the national languages began to dominate: German libraries published their catalogues in German and French libraries in French but though changing the cataloguing language, the cataloguers followed the classical standard established by the early cataloguers such as Casiri, Uri and Cureton. The cataloguers saw as their main goal reliably to identify the author and title of each manuscript and briefly to describe their content. One of the best examples of the classical standard is Wilhelm Ahlwardt’s catalogue from 1887–1899 describing the holdings of the Royal Library in Berlin. Compared with the above mentioned early catalogues, Ahlwardt’s entries are longer and more detailed. He usually lists the table of contents stating the folia where the chapters begin. In addition, he gives 1–2 lines both from the beginning and the end of the texts. Ahlwardt’s major work of reference is Ḥaġġī Ḥalīfa’s (1609–1657 CE) bibliographic lexicon *Kašf al-ẓunūn* edited and published in 1835–1858.

Although the main focus in Ahlwardt’s catalogue remains on identifying the texts and describing their contents, his description of the physical aspects of the manuscripts is somewhat more detailed than in the above mentioned Latin catalogues. He describes in few words not only the support material and

its condition but also the binding. In addition, he gives the number of lines on each page and adds the dimensions of both the folia and text area in centimetres. A major improvement on the earlier catalogues is Ahlwardt's detailed indexing (volume 10 of the catalogue). Not only are the titles and authors indexed but also scribes, calligraphic types and copy dates. The fact that Ahlwardt prepared an index of calligraphic types is a first indication that scholarly interest was no longer solely focused on the texts themselves but was beginning to include palaeography.

Ahlwardt's meticulous descriptions made his catalogue a valuable reference work for later cataloguers trying to identify manuscripts. The other major reference works favoured and routinely quoted by cataloguers in western libraries are the above mentioned *Kaṣf al-ẓunūn* and Carl Brockelmann's *Geschichte der Arabischen Litteratur* I–II, originally published in 1898–1902. Brockelmann's work contains biographical information on authors and lists their works, giving references to the manuscript holdings of various libraries. Brockelmann's work excludes Christian Arabic religious literature and is in this respect complemented by Georg Graf's *Geschichte der christlichen arabischen Literatur* I–V (1944–1953).

There are a few catalogues specifically devoted to Christian Arabic manuscripts. One of them is Georg Graf's catalogue of Cairo manuscripts published in the Vatican in 1934. Graf compiled the catalogue while working on his history of Christian Arabic religious literature mentioned above. The Mount Sinai collection in the Monastery of St Catherine is the largest collection of Christian Arabic manuscripts and it also contains many of the oldest existing manuscripts. The first 300 manuscripts are described in the first volume of the *Catalogue raisonné* by Aziz S. Atiya and Joseph N. Youssef, published in Alexandria in 1970. Among the very best catalogues of Christian manuscripts is the two-volume work by Gérard Troupeau published in Paris in 1972–1974. Apart from identifying the various texts, Troupeau gives a succinct physical description of the manuscripts keeping to the tradition exemplified by Ahlwardt. Another feature resembling Ahlwardt's catalogue is the inclusion of extensive indexes. For further remarks, cf. Bausi 1993.

In the early decades of the twentieth century appear the first catalogues describing collections in Algeria (Ben Cheneb 1909), Morocco (Lévi-Provençal 1921), Egypt (Abū 'Alī 1926–1929), and India (Ivanow – Hosein 1939). The description followed the standards set by the late nineteenth century European cataloguers. In Europe, the major collections had been recorded and the interest focused partly on updating the existing catalogues (for example Blochet 1925) and partly on cataloguing smaller collections. A good example of the latter type is Alphonse Mingana's catalogue of the Arabic manuscripts in the John Rylands Library in Manchester (Mingana 1934a). In addition to textual comments, Mingana paid attention to the number of hands involved in the copy and he also commented on the marginal notes. Further, if the manuscript displayed seal stamps, he deciphered the names engraved in them.

Mingana's comments on hands, marginal notes and seal stamps attest a continuation of the gradual understanding of the manuscript not only as a repository of text but also as an artefact of its own right. This change of attitude culminated in Jan Just Witkam's catalogue of Arabic manuscripts in the Netherlands printed in Leiden 1983–1986. Witkam did not only pay attention to the number of scribes who had been involved in creating the manuscript but was, more importantly, the first cataloguer to describe the composition of quires.

Among recent large cataloguing projects in Europe, is the on-going German series *Verzeichnis der orientalischen Handschriften in Deutschland* (VOHD). Within this project, ten volumes of catalogues of Arabic manuscripts have been published in the period 1976–2010 (Wagner 1976–2010). These catalogues follow the classical system exemplified by Ahlwardt's catalogue. They focus on identifying the texts and authors with references to both Ahlwardt and Brockelmann. The palaeographic and codicological information follows the example set by Ahlwardt and remains rather sparse. A new feature in these catalogues when compared with Ahlwardt's is the inclusion of owners' marks among the description parameters, which speaks of a growing interest in the ownership history of the individual manuscripts. This interest is also reflected in the recent catalogue of the Arabic manuscripts in the Royal Library, Copenhagen (Perho 2007) where an effort has been made to establish the provenance of the manuscripts.

The classical cataloguing method developed in western libraries continues to be observed by cataloguers working in the Arab countries and Iran. Among the best examples of recent catalogues are Yūsuf Zaydān's catalogue of the Arabic manuscripts in the Rifā'at Rāfi' al-Taḥṭāwī Library in Sūhāg, Egypt (Zaydān 1996–1997) and the catalogue of the manuscripts in the library of Āyatollāh al-'Ozmā Naḡafī Mar'aṣī in Qom, Iran, by Sayyed Aḥmad Ḥosaynī (Ḥosaynī 1975–2010).

The classical catalogues restricted themselves to describing the manuscripts in words and did not contain any photographs of the manuscripts. In recent decades this has changed and some catalogues include black and white or colour photographs. For example, the above mentioned Iranian catalogue contains some photos placed as an appendix to each volume. Richly illustrated catalogues of Arabic manuscripts have been produced in The Royal Library, Copenhagen. The catalogues Alhussein Alhaidary – Rasmussen 1995, Perho 2003 and Perho 2007 contain good quality photographs of the beginning and end of each manuscript. The latter two catalogues have in addition some colour reproductions. Otherwise, these catalogues follow the classical standard in that the main focus is on the texts and codicology receives less attention.

All the above mentioned catalogues are traditional printed catalogues but in recent years some libraries have included their Arabic manuscripts in electronic catalogues available on the internet. Some of these catalogues are very basic, like the *Indian National Mission for Manuscripts* (<<http://www.namami.org/pdatabase.aspx>>), giving only the minimum of information in each entry whereas others give more detailed descriptions. A fine example of a more detailed approach is *Wellcome Arabic Manuscripts Online* that is a partnership between the Bibliotheca Alexandrina, Wellcome Library and King's College London (<<http://wamcp.bibalex.org/home>>). Another good example of this new focus is the on-going catalogue project of the *Islamic Manuscript Collection* at the University of Michigan, Ann Arbor (<<http://www.lib.umich.edu/islamic/>>).

In both the Wellcome and Michigan catalogues, the entries contain extensive description of the manuscripts as physical objects giving details of collation, layout, script, decoration, support and binding. They respond to the growing scholarly interest in the codicology of Arabic manuscripts by including information on production detail. While the classical catalogues mainly benefited the philologists and other text based scholars, new catalogues such as the Wellcome and the Michigan have begun to give relevant information to codicologists and art historians, as well. An added bonus of the two electronic catalogues is that each entry connects with complete digitized versions of the manuscript and enables the user to leaf through the manuscript in a virtual form.

The cataloguing of Arabic manuscripts has supported the interests and trends within research. In the eighteenth and nineteenth centuries, the catalogues helped to establish the history of the various genres of Arabic literature; later research interest and, correspondingly, the cataloguers' interest gradually expanded to consider the manuscript not only as a carrier of a text variant but also as an artefact that documents the history of manuscript culture. As only about one third of existing manuscripts are described in published catalogues, a vast task remains to prepare complete catalogues of partly or inadequately described manuscripts and, especially, to locate, record and secure the survival of the large numbers of completely uncatalogued material.

References

Abū 'Alī 1926–1929; Ahlwardt 1887–1899; Alhussein Alhaidary – Rasmussen 1995; Assemani 1719–1728; Atiya – Youssef 1970; Bausi 1993; Ben Cheneb 1909; Blochet 1925; Brockelmann 1899–1902 = 1943–1949; Casiri 1760–1770; Cureton 1846; Gacek 2001, 2008; Graf 1934, 1944–1953; Ḥağğī Ḥalīfa 1835–1858; Heinen 1994; Ḥosaynī 1975–2010; Huisman 1967; Ivanow – Hosein 1939; Lévi-Provençal 1921; Mingana 1934a; Pearson 1971; Perho 2003, 2007; Roper 1992–1994; Sezgin 1967–2010; Troupeau 1972–1974; Uri 1787; Vajda – Durantet 1949; Wagner 1976–2010; Witkam 1983–1986; Zaydān 1996–1997. Web sources: *Indian National Mission for Manuscripts* <<http://www.namami.org/pdatabase.aspx>> accessed August 2013; *Islamic Manuscript Collection* at the University of Michigan, Ann Arbor <<http://www.lib.umich.edu/islamic/>> accessed August 2013; *Wellcome Arabic Manuscripts Online* <<http://wamcp.bibalex.org/home>> accessed August 2013.

2.1.1. Catalogues of Arabic manuscripts from Africa (MN–AGo)

Another area of Arabic manuscript production is the African continent, as testified by the *Arabic Literature of Africa* coordinated by John O. Hunwick and Rex S. O'Fahey (ALA). Although not a catalogue, this multi-volume work is an indispensable research tool comparable to the above mentioned *Geschichte der Arabischen Litteratur* for the African context—and especially as sub-Saharan Africa is almost completely neglected by Brockelmann.

2.1.1.1 West Africa (MN)

As for West Africa, the first pioneering work on Arabic collections dates back to the early twentieth century, when Louis Massignon presented an index of selected manuscripts from the inventory compiled by the French colonial administrator Henry Gaden of the *Šayḥ* Sīdiyya Bābā (1862–1924) family library, one of the most important in Mauritania (Massignon 1909). However, it is from the late colonial period to the early post-colonial period, that the first attempts to describe West African manuscript collections systematically started, with the publication of a number of checklists of manuscripts kept in different collections from Ghana, Nigeria and Senegal (Kensdale 1955–1958; Arif – Abu Hakima 1965; Boyo et al. 1962; Diallo et al. 1966).

The first description of a collection of West African manuscripts in Europe is the inventory of the Fonds Archinard kept in the Bibliothèque nationale de France published in 1985 (Ghali et al. 1985). The same model of manuscript description was followed by Ulrich Rebstock who accomplished the amazing task of microfilming 2,239 manuscripts from Mauritanian libraries and completed an inventory of these materials that was published (Rebstock 1989). A more detailed catalogue of another important European collection of West African manuscripts, the Fonds de Gironcourt, has recently been published by Nobili (2013) within the *Series Catalogorum*, a series devoted to cataloguing collections of Arabic manuscripts.

However, the main contribution in the field of cataloguing and manuscript studies comes from the al-Furqān Islamic Heritage Foundation, which has launched an important project of analysis of manuscript collections from sub-Saharan Africa. With more than ten publications, the al-Furqān endeavour consists of works of very a different nature, ranging from checklists of manuscripts, like the inventory of the manuscripts of the Institut des Hautes Etudes et de Recherches Islamiques Ahmed Baba in Timbuktu, Mali—formerly Centre de Documentation et de Recherches Ahmed Baba (Sīdī ‘Umar et al. 1995–1998) or that of the libraries of *Šayḥ* S.M. Cisse *al-Ḥāğğ* Malick Sy and Ibrāhīm Niasse (Ñass) in Senegal (‘Utmān Kan 1997), to catalogues, such as the ones of the Mamma Haidara library of Timbuktu (‘Abd al-Qādir Mammā Ḥaydara – Ayman Fu’ād Sayyid 2000–2003) or the Institut de Recherche en Science Humaines of Niamey, Niger (Ḥasan Mawlāy – Ayman Fu’ād Sayyid 2004).

A number of online catalogues have also been developed in the last decade, such as the one of the West African collections of manuscripts of the Herskovits Library of African Studies at Northwestern University (<<http://digital.library.northwestern.edu/arbms/index.html>>), and the new, updated version of the Bibliothèque nationale de France (<<http://archivesetmanuscrits.bnf.fr/cdc.html>>, section ‘Manuscrits d’Afrique sub-saharienne’). A database, including complete images of 2,600 Mauritanian manuscripts (most of them described in Rebstock 1989), along with a scanty description, is the Oriental Manuscript Resource (OMAR), developed by the University of Tübingen, which includes full reproductions of the manuscripts described (<<http://omar.ub.uni-freiburg.de>>). Finally, worthy of mention under the category of electronic catalogues is the West African Arabic Manuscripts Database, a bilingual (Arabic and English) union catalogue that includes a search engine developed by Charles C. Stewart (<<http://www.westafricanmanuscripts.org>>). In its 3.0 version, the database contains descriptions of more than 20,000 manuscripts included in eleven different collections. (For a more complete overview, see Nobili 2011, 2012 = 2012/2013.)

While all these contributions represent a crucial step towards the appreciation of the West African manuscript heritage, it is possible to extend the observation that Graziano Krätli makes on some of them, when he states that ‘they were conceived and implemented to serve literary interests and purposes. Therefore, they meet the expectations and the needs of literary scholars, but inevitably disappoint codicologists and other students of the book as a material and technological object’ (Krätli 2011, 329).

2.1.1.2 Northeast and East Africa (AGo)

Unlike West Africa, the Horn of Africa has been long neglected by scholars of Arabic and Islamic manuscripts. The lack of attention and interest is clearly mirrored in the very limited number of known manuscript collections and in the astonishingly scanty amount of available catalogues which, moreover, contain only vague palaeographical and codicological descriptions of the items (for a general assessment of the situation see Gori 2007).

The Institute of Ethiopian Studies at Addis Ababa University hosts the biggest well structured collection of Arabic-Islamic manuscripts in Ethiopia. The collection was summarily described by Jomier 1967 and Hussein Ahmed 1994. A first descriptive handlist of three hundred and three Islamic manuscripts (mainly in Arabic but also in local languages written in Arabic script, *‘ağamī*) has now appeared within

the framework of the Ethiopian Manuscript Imaging Project (Gori 2014). Far from being a full-fledged catalogue, the handlist basically aims at the identification of the main texts preserved in the manuscripts; it also contains some pioneering remarks by Anne Regourd on bindings and watermarks.

In Pavia a small collection of twelve Ethiopian Islamic manuscripts is kept at the Civic Library 'Carlo Bonetta'. The items were acquired in the Muslim town of Harar (East Ethiopia) in 1888–1889 by the Italian engineer and adventurer Luigi Robecchi Bricchetti. Renato Traini in 1973 catalogued the collection which represents a valuable example of the manuscript culture in Harar and gives a clear idea of the Muslim religious literature circulating in the town (see also Vicini 1987 and Gori 2009).

The Biblioteca Apostolica Vaticana has fourteen Islamic manuscripts from the Horn of Africa (five from Somalia; nine from Ethiopia) which were all but one acquired by Enrico Cerulli during his stays in the area. Despite their small number, they were placed in two different collections. Ten manuscripts were included in the general Arabic Islamic collection and were catalogued by Giorgio Levi Della Vida (1965, xx, 146–159). The remaining were considered part of the 'Cerulli Etiopici' collection and were described by Osvaldo Raineri (Cerulli 2004, 232–239).

Ewald Wagner (1997) has produced the only so far existent catalogue programmatically and exclusively devoted to Islamic manuscripts from Ethiopia. The items described in the volume are basically of three kinds: 1) photocopies of manuscripts kept at the Staatsbibliothek in Berlin the originals of which are scattered in different locations in Ethiopia and Europe; 2) manuscripts of the private collection of Ewald Wagner now preserved at the Staatsbibliothek in Berlin; 3) manuscripts of the Nachlaß Hans Martin Schlobies kept at the Archiv der Berlin-Brandenburgischen Akademie der Wissenschaften. The structure of the catalogue and the description of the items strictly follow the model of Wilhelm Ahlwardt's *Verzeichnis der arabischen Handschriften der Königlichen Bibliothek zu Berlin* (see above) and differ from the standardized format of the VOHD series to which it belongs (for the review of the catalogue see Gori 1999).

The Library of the Institute of Oriental Manuscripts of the Russian Academy of Sciences in St Petersburg preserves the manuscripts acquired by the Russian poet and adventurer in Ethiopia, Nikolay Gumilev. No catalogue of the collection is available: only a brief description of the items has been provided by Dobronravina 2006.

A few more Islamic manuscripts coming from Ethiopia can be found scattered in several different libraries in Europe (for example the Bibliothèque nationale de France and the British Library). They are normally described in the general Arabic-Islamic catalogues of the institutions that house them.

Thirty-one Islamic manuscripts from Somalia are kept at the Library of the London School of Economics. The collection is made up of copies of manuscripts which Ioan M. Lewis had made during his field work in Somaliland between 1955 and 1957 and was described in a handlist first published by Andrzejewski – Lewis 1994 (reprint 1998). No other collection of Somali Arabic Islamic manuscripts is so far known (see for a general assessment O'Fahey 1994). The same can be said for Eritrea and Djibouti.

Moving towards East Africa, the situation described above shows some little but significant improvement. Not as forsaken as in the Horn of Africa, Islamic Arabic and Swahili manuscripts from Kenya and Tanzania have managed to draw the attention of some scholars, in particular of those specializing in Islamic studies and in Swahili traditional poetry. A few collections of manuscripts have come to light, especially in the main urban centres. For some of these collections handlists and general catalogues are available. Yet the study of the palaeography and the codicology of the East African Islamic manuscript is practically non-existent.

Several different collections of Islamic manuscripts are listed in the survey made in Kenya by Ahmad Shaykh Nabhani, Yahya Ali Omar and David Colton Sperling (Nabhani et al. 1993). None of these collections has so far been duly catalogued. However, the collection of the Riyadh Mosque in Lamu which hosts one hundred and thirty manuscripts and is considered the largest known in the country was fully digitized in 2011–2012 within the framework of a project financed by the Endangered Archive Programme of the British Library and Arcadia Fund and conducted by Anne Bang of the Christian Michelsen Institute in Bergen and the University of Cape Town; for seventy-nine of them brief descriptions have been provided online (EAP466: *The manuscripts of the Riyadh Mosque of Lamu, Kenya*, <http://eap.bl.uk/database/overview_project.a4d?projID=EAP466;r=13064>).

In Tanzania, Hamad Omar and Tigiti S.Y. Sengo (1994) list a few collections of manuscripts located in Dar Es Salaam and in Zanzibar (no data are available on other places). In the capital of the country, the

University Library hosts one hundred and two Islamic manuscripts (twenty-two Arabic; eighty Swahili), including photocopies and recently made copies of originals kept elsewhere (also in neighbouring Kenya and on the Comoros Islands). The items were catalogued by Allen 1970. The now apparently closed Eastern African Centre for Research on Oral Traditions and African National Languages (EACROTANAL) in Zanzibar had a collection of one hundred and twenty two old manuscripts from the island: twenty-five of them were catalogued by Mkelle in 1981 and the remaining ninety-seven were described in the anonymous three-volume *Bibliographie annotée* 1986–1988. Finally, the Zanzibar National Archives keeps a collection of Arabic and Swahili manuscripts: a checklist of the Arabic items is in Declich 2006.

As for the Comoro Islands, Ahmad Shaykh Nabhani and David Colton Sperling (1994) mention a few very small collections of manuscripts mostly in private hands. According to this source, the Centre national de documentation et recherche scientifique in the capital town of Moroni keeps twenty seven manuscripts in Arabic, Swahili and in the local Comorian language (Ngazija or Kingazija) but no catalogue is available.

Collections of manuscripts originating from Kenya and Tanzania and containing texts in several different dialects of Swahili written in Arabic script are also hosted in some European libraries. Those kept in Germany were catalogued by Dammann 1993 for the VOHD while those preserved at the School of Oriental and African Studies in London are catalogued in the on-line database <<http://www.swahilimanuscripts.soas.ac.uk>>.

References

‘Abd al-Qādir Mammā Ḥaydara – Ayman Fu’ād Sayyid 2000–2003; Allen 1970; Andrzejewski – Lewis 1994, 1998; Arif – Abu Hakima 1965; *Bibliographie annotée* 1986–1988; Boyo et al. 1962; Cerulli 2004; Dammann 1993; Declich 2006; Diallo et al. 1966; Dobronravin 2006; Ghali et al. 1985; Gori 1999, 2007, 2009, 2014; Ḥasan Mawlāy – Ayman Fu’ād Sayyid 2004; Hunwick – O’Fahey 1995–; Hussein Ahmed 1994; Jomier 1967; Kensdale 1955–1958; Krätli 2011; Levi Della Vida 1965; Massignon 1909; Mkelle 1981; Nabhani et al. 1993; Nabhani – Sperling 1994; Nobili 2011, 2012 (= 2012/2013), 2013; O’Fahey 1994; Omar – Sengo 1994; Rebstock 1989; Sīdī ‘Umar et al. 1995–1998; Traini 1973; ‘Utmān Kan 1997; Vicini 1987; Wagner 1997. Web sources: Bibliothèque nationale de France <<http://archivesetmanuscripts.bnf.fr/cdc.html>>; EAP466: The manuscripts of the Riyadh Mosque of Lamu, Kenya, <http://eap.bl.uk/database/overview_project.a4d?projID=EAP466;r=13064>; Herskovits Library of African Studies at Northwestern University <<http://digital.library.northwestern.edu/arbms/index.html>>; Oriental Manuscript Resource <<http://omar.ub.uni-freiburg.de>>; Swahili manuscripts at SOAS <<http://www.swahilimanuscripts.soas.ac.uk>>; West African Arabic Manuscripts Database <<http://www.westafricanmanuscripts.org>>.

2.2. Catalogues of Armenian manuscripts (AS)

About 31,000 Armenian parchment and paper manuscripts are known to be extant worldwide (Coulie 2014, 23; Kouymjian 2012a, 19; up to 34,000 if we count separate flyleaves and fragments). Of them, ninety percent or more have been identified and recorded (Kouymjian 1983, 425–437), making Armenian manuscript research quite advanced comparing to the other Christian oriental languages (Syriac, Ethiopic, and Coptic). The progress has been possible due to the fact that most Armenian manuscripts are not scattered in different ecclesiastic or private libraries but have been transferred to relatively few major collections. The most important repositories are in Yerevan (Matenadaran), Jerusalem (Armenian Patriarchate), Venice and Vienna (monasteries of the Mekhitarists), Isfāhān (Armenian diocese of New Julfa), and Bzummar in Libanon (Armenian Catholic monastery). Smaller collections are found in libraries in the United States, Russia, England, France, Germany, Italy and other parts of Europe (see also General introduction § 3.2).

Catalogue of Armenian catalogues

For Armenian cataloguing, researchers are in a quite comfortable situation having a ‘Catalogue of Catalogues’ at their disposal, which covers Armenian manuscript collections in public and private libraries and their status of cataloguing (Coulie 1992, with supplements 1995, 2000a, 2004, and 2014, 25). The *Répertoire* is arranged in alphabetical order according to the places of manuscript collections. An updated version by Coulie is in preparation at the Université catholique de Louvain, Belgium. It also lists collections that have now disappeared or identifies manuscripts displaced from those former collections.

CATALOGUE DES MANUSCRITS ARMÉNIENS DE LA BIBLIOTHEQUE DU ROY.

Dressé en 1735.

- | | |
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| <p>I.
<i>Volumes qui se sont trouvés à la Bibliothèque sous le Règne de Louis le Grand.</i></p> <p>A.
1. Traduction Armenienne du Missel Romain faite en 1381. par un Franciscain appelé Frere Bofius. Ce manuscrit a été copié sous le Pontificat d'Urbain VIII. dans le dix-septième siècle, <i>in-folio</i>.</p> <p>B.
2. Recueil de pieces concernant la Religion, contenant quinze petits ouvrages dont 6. sont fabuleux, <i>transcrit en 1554 in-4°</i>.</p> <p>C.
3. Version Armenienne des Epîtres de S. Paul parmi lesquelles, après la II. aux Corinthiens, se trouve une prétendue Lettre de l'Eglise de Corinthe à S. Paul, & une réponse de ce S. Apôtre. Cette réponse a pour titre, III. Epître de S. Paul aux Corinthiens, <i>transc. vers le 15. siècle, in-8°</i>.</p> <p>D.
4. Machetots, c'est-à-dire Rituel d'Arménie ainsi appelé de Machetots, 48. Patriarche de cette nation, qui est l'Auteur de ce Livre, & qui occupa le siege Patriarchal pendant le cours de l'année 899. <i>transc. en 1574. in-8°</i>.</p> <p>E.
5. Charaknots, ou Recueil des Cantiques qui se chantent à l'Office Divin dans toutes les Eglises d'Arménie, <i>transc. en 1554. in-12</i>.</p> <p>F.
6. Ordre des prières publiques qui sont en <i>Tom. II.</i></p> | <p>B usage dans les Eglises d'Arménie, <i>transc. en 1608. in-16.</i></p> <p>II.
<i>Volumes trouvés parmi les Manuscrits de M. Colbert dont le Roy Louis XV. a fait l'acquisition.</i></p> <p>A.
7. Aïsmavourq, c'est-à-dire, Menologe Armenien dans lequel se trouve la Vie des Saints, non-seulement de l'Eglise d'Arménie, mais de toutes les autres Eglises, <i>transc. en 1689. in-fol.</i></p> <p>B.
8. Explication de plusieurs passages du Nouveau Testament. Le reste de ce volume contient des pieces de controverse, composées par differens Auteurs, <i>transc. en 1276. in-4°</i>.</p> <p>III.
<i>Manuscrits choisis par les soins de Monsieur l'Abbé Sevin, de l'Academie Royale des Inscriptions & des Medailles, qui, par ordre du Roi, s'est transporté jusqu'à Constantinople en 1728. D pour y faire l'acquisition de quantité de Manuscrits Grecs auxquels il a réuni les volumes Arméniens qui s'y trouvent. Il a eu pour adjoint, dans son voyage, Monsieur Fourmont le jeune, Professeur en Langue Syriaque au College Royal.</i></p> <p style="text-align: center;">MANUSCRITS RELIEZ.</p> <p>A.
9. D-Jarrintir, c'est-à-dire, Recueil d'Homelies pour les Fêtes des Mysteres de la Croix & de la Sainte Vierge. Ce Livre comprend aussi les actes des Martyrs les plus celebres de l'Eglise, & l'on y trouve plusieurs traités concernant les mœurs & la discipline. 41</p> |
|--|--|

Fig. 4.2.2.1 Villefroy in Montfaucon 1739, 1017, fragment.

History of Armenian cataloguing

Prior to the nineteenth century, researchers, monks or travellers had described individual (or a few selected) manuscripts, just because these were easily accessible, or due to specific interests. The first outstanding conscious effort of cataloguing was undertaken in Europe by the French orientalist Guillaume de Villefroy (1735; an abbreviated version was published in Bernard de Montfaucon's *Bibliotheca bibliothecarum* in 1739, fig. 4.2.2.1). In 1735 he edited a catalogue of 113 Armenian manuscripts and old books in the French Royal collection in Paris (Kévorkian et al. 1998, xvi; Outtier 1999–2000, 47) which had been deposited there since the middle of the sixteenth century. Villefroy's account was the very beginning of Armenian cataloguing. Even if unordered or random, he made notes of codicological features of Armenian manuscripts like writing types, abbreviations, ink, binding, measures and the material of the codices. He tried to ascertain the author, work, place and date of the texts (see Villefroy's preface to his catalogue, cf. Outtier 1999–2000, 50–53), exchanging letters, among others, with the Armenian monks of the Mekhitarist order in Venice. Villefroy's catalogue with its sometimes long commentaries or paraphrases about the contents of the manuscripts set at the same time the basics of knowledge in Armenian prosopography, history and literature at the early commencement of Armenian studies in Europe.

Systematic cataloguing by Armenian and western scholars started in the nineteenth century and reached an important level of scholarly experience at the end of the nineteenth/beginning of the twentieth

ОБЩИЙ КАТАЛОГЪ
книгамъ и манускриптамъ Эчмиадзинской
синагоги.

ПЕРВОЕ ОТДѢЛЕНИЕ.
АРМЯНСКІЯ КНИГИ И РУКОПИСИ.

I. Священное писаніе и толкованіе онаго.

1. Библия, на пергаментѣ.
2. Тоже печат.
3. Евангелій, на пергаментѣ.
4. Священная Исторія — разныхъ авторовъ.
5. Дѣяній апостоловъ и писаній Новаго Завѣта. П.
6. Толкованіе Священнаго Писанія — неизвѣстнаго.
7. Толкованіе 5-ти книгъ Моисея — архимандрита Вардана Бардзирберди, XIII вѣка.
8. Толкованіе тѣхъ же книгъ — Св. Корнилія.
9. Толкованіе Царствъ, Иисуса Навина и Судей — Св. Египсе епископа армянскаго, V вѣка.
10. Толкованіе военныхъ предметовъ Священнаго Писанія — архимандрита Григорія, сына Аббаса.
11. Толкованіе книги пророка Іова — архимандрита Іоаннеса Ванакана, XIII вѣка.
12. Толкованіе той же книги — Григорія Татевскаго, XIV вѣка.
13. Толкованіе той же книги и Св. Литургіи — неизвѣстнаго.
14. Толкованіе Псалтыря — Св. епископа Нерсеса Лампронскаго, XII в.
15. Толкованіе той же книги — Даниїла.

CATALOGUE

de la bibliothèque du couvent d'Échmiadzin.

SECTION PREMIÈRE.
LIVRES ARMÉNIENS MANUSCRITS ET IMPRIMÉS.

I. Sainte-Ecriture et ses commentaires.

1. Bibles manuscrites, sur parchemin.
2. id. imprimées.
3. Evangiles manuscrits, sur parchemin.
4. L'histoire sainte, par divers auteurs.
5. Actes des apôtres et épîtres du N. T. I.
6. Explication de la Se.-Ecriture, par un anonyme.
7. id. des cinq livres de Moïse, par l'archimandrite Vardan de Bardzherd, auteur du XIII^e siècle.
8. Le même, par S. Corneille.
9. Explication des livres des Rois, de Josué et des Juges, par S. Eghiché évêque, au V^e siècle.
10. id. des sujets militaires de la Sainte-Ecriture, par l'archimandrite Grigor, fils d'Abbas.
11. id. du livre du prophète Job, par l'archimandrite Ioannès Vanacan, XIII^e siècle.
12. Le même ouvrage, par Grigor Tathévatsi, XIV^e siècle.
13. Explication du même livre et de la sainte liturgie, par un anonyme.
14. id. du Psautier, par l'évêque S. Nersès de Lampron, XII^e siècle.
15. id. par Daniil.

Fig. 4.2.2.2 Brosset 1840, 62–63.

century. The French-Russian scholar Marie-Félicité Brosset (1802–1880) in St Petersburg set up in 1840 a systematic catalogue of 481 manuscripts and old books in the possession of the Catholicate in Etchmiadzin (the catalogue is based on a general thematic inventory prepared by an Armenian monk in 1828; for the later augmented collection, now housed in the Matenadaran, Yerevan, see the references in Coulie 1992, 66–71). However, the catalogue is merely a bilingual Russian-French handlist (fig. 4.2.2.2). It arranges the manuscripts and books into eleven thematic fields—1. ‘Sainte-Ecriture et ses Commentaires’, 2. ‘Théologie’, 3. ‘Poésie’, 4. ‘Livres d’Église (Liturgie, Exégèse, Commentaires, etc.)’, 5. ‘Histoire et géographie’, 6. ‘Livres classiques (philosophie, rhétorique, grammaires, astronomie etc.)’, 7. ‘Discours instructifs et Sermons’, 8. ‘Livres divers ecclésiastiques et autres’, 9. ‘Lois religieuses et règlements ecclésiastiques’, 10. ‘Livres dogmatiques’, 11. ‘Livres de prières’)—giving for each a short title, the author and its time.

The cataloguing of Armenian libraries developed considerably at the end of the nineteenth century. Several catalogues of monastic and ecclesiastical libraries were published. In his Russian-language catalogue of 110 manuscripts in the monastery of Sevan, Nikolaj Marr (1892) specifies, after the shelfmark, the size and material of codex and binding, the number of folia and columns, the type of script, the author, the date and a general title of the work (in Armenian); however, there are no details on the contents. The same year a much better catalogue of 13 manuscripts in the Vatican library was published in Armenian by Yakob Misk‘ĉ‘ean (Jacob Misktjean; see Misk‘ĉ‘ean 1892). The author groups the manuscripts according to literary genres. After the shelfmark and date, a concise block of main codicological entries follows: number of folia and lines, dimensions and condition of the manuscript, material, script and ink, date, provenance and the name of the scribe, as well as information on any missing folia. This block is followed by the description of the content; the *incipit* and *explicit* of the texts are quoted with folium references, and so are the colophons. This much more elaborate method (codex number and date—technical block of codicological data—content) served as the basic model when the awareness among Armenian and non-Armenian scholars for the need of detailed manuscript recording increased.

The Armenian Catholic order of the Mekhitarists in Vienna and Venice were the most prominent centres for manuscript preservation and research. They contributed much to the cataloguing of Armenian manuscripts during the late nineteenth and the first half of the twentieth century. Between 1891 and 1971,

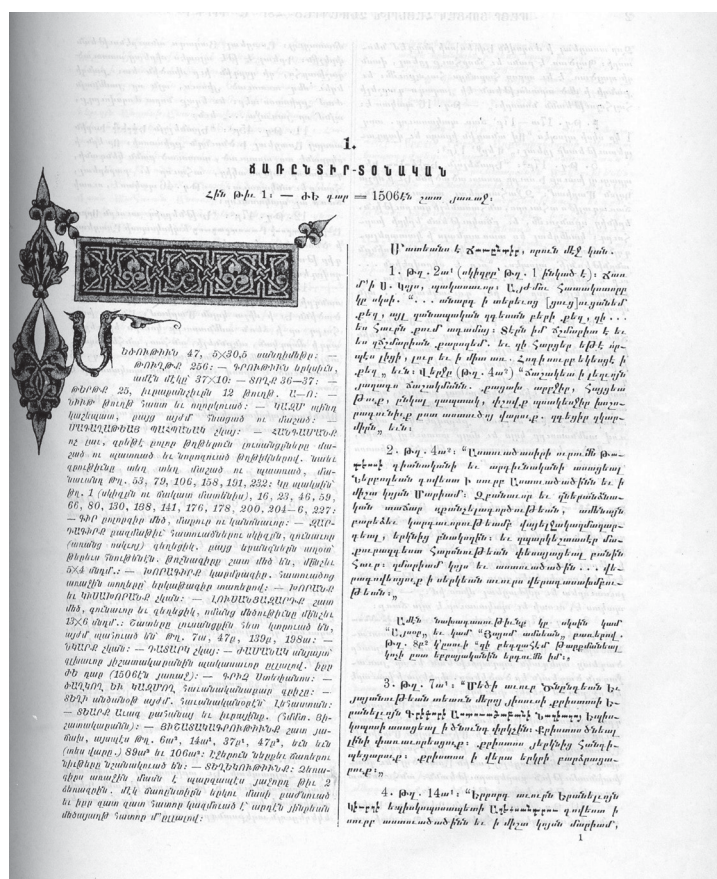


Fig. 4.2.2.3 Tašyan 1895, 1.

the Vienna branch of the congregation published fifteen catalogues in Armenian with German summary (they are published in the special series *Haupt-Catalog der armenischen Handschriften*; besides their own collections, the Mekhitarists published in this series also the catalogues of Armenian manuscripts in Turkey, Iran, Poland and Germany). Yakob Tašyan (Jacob Dashian) and G. Galēmḳ'erean (G. Kalemkiar) became pioneers with their catalogues of Armenian manuscripts in Vienna and Munich (Tašyan 1891–1895; Galēmḳ'erean 1892; fig. 4.2.2.3). They laid the foundation for the modern method of cataloguing Armenian manuscripts: the editors of the new catalogue of the Matenadaran collection (Eganyan 1984, xlii) just like the cataloguers of the Paris collection (Kévorkian et al. 1998, xvii) refer to the system established by Tašyan as their model. Well trained in modern western scientific research and inspired by the advanced experience for Latin and Greek manuscript cataloguing, Tašyan had a very systematic approach. He first groups the manuscripts into thematic fields and then in chronological order, which makes his catalogues particularly user-friendly. For each manuscript, he includes a header with basic information (catalogue number, former shelfmark, title, date), followed by a concise block of codicological data (besides the usual entries such as dimensions, writing style, material, provenance, date, scribe etc., he also pays attention to fly- and guard leaves, miniatures, ornaments and initial letters, names of binders and former owners). The description of the contents includes the *incipit* and *explicit* as well as supplementary references to scientific editions and studies. Colophons are quoted in full. Innovations include the indexes of names and places as well as the plates of ornaments and miniatures at the end of the catalogues (Tašyan 1895, plates I–VIII, 1051–1163). He paid also attention to the book history of a manuscript or to the history of the collection itself (former owners and libraries). Another prominent scholar of the Vienna congregation was Nerses Akinian, who followed this method in several catalogues of Armenian collections in Russia, Armenia, Near East and Eastern Europe, published between 1920 and 1946 (Krikorian 1997, 173f.).

Barsel Sargisyan, from the Venice branch of the Mekhitarists, followed the same model in cataloguing the ample Armenian collection in the monastery of San Lazzaro (Sargisyan 1914, 1924, 1966; the cataloguing was continued with five further volumes by Sahak Čemčemean in 1993–1998; the cataloguing of the Venice collection is not yet finished). The tripartite system of cataloguing established by the Mekhi-

tarists (header, codicological data, and contents with bibliographical references) was likewise adopted in Armenia. As an early kind of example can be pointed out the catalogue of the Vaspurakan manuscripts by Ervand Lalayan (Lalayan 1915).

Up to the second half of the twentieth century, the Armenian-Catholic Mekhitarist Fathers dominated by quality and quantity the cataloguing of Armenian manuscripts; their model has been in use until today. Their example inspired European scholars of the first half of the twentieth century, in particular the catalogues of the Armenian collections in Berlin, Tübingen and London (Karamianz 1888; Finck – Gjand-schezian 1907; Conybeare 1913).

Modern catalogues

The progress in research on Armenian literature, history and arts, and improved techniques in conservation and digitization have changed nothing in the basic principle established the century before; modern catalogues supplement the same key data. As for Armenian catalogues in Europe, fine examples are the catalogue of Armenian manuscripts at the Bibliothèque nationale de France in Paris (Kévorkian et al. 1998) and in Italian libraries (Uluhogian 2010). More precision can be now given to watermarks, stamps, quire composition, and hands of scribes, miniatures, initials and marginal decoration, binding, book cover and specially the historical ‘career’ of a codex. Instead of a subjective palaeographical assessment, one can accompany descriptions by photographs of the specific handwriting. The bibliography with references to similar manuscripts, editions and studies is quite comprehensive. The colophons are fully appreciated as very important sources for Armenian history (an important number of colophons from the fifth to seventeenth centuries are published in chronological order in separate editions; they are an important tool for Armenian studies; for their historical significance see Sanjian 1968, 181–195; Stone 1995, 463–471; Dédéyan 1998, 89–110; Sirinian 2014). Not only the scribal colophon but all those present—of the commissioner, painter, binder, owner, restorer, etc.—are reproduced in full.

As for modern catalogues in Armenian, Norayr Polarian (Bogharian) did an extraordinary work between 1953 and 1991 for the important manuscript collection in the Armenian patriarchate of Jerusalem (in eleven volumes; see also Coulie 1992, 96). Unlike in the Mekhitarists’ system, the codices are catalogued according to their shelfmark and not to their literary genre or chronology; this makes the catalogues less user-friendly. The fly- and guard leaves are fully taken into account; the later volumes include photographs of painted decoration and handwritings.

The National Institute of Manuscripts (Matenadaran) in Yerevan is the largest collection of Armenian manuscripts, with about 14,000 documents. The cataloguing started in 1959, and the first two catalogues listed c. 10,400 manuscripts (Eganyan 1965, 1970). Together with the third volume (Eganyan 2007), nos 1–11,077 are now covered (cf. Coulie 2014, 26). Due to the immense size of the collection, the descriptions were done very quickly; the data which derived from former catalogues were summarized or even shortened into very brief entries (Mahé 1986–1987, 583). Since the 1970s the work on more detailed catalogues has been going on. Seven catalogues in Armenian have been so far published, with the description of 2,400 manuscripts altogether (Eganyan et al. 1984, 2004, 2007, 2008, 2009, 2012, 2013). At this rate, at the end of the process the series might grow to up to forty volumes. These revised catalogues of the Matenadaran collection are prepared by a team of specialists, and no more by a single person as before. The team profits fully from the cataloguing experience of the past two centuries: besides the standard codicological entries, the general condition of the manuscript is mentioned, attention is paid to different types of binding, inks, pigments, watermarks, and the chemical analysis of paper. Fly- and guardleaves, palimpsests and other elements are investigated; photographs of various handwritings are added to each manuscript description. The contents are quoted with *incipit* and *explicit*, and even the titles of every single chapter are indicated with their folia numbers. All colophons, even minor ones, are given in full. Just like the Jerusalem catalogue, the new Matenadaran catalogues sort entries according to the catalogue number, without grouping manuscripts according to the genre or date. Thus it is indispensable to make full use of the inventories added to each catalogue. Besides names, places and topics, the indexes include lists of dated manuscripts, fragments, stamps, watermarks, types of binding, Armenian terms and other data.

Specialized catalogues, digitizing

The second half of the twentieth century showed a growing progress in cataloguing Armenian manuscripts. The recent catalogues of Paris, Jerusalem and Yerevan take into account as far as possible the

latest studies about the physical, artistic and textual elements of an Armenian codex (for example, in the fields of bookbinding, palaeography and pigment analysis, see Merian 1993; Kouymjian 1998b; Stone et al. 2002; Merian et al. 1994b; Galfajan 1975a, 1975b; further study is required on the organization of writing surfaces, ruling, pricking, quire composition, folding, page layout, textiles used in binding; Kouymjian 2012a, 18–23). For their historical significance, colophons are edited in the catalogues in full and are often even translated into a European language.

Another trend can be observed due to the wealth of data assembled in the catalogues of the previous centuries in combination with the new results of specialized research. More and more thematic manuscript catalogues have been recently published which synthesize the already available facts and add specialized information. There are for example catalogues of specific literary genres such as biblical, medical or legal manuscripts, catalogues on a specific region or period like the Cilician Kingdom, or catalogues of particular artistic schools and scriptoria like those from Cilicia, Vaspurakan, Crimea or Artsakh (see the bibliography in Coulie 2014, 33–37).

Digitizing Armenian manuscripts has been a tendency in all European libraries and in some Armenian libraries like the Matenadaran and the Armenian Catholicate of Antelias. However, the important monastic libraries in Vienna, Venice and Jerusalem are not yet engaged in any digitization project, and access to their manuscripts is quite difficult. The Hill Museum and Manuscript Library (<<http://www.hmml.org>>) in Collegeville has digitized 1,800 Armenian manuscripts, among them the complete collections of the Armenian Catholic monastery in Bzummar, the Armenian catholicate in Antelias, the Armenian diocese in Aleppo, and the Armenian patriarchate of Istanbul. Smaller digitized collections or single Armenian manuscripts from western libraries are also available online, for example the Armenian manuscripts from the Goodspeed collection in Chicago (<<http://goodspeed.lib.uchicago.edu/search/index.php?search%5B0%5D=armenian>>) or the collection in Tübingen (<http://idb.ub.uni-tuebingen.de/digitue/tue/Ma_orientalische_Handschriften?liste=1>). The digitization of printed catalogues is in its initial stage; a few can be found online.

References

Brosset 1840; Conybeare 1913; Coulie 1992, 1995, 2000a, 2004, 2014; Dédéyan 1998; Eganyan et al. 1965, 1970, 2007; Eganyan et al. 1984, 2004, 2007, 2008, 2009, 2012, 2013; Finck – Gjandschezian 1907; Galēmķ'erean 1892; Galfajan 1975a, 1975b; Karamianz 1888; Kévorkian et al. 1998; Kouymjian 1983, 1998b, 2012a; Krikorian 1997; Lalayan 1915; Mahé 1986–1987; Marr 1892; Merian 1993; Merian et al. 1994b; Misk'č'ean 1892; Outtier 1999–2000; Polarian 1966–1991; Sanjian 1968; Sargisyan – Čemčemean 1914, 1924, 1966, 1993–1998; Sirinian 2014; Stone 1995; Stone et al. 2002; Tašyan 1891–1895; Uluhogian 2010; Villefroy 1735=1739. Web sources: Hill Museum and Manuscript Library <<http://www.hmml.org>>, last access May 2014; Goodspeed collection, Chicago <<http://goodspeed.lib.uchicago.edu/search/index.php?search%5B0%5D=armenian>>, last access May 2014; Orientalische Handschriften Tübingen <http://idb.ub.uni-tuebingen.de/digitue/tue/Ma_orientalische_Handschriften?liste=1>, last access May 2014.

2.3. Catalogues of Coptic manuscripts (PB)

As in the case of other Christian oriental languages, it was at the end of the eighteenth century that European and extra-European countries began to show interest in the documents related to the first stage of the spread of Christianity into Egypt. Because of the extraordinary climatic conditions of the deserts and the Nile Valley, Egypt preserved an impressive amount of manuscript material, often dating back to the very beginnings of the new faith.

Unfortunately, however, when the local people, including the monks, realized the keen interest of the Europeans in the first documents pertaining to Christianity, they did not hesitate to dismember Coptic codices in order to sell single leaves of them to the highest bidder. This aspect bears a strong influence even now on the study of Coptic manuscript material and Coptic cataloguing, because leaves, originally belonging to the same codex, are often preserved today in several European and non-European collections.

It is not easy to quantify the exact number of these leaves, but according to the database of the Corpus dei manoscritti copti letterari (CMCL) it is possible to state that about 4,000 call numbers correspond to Akhmimic, Fayyumic, Sahidic and Bohairic groups of fragments (less frequently, entire codices) dating

between the fourth and the eleventh century. It is more difficult to calculate the number of later Bohairic and Bohairic-Arabic manuscripts mainly preserved in small collections, especially in Egypt. The most famous cases of dismembered codices are those of the so-called White Monastery of Atripe in Upper Egypt (in Sahidic dialect) and those from the monastery of Abū Maqar in Wādī al-Naṭrūn (in Bohairic dialect), to give but a few examples (see also General introduction § 3.6).

At the end of the eighteenth century, fragments of dismembered Sahidic codices had already reached two important Italian collections, namely that originally belonging to Giacomo Nani and now preserved in the Biblioteca Nazionale Marciana, in Venice, and that belonging to Cardinal Stefano Borgia, a part of which today is to be found in the Biblioteca Nazionale Vittorio Emanuele III of Naples (Buzi 2009), while the other part is to be found in the Biblioteca Apostolica Vaticana (Hebbelynck – van Lantschoot 1937).

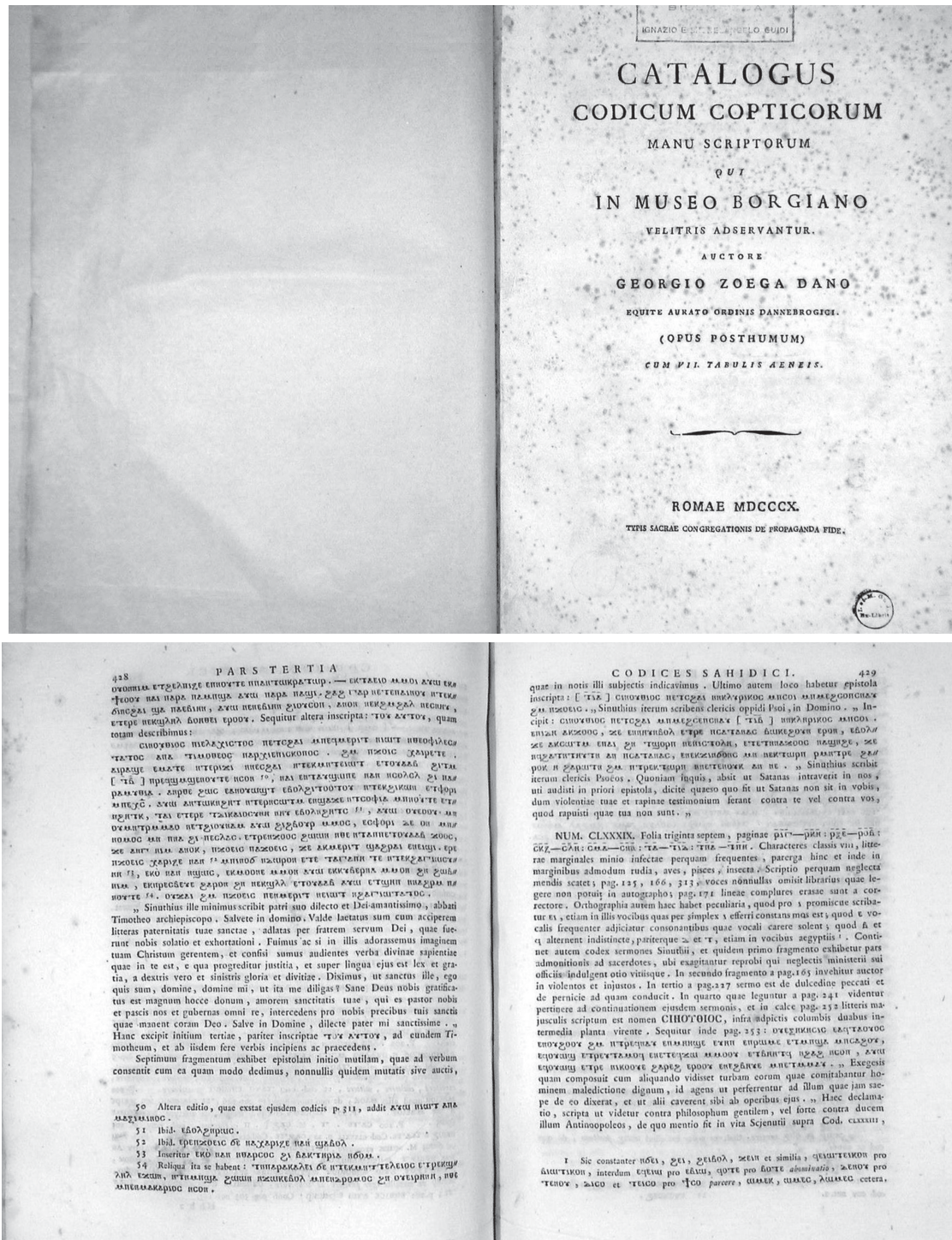


Fig. 4.2.3.1 Zoëga 1810, frontispiece and pp. 428–429.

The well-known classicist Giovanni Luigi Mingarelli was made responsible by Giacomo Nani for the cataloguing of the Coptic collection preserved in Venice (Mingarelli 1785), while Stefano Borgia entrusted the same task to the Danish scholar Georg Zoëga (Zoëga 1810; fig. 4.2.3.1).

It is not surprising that the authors of the respective catalogues—which still fill us with admiration and surprise for the monumental work they represent—included long textual passages of the leaves they were cataloguing: they were both very aware that this was a necessary step for the comprehension and reconstruction of Coptic literature. What is much more surprising, on the other hand, is the fact that they had perfectly understood—perhaps Mingarelli more than Zoëga—the urgency of finding the related fragments of the leaves they were cataloguing. In 1787, for instance, Mingarelli wrote to Cardinal Borgia to find out if the first four pages of a codex, of which the remaining part was preserved in the Nani collection and contained a work of Rufus of Shotep, were to be found in the Cardinal's collection (Buzi 2011b). More modern Coptologists would not show the same sensitivity towards this aspect of cataloguing.

In short, to serious scholars like Mingarelli and Zoëga it was immediately clear that the main difficulty in cataloguing Coptic manuscripts—with few exceptions, such as manuscripts coming from modern excavations conducted with advanced methodology, very late codices, etc.—was that Coptologists do not deal with complete or quasi-complete codices but rather with a virtual reconstruction of their original codicological unit(s), based on the identification of leaves belonging to the same codex but preserved in different collections.

If the beginnings of Coptic cataloguing appeared so promising, however, in the following decades no further important steps were made (Tattam 1853; Delaporte 1909, 1910, 1911, 1912, 1913), except for the catalogues prepared by Walter Ewing Crum for the Bodleian Library, the British Library and the John Rylands Collection, respectively (Crum 1893, 1905b, 1909; Crum et al. 1922). In all the catalogues by Crum, the descriptions are in fact rather brief, nevertheless the reader can always get all the essential data (shelfmark, material, dimensions, layout description, contents, information about superlineation and punctuation, possible provenance). Manuscripts are subdivided according to the dialect (Sahidic, Akhmimic, Fayyumic, Bohairic, etc.) and within this first classification, as in the case of the catalogues of Mingarelli and Zoëga, catalogued by literary genre (Bible, Liturgical works, Canons, Biographical works, Hagiography, etc.). Particular attention moreover was dedicated by Crum to the identification of the related fragments, which was based on his very extensive knowledge of the Coptic manuscripts collections scattered all over Europe.

Unfortunately most of the other catalogues which were published during the eighteenth century appear as bare and often unsatisfactory checklists, the most meaningful examples in this respect being those realized by Beltz (1978, 1980, see also Hebbelynck – van Lantschoot 1937 and Till 1940).

The first 'modern' catalogue of Coptic manuscripts, which was conceptually inspired by the descriptive standards of the Greek and Latin ones, was realized by Bentley Layton in 1987, in order to describe the Coptic manuscripts purchased by the British Library after 1906. Layton was the first Coptologist to elaborate a systematic 'descriptive method', where all the elements of a manuscript description were eventually taken into consideration. In particular, the space reserved for the physical description of a codex (layout, ruling, quires, binding, etc.) imposed a revolutionary breakthrough, while the praxis of mentioning the known related fragments catalogued elsewhere has become standard since. Moreover, the catalogue contained accurate and systematic identification of the texts (including titles and colophons) and of the writing material. In particular, for the first time, the paper in use in Egypt was carefully described. Due to the lack of specific studies in Coptology, as far as the codicological aspects are concerned, Layton made wide use of a terminology borrowed from the Greek tradition, while for palaeography he attempted to re-elaborate the terminology applied by Guglielmo Cavallo (Layton 1987).

The 'model' for cataloguing elaborated by Layton was re-proposed, without any significant change, by Leo Depuydt, who described the Coptic manuscripts preserved in the Pierpont Morgan Library in New York. It must be stressed, however, that, unlike the London manuscripts, those of New York are in most cases complete or quasi-complete codices (Depuydt 1993). An alternative but equally valid 'model' was used by Anne Boud'hors (Boud'hors 1987, 1998) for describing the Coptic biblical fragments preserved in Paris and in Strasbourg.

More recently, Layton's catalogue has also been used as a base for cataloguing the Coptic manuscripts once belonging to Cardinal Borgia. As mentioned above, the entire Borgia Coptic collection was catalogued and described by Zoëga. Although Zoëga's work is still a necessary point of reference for anybody

intending to deal with the Borgia collection, it is undeniably obvious that nowadays it appears out of date, and there was urgent need of revising the information of the catalogue and of adding the data the Danish scholar could not obtain, if only because the catalogue was written before the cardinal's collection was divided. The new catalogue of the Borgia manuscripts preserved in Naples is more schematic than Layton's and Depuydt's, above all as far the description of the punctuation and the decorative elements are concerned, but gives much space not only to all the different call-numbers which have been in use over the ages to identify a leaf (or a group of leaves)—which is an aspect of cataloguing often under-estimated—but, even more important, also to the list of related fragments and to the reconstruction of the original codicological unit(s) the catalogued leaves belonged to (Buzi 2009).

Other recent catalogues, such as those produced so far within the *Verzeichnis der orientalischen Handschriften in Deutschland* (VOHD) series (Burmester 1975; Störk 1995, 1996, 2002) unfortunately cannot be considered satisfactory, because of the reduced space dedicated to the codicological description of the manuscripts and to the bibliography. In part, this may be explained by the fact that they deal mostly with liturgical texts, which still represent a problematic category of Coptic literature, but it does not alter the fact that they cannot be considered valid 'models'.

To summarize, the critical aspects of Coptic cataloguing are the search for the related fragments, the elaboration of a descriptive method which faithfully respects the 'stratigraphy' of the codex, and the identification and adoption of a satisfactory palaeographic description. If the first two aspects largely depend on the scrupulousness and the initiative of the cataloguer, as far as the second is concerned—in the absence of a long-awaited complete and convincing palaeographic study, which is still missing—the best solution seems to be to provide, in addition to a textual description, a photographic *specimen* of the script typology of the described leaf (or group of leaves). As for the remaining aspects, every cataloguer describing the Coptic manuscripts should apply the valid rules of common sense, i.e. clarity, consistency of description and completeness.

Lastly, it is important to stress that Coptic studies did not pay great attention to the opportunities offered by the so-called 'electronic revolution' until now. If we except some very useful databases, such as the Corpus dei manoscritti copti letterari (CMCL) founded by Tito Orlandi (<<http://cmcl.aai.uni-hamburg.de>>), or *Brussels Coptic Database* elaborated and managed by Alain Delattre—which however is dedicated only to Coptic documents (<<http://dev.ulb.ac.be/philo/bad/copte/baseuk.php?page=accueiluk.php>>—and the Coptic section of the *Leuven Database of Ancient Books* (<<http://www.trismegistos.org/ldab/>>), electronic catalogues of Coptic manuscripts are still a *desideratum*.

References

Beltz 1978, 1980; Boud'hors 1987, 1998, 1999b; Burmester 1975; Buzi 2009, 2011b; Crum 1893, 1905b, 1909; Crum et al. 1922; Delaporte 1909, 1910, 1911, 1912, 1913; Depuydt 1993; Hebbelynck – van Lantschoot 1937; Layton 1987; Mingarelli 1785; Störk 1995, 1996, 2002; Tattam 1853; Till 1940; Zoëga 1810. Web sources: Brussels Coptic Database <<http://dev.ulb.ac.be/philo/bad/copte/baseuk.php?page=accueiluk.php>>, last access May 2014; Leuven Database of Ancient Books <<http://www.trismegistos.org/ldab/>>, last access May 2014.

2.4. Catalogues of Ethiopic manuscripts (WW)

The expression 'Ethiopic manuscripts' is to be understood as the manuscripts written in the classical Ethiopic language, properly known as Ge'ez, and sometimes referred to as the 'Latin of Ethiopia'. This language, dead since the end of the first millennium CE, was nevertheless used until the nineteenth century as the literary language of Christian Ethiopia, and is still being used in the liturgy of the churches of both Ethiopia and Eritrea. The Muslim manuscripts originating in what is today Ethiopia belong to other scriptorial and book producing traditions (see Ch. 4 § 2.1.1.2 on East Africa, including Ethiopia and Eritrea). On the other hand catalogues and collections of Ethiopic manuscripts may also include, much less numerous, manuscripts written in Amharic (today, the most widely spoken language of the country, and an important medium of traditional Christian education).

The exact number of Ethiopic manuscripts is unknown, but estimates range from c.200,000 (Uhlig – Bausi 2007, 738b), excluding scrolls, to some 750,000 (see General introduction § 3.7). Most of the manuscripts originate in the northwestern part of modern Ethiopia and in Eritrea, namely the areas in which the classical Christian Ethiopian civilization developed. Ethiopian manuscripts in western collec-

tions, c. 15,000 (estimate augmented by a probable increase, particularly in the US, since the 1995 data of Beylot – Rodinson; Bausi 2007, 93) original items or microfilms, are growing in number, but represent a tiny fraction of the estimated total (respectively, 7.5 to 2.0 per cent). In practice, only the manuscripts in the western collections have been properly catalogued due to their greater accessibility to scholars. The largest leading libraries, the British Library, the Bibliothèque nationale de France, the Staatsbibliothek Preussischer Kulturbesitz Berlin, the Bodleian Library, etc., had in most cases catered for the needs of scholars and financed the production of catalogues as early as the nineteenth century. Other large collections, including Cambridge, Uppsala, several Italian collections (including the Biblioteca Apostolica Vaticana), and many others, followed suit in the twentieth century. The largest microfilm collection of Ethiopic manuscripts in the west—Ethiopian Manuscript Microfilm Library (EMML)—is kept at the Hill Museum and Manuscript Library, Collegeville, Minnesota (HMML); copies of all EMML microfilms are deposited with the library of the Ethiopian Ministry of Culture, and partly the library of the Institute of Ethiopian Studies, Addis Ababa. Since 1975, the HMML has been producing a catalogue of the microfilms, ten volumes of which have been published in printed form to date, covering 5,000 items.

It seems likely that practically all public, and many private, western collections will in due course be catalogued, provided funds, and the necessary specialists can be mustered. Small collections are also being catalogued, often in publications that cover several such collections in the possession of public institutions, college or university libraries in a particular country (Germany, USA) or even private persons. In cases where collections grow through various acquisitions, cataloguing is a slow but continuous project. The situation to 1995 (with a few omissions) is given in Beylot – Rodinson (1995).

Cataloguing, or rather the listing of manuscripts was first practised in Ethiopia itself. The lists of manuscripts held by certain churches or monasteries, written as additional notes in manuscripts, testify to this practice (see for example Kolmodin 1916). Today, almost all churches and monasteries have registers of their possessions, including manuscripts. Scholarly cataloguing in the west seems to have begun with the catalogue of the collection in Tübingen compiled by Heinrich von Ewald in the 1840s (Ewald 1844, 1847). While Thomas Pell Platt had provided an example of a special catalogue of Ethiopic biblical manuscripts from the then Royal Library of Paris and the Library of the British and Foreign Bible Society as early as 1823, his can hardly be considered a cataloguing attempt. These pioneering works were followed by catalogues in established series, such as the catalogue of the Ethiopic manuscripts in the possession of the British Museum and the Bodleian Library by August Dillmann (1847, 1848), a disciple of Ewald. In 1859 Antoine d’Abbadie published the first catalogue of a French collection, namely that which he himself had brought back from Ethiopia. Uniquely, this important collection was catalogued three times (d’Abbadie 1859; Chaîne 1912; Conti Rossini 1914), thus reflecting the progress and different approaches in Ethiopian studies, with the two later scholars identifying more items and providing corrected information.

These early catalogues predated the firm establishment of Ethiopian philology as an academic field within Semitic studies. However, with the appearance of Dillmann’s grammar of Ethiopic in 1857, and his dictionary in 1865, an epoch of ‘classical’ catalogues of major collections followed. Dillmann himself produced one for the Berlin Royal Library (1878). The British Museum, substantially enriched in 1860s by the royal Ethiopian collection of Maqdalā brought to England by Lord Napier’s expedition, entrusted its cataloguing to William Wright (1877: in accordance with the title, the catalogue does not repeat the descriptions of the items catalogued by Dillmann; however, these are included in Wright’s index). In the same year, Hermann Zotenberg’s catalogue of Ethiopic manuscripts in the Bibliothèque nationale de France of Paris appeared.

The main objective of these cataloguers was, of course, identification of the main text, or texts copied in a given manuscript, accompanied by quotations of *incipits*. Codicological information was marginal, and so was that concerning decoration. On the other hand, in many cases, cataloguers provided long extracts of then unknown texts they regarded as particularly interesting. For instance, Wright’s entry on the *Mashafa Hawi* is twenty pages long (Wright 1877, 235–254), and on John of Nikiou’s ‘Chronicle’, nine pages (Wright 1877, 300–309); Zotenberg’s account of the same chronicle goes over nineteen pages (Zotenberg 1877, 223–241). One must bear in mind that these catalogues were compiled when publications of Ethiopic literature had barely begun and the catalogues actually served as anthologies of previously unknown texts.

A major cataloguing project was launched in the late 1930s to deal with the material gathered in Ethiopia and brought to France by the so-called Dakar-Djibouti Expedition (1931–1933), led by ethnographer

Marcel Griaule. The catalogue of this collection, in four volumes, was initiated by Sylvain Grébaut and finished by Stefan Strelcyn (Grébaut 1938, 1941, 1944; Strelcyn 1954).

Dillmann's, Wright's and Zotenberg's catalogues established a standard that persisted over the next century and developed only gradually to cater to new and different expectations. A few examples of recent cataloguing projects are presented below.

The first is the catalogue of the Ethiopian acquisitions of the British Library since the appearance of Wright's work, compiled by Stefan Strelcyn (1978). The material in his catalogue is grouped into sections covering items of similar content, at least as far as the main text is concerned. The sections (which resemble those found in Wright) are biblical manuscripts, apocrypha and pseudepigrapha; service books including prayers and hymns; theology *sensu strictiore*, hagiography; vocabularies and grammars (*sawāsew*), chronography; followed by magical, divinatory and medical writings (which in Ethiopic literature belong very much together), and miscellanea, such as letters and loose leaves. Strelcyn also provided indexes (as also Wright, Zotenberg, and others did). There is first a general index, and then a separate index of the names of the owners and scribes of the manuscripts, another that lists the collection by the date or estimated age of the manuscripts, and yet another for Amharic items. Strelcyn privileged the criterion of contents, that favours readers interested in specific genres, to the disadvantage of the shelfmark criterion—an unfortunate legacy of Wright and a general feature of many catalogues—which caused him to use his own numbering and to add a concordance of Strelcyn's own numbers and the shelfmarks of the library.

The description includes the following information: writing support, size, number of leaves, columns and lines, and age (as in Wright's work: all in all a few lines). The physical description of the item is somewhat fuller than that provided by his predecessor, particularly if the item is a scroll. In such cases the reader is informed about the accessories it has, such as shells, glass beads, etc., as well as whether the scroll is preserved in a cylindrical leather case (the collection catalogued by Wright did not include scrolls). For codices, sometimes the number of quires is provided, but not invariably or frequently. The palaeographical description is quite advanced: it includes what Wright provided (whether in a good hand or not, number of columns, lines per page), but also the type of script where known (i.e. whether *g^welḥ* or *raqiq*; but see Ch. 2 § 5). The latter refinement, of course, reflects the progress in our knowledge of the history of Ethiopic script (Strelcyn's catalogue appeared before Siegbert Uhlig's study of palaeography of 1988). In addition, Strelcyn provides more information on the decoration, sometimes even identifying the subjects of miniatures and drawings where inscriptions are present.

Another difference from Wright's work, is Strelcyn's inclusion in his catalogue of references to manuscripts in other collections and bibliographical data for published texts. Self-evidently, the compilers of the classical catalogues simply did not have antecedent works to refer to for comparative purposes. Although there are quite meticulous analyses of some of the texts in Strelcyn's catalogue (for example, London, BL, Or. 2083, a 'Lectionary for the Passion Week', covering 15 pages; Strelcyn 1978, 57–71), there are no long quotations from the texts. Thus all catalogue descriptions are of equal balance and depth.

Another example of a modern catalogue is volume X of the Collegeville EMLL catalogue prepared by Getatchew Haile in 1993. It covers items 4,001 to 5,000, in a total collection of 9,238 recorded items (Bausi 2007, 89). Many of the peculiarities of this catalogue arise from the character of the collection itself, for instance the lack, or irregularity, of physical descriptions, a natural consequence of the 'virtual' character of the collection, which consists of microfilms.

The description of the contents is often sketchy, but sufficiently informative. One notices that some manuscripts are described in more detail than others. This is, however, a consequence of the expansion of the collection: instead of providing a breakdown into sections of relatively well-known material (such as psalters or liturgy books), there are references to other manuscripts in the same collection, catalogued in detail in previous EMLL volumes. But this is also a consequence of the choice of the cataloguer, Getatchew Haile, who allocates more or less space, more or less detailed descriptions, according to his opinion on the importance of the item.

There is no grouping of the manuscripts into biblical, liturgical manuscripts and so on, the ruling principle is *numerus currens* instead, as is expected in dealing with such a huge collection. Indexes list manuscripts according to subject matters (such as Bible, canon and civil law, etc.) for readers interested in specific matters.

The next example of cataloguing in the last century is the catalogue of the collection in the Biblioteca Medicea Laurenziana in Florence compiled by Paolo Marrassini (1987–1988). This is an impressive work.

All the metadata are collected at the beginning of the catalogue entry, not split by being put before and after the description of the contents, as in the above mentioned catalogues. The codicological information is fuller, including, for instance, data on quires and the palaeographical description which includes the characteristics of the hands of the scribes (for example, ‘mano meno esperta’, etc.). The description of the contents is equally excellent, with relatively long *incipits*, and lists of pertinent literature, including Russian. However, it seems that a catalogue when prepared by a passionate scholar can be ‘overdone’. For instance, the entry devoted to the *Dersāna Mikā’el* ‘Homiliary in honour of Archangel Michael’ (Marrassini 1987, 77–87) grew into a small study on the various redactions of the ‘Homiliary’. This is, of course, a valuable piece of scholarship, but a catalogue is not a proper place for publishing it.

Another great cataloguing achievement in the last decades of the twentieth century is the series of catalogues of German collections published in the series of the *Verzeichnis der orientalischen Handschriften in Deutschland*, and compiled by Ernst Hammerschmidt and Veronika Six (Hammerschmidt 1973, 1977a; Hammerschmidt – Six 1983; Six 1989, 1994, 1999; for a characterization of these catalogues, see Bausi 2007, 97–99).

One further example shows how the appeal of codicology has been felt in Ethiopian cataloguing too. This is the catalogue of new acquisitions by several British libraries, prepared by Steve Delamarter and Demeke Berhane (2007). Unfortunately, this work cannot be regarded as successful, because a catalogue of manuscripts cannot be provided by a codicologist lacking the necessary competence in the language and literature of the manuscripts he is cataloguing. Delamarter was clearly preoccupied with codicological analysis only, leaving the textual analysis of the contents to his collaborator, whose competence was not adequate to the task. (By contrast, all the catalogues named above were prepared by the best specialists in Ethiopian philology.) The titles of the main texts are provided but seldom a breakdown of their content. Information on decoration is misleading. There are no references to parallel manuscripts in other collections and neither editions nor literature are provided. On the other hand, the ‘quire maps’ were prepared meticulously (cf. also Bausi 2007, 104–106).

However, for his next cataloguing endeavour (Getatchew Haile et al. 2009), Delamarter cooperated with competent scholars and the result is much better. Perhaps this last catalogue demonstrates that in order to achieve a satisfactory description of a collection of manuscripts collaboration between textual scholars and codicologists, and, where necessary, art historians and conservators, is desirable.

Such collaboration will also be the case in preparing online catalogues. Several institutions and scholars are currently working on this type of catalogue, including the HMML at Collegeville and the Ethio-SPaRe project led by Denis Nosnitsin, Hamburg (Nosnitsin 2013a; see also Ch. 4 § 6.1). As this type of cataloguing allows for the addition of new information, and correction of earlier entries, one may expect that collaboration between cataloguer and specialists with other areas of competence will become more common.

References

d’Abbadie 1859; Bausi 2007; Beylot – Rodinson 1995; Chaîne 1912; Conti Rossini 1914; Delamarter – Demeke Berhane 2007; Dillmann 1847, 1848, 1857, 1865, 1878; Ewald 1844, 1847; Getatchew Haile 1993; Getatchew Haile et al. 2009; Grébaut 1938, 1941, 1944; Hammerschmidt 1973, 1977a; Hammerschmidt – Six 1983; Kolmodin 1916; Marrassini 1987–1988; Nosnitsin 2013a; Platt 1823; Six 1989, 1994, 1999; Strelcyn 1954, 1978; Uhlig 1988; Uhlig – Bausi 2007; Wright 1877; Zotenberg 1877.

2.5. Catalogues of Georgian manuscripts (JG–BO)

Academic research into Georgian manuscripts—about 75,000 manuscript leaves (see General introduction § 3.8)—began rather late, in the first half of the nineteenth century. The first investigations were not quite what we could characterize as catalogues, but simply notices about manuscripts sent from St Petersburg to the French Société asiatique by the Georgian prince Teimouraz; they contain nothing but an enumeration of the general content of the four manuscripts in question (Brosset 1833). Remarkably enough, in the course of the nineteenth century, all descriptions of collections of Georgian manuscripts are about manuscripts kept abroad.

In May, 1845, N. Čubinov (Čubinašvili) undertook the first examination of Georgian manuscripts preserved in the Monastery of the Holy Cross in Jerusalem. His account, which addresses but a minor number of manuscripts, is confined to transcripts of colophons and a few superficial observations; it was only published 50 years after Čubinov’s sojourn in Jerusalem (Čubinašvili 1894).

In his *Anecdota sacra et profana* of 1855 (slightly revised in 1861), Constantin Tischendorf provided the first descriptions of Georgian manuscripts, including palimpsests, that were taken by him 'itinerari orientali' to Leipzig. It is noteworthy that for five Greek palimpsests (his nos. VIII, IX, XII, XIII, XV, 8–13), the overwriting is still declared to be Armenian in his descriptions, a mistake corrected by Tischendorf himself in the table of content of his work ('Index Libri', xi–xii: 'rescripta sunt Georgice, non ut in textu dictum est Armeniace'). His description of Georgian manuscripts proper (Codd. Tisch. XXXIX–XLIII of the Leipzig collection; 74–75) is confined to an indication of the size and format of the manuscripts, with a short indication of their contents and their age (for example, 'satis vestustus').

In 1886 and 1888, Aleksandre Cagareli (Tsagareli) provided the first detailed descriptions of Georgian manuscripts kept on Mount Athos (Ivion), in Jerusalem and on Mount Sinai. He indicates the content, the measures, the number of leaves, the material, the date and the type of script, sometimes adding indications on a particular text (*incipits*) or scribe (part of colophons). Cagareli's work meant great progress in Georgian manuscript studies indeed, but his descriptions were still rather imprecise so that Gérard Garitte was not able to identify with Cagareli's account eighteen of the ninety-six manuscripts he saw during his re-investigation of the Georgian manuscripts of St Catherine's Monastery on Mount Sinai in 1950 (Cagareli 1886, 1888a, 1888b; Garitte 1956, see below).

The Georgian manuscripts of Jerusalem and Mount Sinai were re-investigated by Nikolaj Marr and Ivane Žavaxišvili (Javakhishvili) in 1902. The catalogues provided by them were published considerably later (Marr 1940, 1955; Žavaxišvili 1947); they give much more detailed descriptions of both the format and the contents of the manuscripts dealt with, including transcripts of larger text passages (sometimes complete texts) and colophons. It is clear from Marr's survey of the Jerusalem manuscripts that some of the items described by Cagareli were no longer present in the collection of the Monastery of the Holy Cross after this had been removed to the Greek patriarchate by the end of the nineteenth century; some of these items later re-appeared in other collections (Vienna, Österreichische Nationalbibliothek; Washington, Dumbarton Oaks: Peradze 1940, Gippert et al. 2007a). The same is true for some of the Sinai manuscripts, which are now kept in Graz, Universitätsbibliothek, or, for parts, at other places (Šanize 1929; Outtier 1972; Imnaišvili 2004).

The investigation of Georgian manuscripts preserved within Georgia was initiated by the beginning of the twentieth century when Tevdore Žordania, Mose Žanašvili (Džanašvili, Janashvili), Ekvtime Taqaišvili (Takajšvili) and David Ķaričašvili published the first catalogues of the collections of the former 'Ecclesiastical Museum' (now the 'A' collection of the National Centre for Manuscripts, Tbilisi; Žordania – Žanašvili 1902–1908) and the 'Society for the Promotion of Literacy among the Georgian Population' (now the 'S' collection of the National Centre for Manuscripts, Tbilisi; Taqaišvili 1902–1912 and Ķaričašvili 1905). These descriptions remained rather superficial and unbalanced even though they added valuable types of information such as, for example, the identification of water-marks of paper manuscripts, and sometimes even full collations of the texts contained; for example, Taqaišvili provides a full account of the 'History of Kartli' in his description of manuscript no. 74, including ninety pages concerning textual variants (Taqaišvili 1902, 1908 and 1912).

In his catalogues of the Georgian manuscripts of Jerusalem and Mount Athos, Robert Pierpont Blake was the first to pay real attention to a codicological description of the manuscripts, including information as to their binding, quires, dimensions of the written area, ink, and punctuation. He very briefly indicates the content of the colophons but does not give their text in full. For each text, he provides an *incipit*, indicates the presumptive model if the text is a translation, and bibliographical information if the text has been published (Blake 1922–1923, 1924, 1925–1926, 1932a, 1932b, 1933).

Full codicological descriptions can be found in the catalogue of the 'literary' Georgian manuscripts of Mount Sinai worked out by Garitte in 1950. Garitte adds indications about ruling and ornamentation and provides the full text of the copyists' notes and colophons as well as a bibliography of each manuscript; for the texts, he gives titles, *incipits* and *desinits*. He also adds a very detailed index. In order not to duplicate the work undertaken by Marr and Žavaxišvili, he confined himself with the description of non-strictly liturgical manuscripts as these were dealt with in detail by his predecessors (Garitte 1956).

Even in the twentieth century, we still find catalogues with more simple descriptions, especially for minor collections in Europe. This is true, for example, for Frédéric Macler's and Ekvtime Taqaišvili's descriptions of the Georgian manuscripts in the Bibliothèque nationale de France (Macler 1908; Taqaišvili

1933), Paul Peeters' and David Barrett's accounts of the Georgian manuscripts in Oxford (Peeters 1912; Barrett 1973, 305–354), Jan Braun's account of the Georgian manuscripts in Poland (Braun 1958), or Gregor Peradze's catalogue of the Georgian manuscripts in Austria (1940). More detailed investigations have been provided for the Leningrad / St Petersburg collection (Orbeli 1956; Ceraze – Xoperia 2009; Ceraze forthcoming), the Georgian manuscripts in Germany (Assfalg 1963a), or the Georgian manuscripts in the Mingana collection at Birmingham (Garitte 1960).

In 1946, the Georgian Academy of Sciences initiated the project of a comprehensive cataloguing (in Georgian) of the Georgian manuscripts kept in Georgia and abroad. So far, a total of twenty two volumes describing the four major collections of the former K. Kekelidze Institute of Manuscripts (now styled the National Centre of Manuscripts) at Tbilisi have been published ('H' collection: six volumes, Kutatelaze – Kaşraze 1946; Kutatelaze 1951; Šarašize 1948; Meparišvili 1949; Meṭreveli 1950; Kaşraze et al. 1953; 'Q' collection: two volumes, Meṭreveli et al. 1957–1958; Bregaze et al. 1958; 'S' collection: seven volumes, Bregaze et al. 1959; Bakraze et al. 1961; Enukize et al. 1963; Bregaze et al. 1965, 1967, 1969, 1973a; 'A' collection: six volumes, Bregaze et al. 1973b, 1976, 1980, 1985, 1986, 2004). These catalogues provide precise codicological descriptions throughout, including detailed indexes, but no reproductions. The same is true for the catalogues of the Historical Archive at Tbilisi (two volumes, Kaḡabaḡe – Gagošize 1949–1950), the Marx Library at Tbilisi (Čikvašvili 1964), the Historico-Ethnographical Museum at Kutaisi (two volumes, Niḡolaze 1953–1964), the Axalcixe Museum (Abulaze et al. 1987), and the Museum of Gori (Bregaze – Kaḡabrišvili 2002), but also for the catalogues of foreign collections that were published in Georgia (Mount Sinai: three volumes, Meṭreveli et al. 1978; Čanḡievi – Žḡamaia 1979; Gvaramia et al. 1987; Mount Athos: Axobaḡe et al. 1986). The catalogue of the Georgian manuscripts discovered among the 'New Finds' of St Catherine's Monastery on Mount Sinai (Aleksize et al. 2005; published in three languages: English, Greek, and Georgian) has been the first to add sample images of each manuscript described.

Some collections still want detailed descriptions. This is true, for example, for the collections of the museum of Mestia in Svanetia (but cf. Silogava 1986, 41–60). Among foreign collections, we are still missing a thorough account of the Georgian manuscripts kept in the Matenadaran in Yerevan, Armenia, or in the Armenian patriarchate in Jerusalem (but cf. Outtier 1986).

References

Abulaze et al. 1987; Aleksize et al. 2005; Assfalg 1963a; Assfalg – Molitor 1962; Axobaḡe et al. 1986; Bakraze et al. 1961; Barrett 1973; Blake 1922–1923, 1924, 1925–1926, 1932ab, 1933; Braun 1958; Bregaze – Kaḡabrišvili 2002; Bregaze et al. 1958, 1959, 1965, 1967, 1969, 1973a, 1973b, 1976, 1980, 1985, 1986, 2004; Brosset 1833; Cagareli 1886, 1888a, 1888b, 1889; Čanḡievi – Žḡamaia 1979; Ceraze – Xoperia 2009; Ceraze forthcoming; Čikvašvili 1964; Čubinašvili 1894; Enukize et al. 1963; Garitte 1956, 1960; Gippert et al. 2007a; Gvaramia et al. 1987; Imnaišvili 2004; Kaḡabaḡe – Gagošize 1949–1950; Kaḡaričašvili 1905; Kaşraze et al. 1953; Kavtaria 2002; Kutatelaze 1951; Kutatelaze – Kaşraze 1946; Macler 1908; Marr 1940, 1955; Meparišvili 1949; Meṭreveli 1950; Meṭreveli et al. 1957–1958, 1978; Meṭreveli et al. 1978; Niḡolaze 1953–1964; Orbeli 1956; Outtier 1972, 1986; Peeters 1912; Peradze 1940; Šanize 1929; Šarašize 1948; Silogava 1986; Taḡaišvili 1902–1912, 1933; Tischendorf 1855, 1861; Žavaxišvili 1947; Žordania – Žanašvili 1902–1908.

2.6. Catalogues of Greek manuscripts (ABi)

The *Répertoire des bibliothèques et des catalogues de manuscrits grecs* published in 1995 by Jean-Marie Olivier listed some 2,500 catalogues covering the description of over 65,000 Greek manuscripts surviving in the libraries around the world (see also General introduction § 3.9). These figures concern only parchment and paper manuscripts, as Greek papyrus codices and scrolls (and fragments of parchment codices) are generally preserved in separate collections described by papyrologists (for a description of a papyrus see, e.g., Ch. 3 § 3.6).

Amongst the oldest 'catalogues' of Greek manuscripts is the very famous mediaeval inventory of the treasury and the library of the monastery of St John the Theologian of Patmos made in the year 1200 (As-truc 1981; Bompaire 1979; cf. Ch. 4 § 1). Although this document is hardly more than a list of manuscripts that was primarily established to register the movable property of the monastery, it already presents some

of the general features that are to be found in modern catalogues: general content of the volume, material (parchment or paper), and in some cases, details on the age and the size of the manuscript or on a precious binding. During the Renaissance, after the arrival of Greek manuscripts in the west and the consequent organization of the great European libraries, systematic inventories of Greek manuscripts in these libraries were established; a good example of this type of library inventory was compiled in 1544 by Angelos Vergikios and Konstantinos Palaiokeppas for the Greek manuscripts of the Royal Library installed by François I at Fontainebleau near Paris (Omont 1889). Today, such inventories have mainly a documentary value and serve for reconstructing the history of collections and libraries.

The first modern catalogues appeared in the late seventeenth century with the catalogue of the Imperial Library in Vienna by Peter Lambeck, and most notably in the early eighteenth century with the undertaking of the Maurist Bernard de Montfaucon who laid the foundations of modern Greek catalography with his *Bibliotheca Coisliniana olim Segueriana* published in 1715. It indeed provides a much more minute description of the content of the manuscripts. Authors and texts are identified, with their Greek title, *incipit*, and beginning folium; comments on the physical state of the text or on the version present in the manuscript are sometimes added; significant portions of unknown texts are even edited in some cases. Montfaucon's main innovation, however, as the founder of Greek palaeography with the publication of his *Palaeographia graeca* in 1708, lies in a special attention to the dating of manuscripts and the transcription of their colophons (Irigoin 1998; see also Ch. 2 § 7). Material description, however, is limited to the distinction between paper and parchment. Between the eighteenth century catalogues of the Biblioteca Medicea Laurenziana in Florence by Angelo Maria Bandini or that of the Royal Library in Madrid by Juan de Iriarte and the late nineteenth-century catalogues of Mount Athos by Spyridōn Lampros or of Mount Sinai by Viktor Gardthausen, the basic data found in Greek catalogues remained the same, although the formal presentation could change from one catalogue to the other. All these catalogues served fundamentally the same bibliographical purpose: making accessible to scholars the sources they needed, and helping them find the texts they were looking for in manuscripts and libraries.

With the first catalogue of the collection of *Vaticani graeci* manuscripts in the Vatican Library published in 1923, Greek cataloguing enters a new phase. As a preface to the book, one can find a short text entitled *Leges quas procuratores Bybliothecae Vaticanae in codicibus graecis recensendis sibi constituerunt* which has had a lasting influence on Greek cataloguers (Mercati – Franchi de' Cavalieri 1923, xi–xv. The *Leges* are reprinted at the beginning of the subsequent volumes of the *Codices Vaticani graeci* collection. They are also reproduced and commented on in Devreesse 1954, 278–285). This set of rules gives the general features of a tripartite description of the manuscript: 1. Summary description of the external features of a manuscript; 2. Inventory of authors and texts; 3. Exposition of the material aspects of the book and of its history, which are for the first time fully taken into account. These rules have been systematized and redeveloped by others (Richard [M.] 1954; Canart 1980), and with minor modifications, and more or less analytical versions depending on the idiosyncrasies of each cataloguer, this model has been adopted by most enterprises of Greek cataloguing since the early twentieth century, for example for the new catalogue of the Österreichische Nationalbibliothek in Vienna made between 1961–1994 by Herbert Hunger and his team.

Since the publication of the first edition of the *Répertoire des bibliothèques et des catalogues de manuscrits grecs* by Marcel Richard in 1948 (Richard [M.] 1948 [1958²]), which listed only 529 catalogues, the cataloguing of Greek manuscripts has undergone an exponential proliferation over the last decades. Most collections in the east and the west have already been inventoried and the actual effort is concentrated on producing new and more detailed catalogues of formerly described collections. This is possible thanks to all the reference works that have been developed over the last century for the identification of texts and authors, but also repertories of copyists (Gamillscheg et al. 1981, 1989, 1997), rulings (Sautel 1995), watermarks (for example Harlfinger – Harlfinger 1974, 1980), etc., that allow a more accurate description of the manuscript as a physical object. These repertories are not specific to Greek catalography, although some of these repertories, like Harlfinger – Harlfinger 1974, 1980, have been made by using specifically Greek manuscripts.

At the same time, specialized catalogues are being produced that are dedicated to manuscripts according to content (for example the enterprise of cataloguing Byzantine musical manuscripts by the Institute of Byzantine Musicology in Athens has produced, since 1975, seven volumes entitled *Τὰ Χειρόγραφα*

Βυζαντινῆς Μουσικῆς (Stathis 1975, 1976, 1993, 2006; Chaldaiki 2004; Balageorgos – Crete 2008; Giannopoulos 2008), which cover the collections of different monasteries on Mount Athos, Meteora, Sinai, England and the island of Hydra; the project on Byzantine law manuscripts by the Max Planck-Institut für Europäische Rechtsgeschichte in Frankfurt-am-Main has produced two volumes entitled *Repertorium der Handschriften des byzantinischen Rechts* (RHBR) since 1995), place of origin (for example Kotzampasē 2004, on manuscripts from Asia Minor), date (for example on the dated manuscripts of the thirteenth and fourteenth centuries four different series of catalogues have been produced on the manuscripts of Vatican, Italy, England (Turyn) and France (Astruc, Géhin, Förstel)), palaeography (for example Orsini 2005 on biblical uncial manuscripts both on papyrus and parchment), codicological features (for example Crisci 1990 on palimpsest manuscripts; catalogues of decorated and illuminated manuscripts are also very common, see also Ch. 4 § 3.2), or just a specific author whose works are transmitted by manuscripts (for example, on John Chrysostom, the most prolific author in Greek manuscripts, see the *Codices Chrysostomici graeci*, with seven volumes published by the Institut de recherche et d'histoire des textes in Paris since 1968). Another example for classical Greek is the *Aristoteles Graecus* project; a first volume was published by Moraux 1976, and the project is currently pursued online (<<http://beta.teuchos.uni-hamburg.de/projekt>>). All these catalogues of a particular type offer different gateways to the collections of manuscripts, but also different angles of view on the manuscripts according to the field of specialization. A catalogue of dated manuscripts will analyse in detail the manuscript as a material and historical object accurately describing the colophon and the script, and more generally all the physical and historical aspects, as each dated manuscript is meant to serve on a reference scale for dating other manuscripts, and every physical detail can be relevant; conversely a catalogue on a specific author will put the emphasis on the state of the text in each particular manuscript, as the catalogue is to serve as a reference tool for the text editor.

New issues in Greek catalography

In 2007, Patrick Andrist published a new catalogue of the collection of Greek manuscripts in the Burgerbibliothek in Bern (Andrist 2007a). This 'experimental' catalogue of a new type, as the author himself describes it, comes with a booklet of some fifty pages named *Règles de catalogage*, where Andrist exposes his approach to cataloguing (Andrist 2003; see also Ch. 4 § 4). The size of the collection (only forty manuscripts) offered indeed the ideal opportunity to experiment a practical application of the theoretical principles that had been developed a few years earlier by Peter Gumbert around the concept of codicological unit (Gumbert 2004). The main innovation of this catalogue lies in the fact that each description is structured, not around the codex as a whole, but around the codicological unit, which becomes the heart of the description. In itself the understanding of the structure and stratigraphy of the manuscript, i.e. the different phases of production of the manuscript and of its use and circulation, is not new and many modern catalogues had already in some way or another tried to account for it. This catalogue does however offer a complete reversal of the viewpoint giving priority to the archaeological reconstruction of the physical object through its codicological features over a more traditional description of the codex that begins by its textual contents. To what extent this experiment can be applied more generally to cataloguing manuscripts remains an open question, but it has generated some challenging reflections on the process of cataloguing, and is an incentive to account more accurately for the structure of the codex and its history.

Another question in the spotlight in recent years, which goes far beyond the field of Greek manuscripts, is the impact of the numeric revolution on cataloguing. The issues at hand can be grasped by browsing some recent publications on the subject (Fabian – Wagner 2007; Crisci – Maniaci 2010; Rehbein et al. 2009; Fischer [F.] et al. 2010). It is still too early to draw up a general policy regarding online cataloguing of Greek manuscripts. The project of a new catalogue of the Greek manuscripts in the Bayerische Staatsbibliothek in Munich started in 2002 offers an interesting example of some general trends. While the manuscripts are digitized and the images put online in a digital library, the descriptions of the manuscripts are concurrently available in two versions, a printed version and an electronic version on *Manuscripta mediaevalia*, the German web portal for manuscripts (*Katalog der griechischen Handschriften der Bayerischen Staatsbibliothek München*, Wiesbaden, five volumes published since 2002; Hajdú 2002, 2003, 2012; Tiftixoglu 2004; Molin Pradel 2013; <<http://www.manuscripta-mediaevalia.de/>>). The two descriptions have the same content but differ in style: the printed catalogue follows the traditional presentation, while the descriptions in the electronic version are structured according to

codicological units. Electronic cataloguing has also opened the possibility to larger scale collaborative enterprises and other projects have been launched on a national level, like the *Manoscritti Greci d'Italia* project for Italy (<<http://www.nuovabibliotecamanoscritta.it/MaGI/index.html>>), *e-codices* for Switzerland (<<http://www.e-codices.unifr.ch/>>), or the *Greek Manuscripts in Sweden project* (<<http://www.manuscripta.se/>>). As a result the researcher around the world has access at the same time to the virtual object and its description. However this general effort is fragmented and the different enterprises are not always compatible; so the issues at hand concern more generally the way to structure all this web input and make it readily available and searchable by scholars. A collective reflexion has started in this field, among other initiatives around the database *Pinakes: textes et manuscrits grecs* (<<http://pinakes.irht.cnrs.fr/>>), which aims originally at referencing the texts that are contained in all Greek manuscripts around the world; the aim of this reflection is not to unify the description of manuscripts in existing databases but to interrelate databases by cross-referencing their electronic data.

References

Andrist 2003, 2007a; Astruc 1981; Balageorgos – Crete 2008; Bompaire 1979; Canart 1980; Chaldaiki 2004; Crisci 1990; Crisci – Maniaci 2010; Devreesse 1954; Fabian – Wagner 2007; Fischer [F.] et al. 2010; Gamillscheg et al. 1981–1997; Giannopoulos 2008; Gumbert 2004; Hajdú 2002, 2003, 2012; Harlfinger – Harlfinger 1974–1980; Hunger 1961; Hunger – Kresten 1969, 1976; Hunger – Lackner 1992; Hunger et al. 1984; Irigoin 1998; Kotzampasē 2004; Mercati – Franchi de' Cavalieri 1923; Molin Pradel 2013; Montfaucon 1708, 1715; Moraux 1976; Olivier 1995; Omont 1889; Orsini 2005; Rehbein et al. 2009; Richard [M.] 1948 [1958²], 1954; Sautel 1995; Stathis 1975, 1976, 1993, 2006; Tiftixoglu 2004. Web sources: *Aristoteles Graecus* at TEUCHOS <<http://beta.teuchos.uni-hamburg.de/projekt>>, last access May 2014; *e-codices* <<http://www.e-codices.unifr.ch/>>, last access May 2014; *Greek Manuscripts in Sweden* <<http://www.manuscripta.se/>>, last access May 2014; *Manuscripta mediaevalia* <<http://www.manuscripta-mediaevalia.de>>, last access May 2014; *Manoscritti Greci d'Italia* <<http://www.nuovabibliotecamanoscritta.it/MaGI/index.html>>, last access May 2014; *Pinakes* <<http://pinakes.irht.cnrs.fr/>>, last access May 2014.

2.7. Catalogues of manuscripts in Hebrew characters (DSk)

Throughout the centuries, Jews used Hebrew characters to write down a variety of languages. Primary, of course, was Hebrew. There are, however, Hebrew-character manuscripts containing texts in the dialect of Middle High German known as Yiddish, Castilian (often referred to as Judezmo or Ladino), Aramaic, Arabic, Persian, Greek, Old French, Italian, Tatar, and others. These languages are thus called 'Judaean' languages, such as Judaeo-Arabic, Judaeo-Persian, Judaeo-Italian, and so on. The cataloguer of a large collection of Hebrew manuscripts must therefore be prepared to deal with range of different languages. For example, the Christian Hebraist Giovanni Bernardo De Rossi (1742–1831) put together one of the most important collections of Hebrew manuscripts, now found in the Biblioteca Palatina in Parma. De Rossi published a catalogue of his own collection, at the end of which he describes manuscripts in Hebrew characters, but containing texts in Italian, Spanish, German and Polish (De Rossi 1803–1804). It should also be pointed out that the Hebrew script itself can also be an issue for cataloguers. The ancient Hebrew script used in the period of the First Temple in Jerusalem fell out of use soon after the return from the Babylonian Exile, during the fifth century BCE. The script which replaced it was actually an Aramaic script, variations of which we still use today. A variant of the ancient Hebrew script, though, is still used by the Samaritans (even in their newsletter) and is found in mediaeval manuscripts, sometimes even as marginalia in Judaeo-Arabic texts.

Hebrew-character manuscripts were produced over a long chronological period of time and in quite diverse geographical areas (the earliest surviving Hebrew-character manuscripts appear to be the Aramaic papyri from Elephantine in southern Egypt, dating from the fifth century BCE. Hebrew manuscripts continued to be produced up through the twentieth century). This resulted in a large variety of manuscript production techniques and codicological and palaeographical characteristics to which the cataloguer must pay attention. Hebrew-character manuscripts were copied throughout the Middle East, in the areas now known as Iran, Iraq, Azerbaijan, Syria, Israel, Lebanon, Turkey, and Yemen; and in North Africa, in Egypt, Libya, Tunisia and Morocco. (The furthest east that such manuscripts were produced was in Kaifeng, China, in the sixteenth and seventeenth centuries. But these perhaps can be set aside as a curiosity. Neverthe-

less, early Judaeo-Persian manuscripts from the eighth century found in China's western desert indicate that such manuscripts did find their way quite far to the east. As a matter of curiosity, it should also be mentioned that there exist a number of early mediaeval Jewish texts in Arabic characters, including transliterations of Hebrew texts, mostly biblical, into Arabic script. These manuscripts indicate the high degree of cultural assimilation found among some groups of Jews at the time.) Hebrew-character manuscripts were, of course, also produced throughout Europe, in Spain, France, Italy, England, Germany, Austria, the Netherlands, the Balkans, Poland, Russia, and the Crimea. With this in mind, it is possible to raise the question as to whether or not a manuscript produced in ninth-century Italy, where the Jewish community goes back to the time of the Roman Empire, or sixteenth-century Prague should be considered an oriental manuscript, particularly if the language is, let us say, German/Yiddish, even if it is in Hebrew characters. This question, however, belongs perhaps more to a discussion of the boundaries of European identity than to a handbook on manuscript cataloguing.

The earliest surviving catalogues of Hebrew-character manuscripts are book lists found in the Cairo Geniza. (Almost all of the Geniza book lists were published in Allony 2006. On the Cairo Geniza, see Ch. 1 § 9.1.2 and below.) More than a hundred such lists have survived, most of them having been written in the eleventh to thirteenth centuries. These lists record the contents of private libraries, booksellers' collections, synagogue libraries, estate collections, and so on. The books listed may be organized by subject, author, or even by the shelf on which they are to be found in the library. Some book lists record whether or not the book is bound and what sort of binding it has (many books in this period were left unbound with the signed quires lying in a pile on the shelf).

As with a number of oriental manuscript traditions, systematic cataloguing of Hebrew-character manuscripts in Europe began in the late seventeenth and eighteenth centuries when Hebrew manuscripts were catalogued together with other languages such as Arabic or Syriac which made up a library's oriental collection. It appears that the first collection to be catalogued was that of the Rijksuniversiteit in Leiden which had received the manuscript collections of Josephus Scaliger and Levinus Warner. Catalogues of this collection were published in 1674 (Spanheim 1674) and again in 1716 (Senguerdus et al. 1716). This collection was catalogued again a number of times afterwards by Moritz Steinschneider in 1858 and by Albert van der Heide in 1977. An inventory of the collection was published by Jan Just Witkam in 2007 (most of the Hebrew manuscripts are listed in volume I). Such recataloguing over the years is typical of a number of the larger collections of Hebrew manuscripts. Also to be mentioned is the catalogue of the oriental manuscripts held by the Bibliothèque nationale de France in Paris, published in 1739 (Melot 1739). The basis for the Hebrew section was the work done in 1689 by a converted Jew, Louis de Compiegne, and then revised by Abbé Eusèbe Renaudot. In 1752, a catalogue of the oriental manuscripts held in the Biblioteca Medicea Laurenziana in Florence was published by Antonio Biscioni (1752). The Maronite cleric Giuseppe Assemani and his nephew Stefano published in 1758 and 1759 a catalogue of the Syriac and Hebrew manuscripts held by the Biblioteca Apostolica Vaticana, most of which Giuseppe Assemani himself had acquired for the library (Assemani – Assemani 1758–1759). The descriptions of the Hebrew manuscripts were actually prepared by the *scriptor hebraicus* Giovanni Costanzi. This printed catalogue was preceded by handwritten lists of Hebrew manuscripts compiled in the seventeenth century by Carlo Federigo Borromeo, Giovanni Battista Jonah and Giulio Morosini. In 1693, the Bodleian Library at Oxford acquired the Pococke and Huntington collections of oriental manuscripts, which included manuscripts in Hebrew and Judaeo-Arabic. A catalogue of these collections was published by Johannes Uri in 1787 (Uri 1787).

These early catalogues were prepared by individuals who were not great scholars of Hebrew literature, to say the least, and the cataloguing descriptions are often of limited value. For example, the Assemani catalogue of the Vatican manuscripts was seen by contemporary readers 'to include a considerable number of errors of transcription, identification and interpretation, and even forgeries' (Proverbio 2008). An exception to this would be De Rossi's catalogue (De Rossi 1803–1804). Nevertheless, these catalogues were of considerable historical importance, for through their descriptions and transcriptions of sample texts, they exposed European scholars to Hebrew texts for which they had few sources of information.

By the middle of the nineteenth century, however, this situation changed, as Jewish scholars who were part of the movement known as *Wissenschaft des Judentums* began to take part in cataloguing manuscript collections. These individuals often combined a rabbinic education with university training. As opposed

to the earlier catalogues, the catalogues produced by these scholars focused mainly on Hebrew-character manuscripts, although sometimes including Arabic-character manuscripts of Jewish texts. Moritz Steinschneider, the father of modern Jewish bibliography, among his many publications also published a series of Hebrew manuscript catalogues. These include catalogues of the Hebrew manuscript collections held by the libraries in Leiden, Munich, Hamburg and Berlin (Steinschneider 1858, 1875, 1878, 1897). His catalogue of the printed Hebrew books in the Bodleian Library also contains some cataloguing comments on some manuscripts at the end (Steinschneider 1852–1860). In this period, catalogues were made for some of the largest collections of Hebrew manuscripts at the time, those of the Bibliothèque nationale de France in Paris, the Bodleian Library in Oxford and the library of the British Museum. Work on a new catalogue of Hebrew manuscripts held by the Bibliothèque nationale de France was begun by Salomon Munk in 1838. When his eyesight failed in 1850, the effort was continued by Joseph Derenbourg and then completed in 1865 by Hermann Zotenberg who described the Samaritan manuscripts (Zotenberg 1866). Adolf Neubauer began re-cataloguing the Hebrew manuscripts of the Bodleian Library in 1868 and the first volume of the catalogue appeared in 1886 (Neubauer 1886; a supplement to this catalogue was also published, Beit-Arié – May 1994). A second volume, completed by Arthur Cowley, appeared in 1906 (Neubauer – Cowley 1906). The collection of the British Museum (now the British Library) was described by George Margoliouth in three volumes published from 1899–1915. A fourth volume of the catalogue prepared by Jacob Leveen appeared in 1935. Even though the title of his catalogue indicates that it includes the Samaritan manuscripts, they were actually not catalogued until Alan D. Crown's catalogue was published in 1998.

These catalogues are characterized by accurate, sometimes quite lengthy descriptions of the manuscripts' contents. Colophons and owners' marks are quoted and information on obscure authors or individuals is provided when available. Codicological information is generally limited to number of folia, a general description of quiring, the material of the manuscript and size. One problem in these catalogues is a lack of uniformity in palaeographic terminology. Some catalogues were also organized by subject and so re-numbered the manuscripts in their collections. While this is a convenience for users who are interested in a particular field, it has created a significant amount of confusion over the years. In addition to the collections mentioned, many other collections, often smaller ones, have been catalogued. Information concerning collections of Hebrew-character manuscripts and their catalogues can be found in Richler 1994.

Recent years have seen some important developments in the methods of cataloguing Hebrew-character manuscripts. Among these is the increased use of teamwork in cataloguing large manuscript collections. Hebrew-character manuscripts contain texts from an extremely large variety of subjects and genres, in numerous languages. One individual cannot be expected to acquire the knowledge required in order to provide accurate and in-depth cataloguing. Furthermore, a team of cataloguers/researchers can deal with a large collection in a much shorter period of time than the many decades required when cataloguing was done by an individual or two. Two collections recently catalogued in this way are the Biblioteca Apostolica Vaticana (Richler et al. 2008) and the Biblioteca Palatina in Parma (Richler – Beit-Arié 2001). Both catalogues were edited by Benjamin Richler, who served for many years as the director of the Institute for Microfilms of Hebrew Manuscripts (IMHM, see below) located in the National Library of Israel in Jerusalem. The IMHM has a team of such specialists who contributed to these catalogues. The teamwork, however, went further. The expert codicological and palaeographical descriptions were provided by Malachi Beit-Arie, who has served many years as the director of the Hebrew Paleography Project.

It is relevant at this point to mention that there are still no published detailed, systematic catalogues for some of the largest collections of Hebrew-character manuscripts. These include the collections of the Jewish Theological Seminary in New York, the Firkovitch collections held by the Russian National Library in St Petersburg, the Russian State Library in Moscow (which among other collections holds the very important Guenzburg collection), the Vernadsky Library in Kiev, and the National Library of Israel (for some of these collections there do exist handlists, partial type-written descriptions, or partial descriptions in Internet databases).

The second development in recent and on-going cataloguing efforts is the use of digitized databases accessible on the Internet. The first and perhaps most important digital database I would like to describe is that of the IMHM mentioned above. The IMHM was founded in 1950 for the purpose of gathering microfilms of manuscripts in Hebrew characters from all manuscript collections around the world, a sort of

literary ingathering of the exiles. In 1963, the Institute became part of the National Library in Jerusalem. Sitting in the Institute, one can easily move around the world, going from library to library, bringing together manuscripts in a way which would be quite difficult if one had physically to visit the libraries holding them. In addition to searching out Hebrew-character manuscripts and making microfilms, the IMHM also began to catalogue the manuscripts based on the microfilm images it had received. For many years, the cataloguing information was kept in a card catalogue. When the National Library began to digitize its card catalogues a number of years ago, the Institute also began to convert its cataloguing information to digital format and to add all new cataloguing data directly into a digital database called ALEPH, much in the form of free text fields. The result of this effort is that today there is a digital record for nearly every Hebrew-character manuscript in the world. The cataloguing records are not all uniform. There were years when the IMHM took in thousands of microfilms and the records were necessarily done in a cursory fashion. Many records are stubs, labelled as temporary records, and may only contain author or title information, or a brief description of the manuscript. On the other hand, there are many manuscripts which have quite full cataloguing information. This database is now accessible on the Internet by way of the National Library of Israel's website (<<http://www.nli.org.il>>). The IMHM can also thus provide us with some rough statistics. According to their microfilm collection, there are more than 86,000 Hebrew-character manuscripts (not including *geniza* fragments), which are held by more than 700 public libraries and private manuscript collections.

The second Internet database to be described is concerned with the manuscripts found in the Cairo Geniza (on the 'Cairo Geniza' see Ch. 1 § 9.1.2, on the Jewish *geniza* tradition see also Ch. 3 § 3.21). The Ben Ezra Synagogue was first built in the middle of the tenth century and, after various re-buildings and renovations, still stands today. The manuscript fragments placed in its *geniza* were not buried for the most part and were preserved by the dry Egyptian climate and the continuous use of the synagogue. The congregation's reverence for the written word was not limited to sacred texts. They threw into the *geniza* bits and pieces of almost anything that was written. The Cairo Geniza thus contained fragments of a very wide variety of texts in a diversity of languages and scripts, reflecting the dynamic religious and intellectual world of the mediaeval Jewish community in Egypt. It also had a very large amount of documentary material from which the daily life, politics and business activity of the community can be reconstructed. Pieces of autograph manuscripts by famous individuals such as Maimonides are to be found together with someone else's (eleventh-century) shopping list. (There has been a recent spate of publications concerning the Cairo Geniza. For an overall description, one may consult Reif 2000; Hoffman – Cole 2011.)

This Geniza was emptied out by various individuals at the end of the nineteenth century, most notably by Solomon Schechter of Cambridge University, and the manuscript fragments have been spread around the world, with the largest collections to be found in the Cambridge University Library, the Jewish Theological Seminary in New York, Oxford, the British Library and dozens of other public and private collections. There are approximately 250,000 fragments, most consisting of one to ten folia, although there are some having dozens, even over a hundred folia. Cataloguing of the various Geniza collections has been rather sporadic, although a few libraries, such as Oxford or Cambridge (for parts of its collection), do have detailed printed catalogues.

Albert Friedberg of Toronto established the Friedberg Genizah Project in 1999 with the aim of encouraging and organizing research in the field. Out of this has come a very sophisticated website on which are being placed high-quality digital images of almost all of the Cairo Geniza fragments together with cataloguing and bibliographical information, transcriptions and translations (access through the portal <<http://www.jewishmanuscripts.org>>). The cataloguing program developed for the project entails digital encoding of a large number of details, including many elements of the physical description of a fragment, its content, and palaeographical and codicological elements. This allows for complex searches of the database. Furthermore, the website is designed to encourage communication and cooperation among scholars of Cairo Geniza manuscripts with a number of ways for users to add information to the site, including a forum for discussion, making the database a shared project of scholars.

There was a second important *geniza* in Old Cairo, that of the Karaite Synagogue. This synagogue had a library and the *geniza* seems to have been used mostly to store its worn-out books. This *geniza* thus for the most part contained literary manuscripts, with a significant percentage of them being large manuscripts (up to 1,005 folia). Most of these manuscripts were removed in 1863 by Abraham Firkovitch, a Crimean

Karaite born in Lutsk. The manuscripts were subsequently sold by Firkovitch's family to the Imperial Public Library in St Petersburg (now the Russian National Library). Abraham Firkovitch actually acquired manuscripts from a number of sources during his trip to the Middle East, but the vast bulk of what became to be known as the Second Firkovitch Collection apparently came from the *geniza* of the Karaite Synagogue in Old Cairo. Firkovitch collected the manuscripts of his first collection (also sold to the Imperial Library) during an earlier trip through the Caucasus and Crimea (on the formation of Firkovitch's collections, see Elkin – Shapira 2003). The Firkovitch Collections have been divided by the Russian National Library into several sections (a brief description of the divisions of the collection may be found in Sklare 2003, 895, 905-908). The largest part of the collection is that of the sections containing Judaeo-Arabic and Arabic materials, having nearly 10,000 shelfmarks. This is by far the largest gathering of Judaeo-Arabic materials, mostly from the tenth to fifteenth centuries. This collection is extremely important as most of the works contained in its manuscripts are unknown (or nearly unknown) to scholarship. A considerable number are *unica*. From the Stalin period until glasnost, these collections were virtually *terra incognita*, closed to western scholars, until they, too, were microfilmed and made available in Jerusalem. The daunting but essential task of cataloguing this collection was taken up by a team of researchers of the Center for the Study of Judaeo-Arabic Culture and Literature, a unit of the Ben-Zvi Institute for the Study of Jewish Communities in the East in Jerusalem. The cataloguing records of this team are entered into both the ALEPH database of the IMHM and the Friedberg Genizah Project database. Up to the present, approximately 3,500 manuscripts have been catalogued.

The final digital cataloguing project to be described is concerned with what has been called the 'European Genizah'. In the mediaeval period and the renaissance, folia taken from early European Hebrew manuscripts were used for binding notarial files and were also glued together to make a kind of 'cardboard' used in book bindings. Projects have been set up in a number of countries to recover these fragments. And indeed, thousands of such manuscripts have been identified in various libraries and collections in Austria, England, France, Germany, Hungary, Italy, Poland, Slovakia, Spain, Switzerland and the Czech Republic. For many years, the national projects worked more or less independently of one another, some establishing their own databases or inventories, while others are in a less advanced stage. A network called 'Books within Books' (<<http://www.hebrewmanuscript.com>>) was established in 2007 in order to bring together all of the separate initiatives concerned with the 'European Genizah'. Among its activities, this network is setting up an online database which will be accessible to registered users. The network is coordinated by Judith Olszowy-Schlanger of the École Pratique des Hautes Études, Sorbonne.

We have thus gone from the beginnings of the cataloguing of Hebrew-character manuscripts in the eleventh century to the new possibilities of cataloguing made available to us in the twenty-first century. And all of this is but an aid to help us understand the remnants left to us of the cultural world of people writing in Hebrew characters in the tenth, or perhaps fifteenth, centuries.

References

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2.7.1 Types of catalogues of Hebrew manuscripts (JdB–MTO)

It is well known that it was in the early 1950s that the foundations of modern codicology were laid and the range of the discipline defined. Alphonse Dain (1896–1964), who first coined the term 'codicology' in 1944, intended it to include the history of manuscripts and manuscript collections, research on their current locations, problems of cataloguing, the coverage of catalogues, the trading of manuscripts and their use, but not the study of the material production of the book, which together with analysis of the script belonged more properly, in his view, to the field of palaeography. Reaction to this position was expressed by the Belgian François Masai (1909–1979), founder in 1946 of the journal *Scriptorium*, who

in two articles in that same journal (Masai 1950, 1956) called for a separation between ‘paléographie’ and ‘codicologie’, saying that the former should concern itself with the study of script on any writing surface, and independently of it, whereas the latter should focus on analysis of the material production of the manuscript, establishing a sort of archaeological study of the book (Masai 1950, 293). This perception led to the establishment of two views on the range of codicological work: one which understands the discipline in its most restrictive sense, as limited to archaeological study of the book in order to describe the techniques of production of the book as an artefact, and another broader view which does not content itself with such description but also gives itself the mission of interpreting the data both on the production and use of the object and on the copying and transmission of the text (Muzerelle 1991, 350 refers to these two views as ‘codicologie *stricto sensu*’ and ‘codicologie au sens large.’).

In the studies which applied the broader view of codicology, the establishment of a chronology and a typology in the production of the mediaeval book became fundamental. This led to the emergence of several projects designed to catalogue dated manuscripts, since they ensure the dating of physical features of the codex and make it possible to establish the chronology of the evolution of production techniques of the mediaeval book, which is essential to the dating of codices lacking a colophon. As early as 1953, the *Comité international de paléographie* oversaw a project to catalogue all the Latin manuscripts in the world, providing information on the date, place and/or scribe. Following this model of the study of dated manuscripts, two figures emerged within the field of mediaeval Jewish history who were to influence the development of Hebrew codicology and palaeography until the present day: Colette Sirat and Malachi Beit-Arié. 1965 saw the creation of the *Comité de paléographie hébraïque*—מפעל הפאליאוגראפיה העברית—with the participation of the Institut de recherche et d’histoire des textes of the CNRS, the Israel Academy of Sciences and Humanities, and the Jewish National and University Library (today the National Library of Israel). The first volume of *Manuscripts médiévaux en caractères hébraïques portant des indications de date jusqu’à 1540*—אוצר כתבייד עבריים מימיהבנינים בציוני תאריך עד שנת ה’ש—(Sirat et al. 1972; Beit-Arié et al. 1979; Sirat – Beit-Arié 1986), appeared in 1972, and the idea was that each entry would occupy one or several loose-leaved sheets, so that the reader could organize the descriptions in accordance with her or his needs, following either a chronological criterion (the first volume covered the period from 1207 to 1528), or a geographical or thematic one. Despite these possibilities, the final intention of the authors was to present the manuscripts in the chronological order in which they had been copied, for it is the only criterion by which to establish the development of the typologies of production of the manuscript Hebrew book throughout the Middle Ages. The numbering of the entries reveals the chronological criterion behind the concept of the catalogue of dated manuscripts. The description of the oldest manuscript in the first volume (Paris, BnF, Hébreu 82; copied in 1207) is given the number I,1, the Roman numeral standing for the number of the catalogue volume. The most recent (Jerusalem, Schocken Institute, 13869) is number I, 179.

The publication of the third volume of *Manuscripts médiévaux en caractères hébraïques* in 1986 coincided with a period in which so-called quantitative codicology had already taken its first steps. This was a new methodological approach nourished indirectly by post-structuralist theories of the text which benefited from the new computer tools developed in the early 1980s. The publication in 1980 of *Pour une histoire du livre manuscrit au Moyen Âge. Trois essais de codicologie quantitative* (Bozzolo – Ornato 1980) represented a sort of manifesto of the new approach, not only because it was the first time that the word ‘quantitative’ had appeared in association with codicology, but because of the methodological approaches it proposed, which were opposed to an understanding of the mediaeval book as an object of cultural analysis. According to these new approaches, the aim was not to analyze an object and understand its function in relation to its material, intellectual and cultural context. The key was to define the material elements which could be unequivocally described in order to study them in large groups or entire ‘populations’ of manuscripts from a particular period and area, and be able to understand their use, application and evolution (Derolez 1988, 5, explains: ‘Which aspects can a catalogue deal with? Since *the aim is to compare many manuscripts*, only those facts which lend themselves to a rapid and unequivocal description’ (our translation and italics)).

Within the framework of the research carried out by the Comité de paléographie hébraïque and before the third volume of *Manuscripts médiévaux en caractères hébraïques* even came out, Beit-Arié published the first manual ever to be entirely devoted to Hebrew codicology (Beit-Arié 1977). The book had a clearly quantitative methodology aimed at tracing the most important tendencies in the production of mediaeval Hebrew manuscripts, following geo-cultural criteria and, as far as possible, using a chronological

perspective (Beit-Arié 1977, 12–13 mentions even at this early date that the working process includes the recording of information on computer tapes for its subsequent analysis). Commenting on the quantitative approach, Colette Sirat, who has admirably analysed and interpreted Hebrew manuscript culture in the Middle Ages (Sirat 2002), has highlighted just how little attention has been paid by quantitative codicology to the text and the individuality of manuscripts. She defends the idea of the specificity of each manuscript as an historical artefact subject to cultural analysis. In her opinion, the ‘population’ of manuscripts examined by quantitative codicology has to be representative of total production, and her view is that this does not occur in the domain of Hebrew manuscripts since the vast majority of surviving codices were written between the thirteenth and fifteenth centuries, with very few examples from before 1200. She also stresses the fact that quantitative codicology occasionally forgets that the manuscript is fundamentally a bearer of text. For Sirat, textual production and transmission cannot be separated from the production and transmission of the physical book, and we cannot therefore omit to highlight and value all the features relating to these processes in each manuscript individually.

This is best exemplified in the ongoing cataloguing project of the Hebrew manuscripts in the Bibliothèque nationale de France, coordinated by Sirat (the volumes of this catalogue are appearing in the series published by Brepols entitled *Manuscripts en caractères hébreux conservés dans les bibliothèques de France: Catalogues*, as a joint initiative carried out by the Bibliothèque nationale de France and the Institut de recherche et d’histoire des textes, CNRS). The importance of the material characteristics of the individual manuscript lies at the heart of this catalogue. Each of the entries in the catalogue is made up of three parts which reflect the three areas of description of interest in an approach in which the manuscript is analysed as a cultural artefact: first, a physical description of the codex, based on the composition and structure of the quires; second, a description of the content, with a mention of any added material or later interventions; and third, a section dedicated to the history of the codex containing a reconstruction of the use and transmission of the object (and, therefore, of the text which it transmits) based on the colophon and any later annotations, as well as signs of use and ordering to be found within the manuscript (five volumes came out so far: Bobichon 2008, Di Donato 2011, Del Barco 2011, Bobichon 2014, Ciucu 2014).

Extensive codicological descriptions, with the identification of the production area and the type of script, differentiation of hands and of the codicological strata in relation to the texts, in addition to dating based on the documentation of the dated manuscripts, are provided by the recent catalogues of Oxford (Beit-Arié – May 1994), the Biblioteca Palatina in Parma (Richler – Beit-Arié 2001), and the Biblioteca Apostolica Vaticana (Richler et al. 2008).

The manuscripts catalogued in the previous examples belong to a single library. However, various cataloguing projects since the beginnings of codicology as a discipline in the 1950s have been guided by different selection criteria. These ‘special’ catalogues follow one or several criteria such as the type of manuscript (catalogues of decorated and illuminated manuscripts), thematic criteria (catalogues of biblical codices), special situations (auction catalogues), geographical criteria (by region or country of production or by location) and chronological criteria. As far as the chronological criterion is concerned, in addition to the development of various tools focusing on a particular aspect of production (for instance, ruling or watermarks, cf. Dukan 1988 and Zerdoun Bat-Yehouda 1997) a new catalogue of dated Hebrew manuscripts has seen the light, entitled *Codices hebraicis litteris exarati quo tempore scripti fuerint exhibentes*—אוצר המצחפים העבריים כתבי יד בכתב עברי מימי הביניים בציוני תאריך (Beit-Arié et al. 1997; Glatzer et al. 1997; Sirat et al. 2002; Beit-Arié et al. 2006). This work complements the one published between 1972 and 1986 and focuses on the immediately previous period, from the start of the Middle Ages until 1280. The need to produce this new catalogue arose when foreign researchers gained access to the Russian collections of Hebrew manuscripts after the fall of the Soviet regime, a development which had a truly revolutionary effect on the study of mediaeval Hebrew manuscript culture. Indeed, most of the earliest codices which appear in the first three volumes of this work are from the collection of the Russian National Library in St Petersburg. The first volume was published in 1997, and the four which have so far appeared cover all the extant dated Hebrew manuscripts until 1200.

Concerning the geographical criteria, Javier del Barco’s catalogue of the Hebrew manuscripts in the Region of Madrid is an example of a catalogue gathering different collections in one particular region (Del Barco 2003–2006). Judith Olszowy-Schlanger’s pioneering work *Les manuscrits hébreux dans l’Angleterre médiévale: étude historique et paléographique* (Olszowy-Schlanger 2003) focuses on the production of Hebrew manuscripts in one specific geographical region, and admirably combines the presentation of

manuscript descriptions in an appendix with the study and interpretation of the data which constitute the work's main contribution. Indeed, the geographical distribution of manuscript production is a key aspect to bear in mind when seeking to understand Hebrew manuscripts. Jews played an active role in all the processes of cultural contact and exchange in different areas across Europe and around the Mediterranean, and the objects they produced, especially manuscripts, are hybrid products which participated in the artistic and technical trends in these areas. Therefore, a comparative view of Hebrew manuscripts in relation with Latin (and Romance), Greek and Arabic manuscript production has increasingly been adopted since the mid-1970s, and has offered very promising results, both in the field of codicology and in that of palaeography. In the latter, Beit-Arié has shown that cursive and semi-cursive Hebrew scripts were developed in the different cultural areas by reference to the script used by the surrounding host culture (Beit-Arié 1993). The use of the comparative method in Hebrew manuscript culture has led codicologists working on western codices to compare production techniques of Latin, Greek, Arabic and Hebrew manuscripts in order to explore which elements might constitute a 'universal grammar of the codex', and to identify the structural elements common to most artisanal traditions (Maniaci 2002a, 25).

References

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2.8. Catalogues of Persian manuscripts (IP)

Persian manuscripts were produced from the tenth century to the early twentieth century. The number of surviving manuscripts is not known. According to Mahmoud Omidasalar, there are one million Persian manuscripts in various private and public collections in the Middle East and India (Omidasalar 2004). The *World Survey of Islamic Manuscripts* published in 1992–1994 provides information on numbers of Persian manuscripts in various libraries and private collections worldwide. The information provided is not exact and serves only as an indication, but it does suggest that Omidasalar's one million is somewhat too generous a figure; c.500,000–600,000 might be closer to the mark.

The cataloguing of Persian manuscripts in European libraries began in the middle of the nineteenth century. Among the major holdings to be catalogued were the Persian manuscripts in the British Museum. The collection consisted of 2,536 manuscripts that were described by Charles Rieu in a three-volume catalogue printed in 1879–1883. About a decade later (1895), Rieu published a supplement volume describing a further 425 Persian manuscripts acquired by the British Museum since 1883. Rieu's catalogue is a good example of the classical standard of Persian catalogues providing detailed information on the contents of the manuscripts. The codicological information is sparse, consisting of the number of folia, size of the codex, number of lines to page, the size of text area, the name of the calligraphic style used by the scribe, and, finally, the copy date. Details of the paper and the binding are not given but decorations are briefly mentioned.

The focus of the catalogue is clearly on the correct identification of the texts and the description of their content. In addition, Rieu exerted himself to give detailed information on the authors, and, according to Rieu himself, the aim of the catalogue was not only to function as a guide to the collection but also to serve as 'a useful book of reference to the student of Persian literature' (Rieu 1879–1883, III, xxvii). Bibliographical reference works on Persian literature were not yet available in Rieu's time and it was not before the early twentieth century that Charles Ambrose Storey (1888–1968) began to work on his life-work *Persian Literature, A Bio-bibliographical Survey* (Storey 1927–1958, 1971–1977). Storey's model was Carl Brockelmann's *Geschichte der Arabischen Litteratur* that had been published in 1899–1902 but where Brockelmann had an edited version of Ḥağğī Ḥalīfa's (1609–1657 CE) bibliographic lexicon *Kaṣf al-zunūn* at his disposal as a major source, Storey had to glean the required information from published manuscript and book catalogues of uneven quality. Storey did not complete his arduous task, and even though the continuation of his work commenced by François de Blois in the early 1990s resulted in the publication of volume 5, the whole work still remains incomplete (Bregel 2005).

As a comprehensive survey of Persian literature is still waiting to be written, the best catalogues—old and new—remain important sources for both cataloguers and scholars. Among other bibliographical sources is Āqā Bozorg Ṭehrānī's (1876–1970 CE; 3rd ed. 1983) *al-Ḍarī'a ilā taṣānīf al-šī'a*, a survey of all classes of literature written by Shī'a authors. Āqā Bozorg Ṭehrānī's survey is written in Arabic but contains entries on Persian works, as well. For the purposes of identifying texts and authors, a good recent catalogue is *Fehrest* by Sayyid Aḥmad Ḥosaynī describing the vast holdings of manuscripts in the library of Āyatollāh al-'Ozmā Naḡafī Mar'ašī in Qom (Ḥosaynī 1975–2010). For identifying anonymous verses of poetry, a good internet based resource is <<http://ganjoor.net/>> containing a searchable database of the verses of, until now, 49 Persian poets.

The above mentioned 38-volume catalogue of the library of Āyatollāh al-'Ozmā Naḡafī Mar'ašī follows the classical standard by focusing on the texts and providing only very little codicological information. It provides ample quotations of the beginnings and endings of the texts, short summaries of the content and occasionally tables of content. In addition the catalogue has three separate index volumes listing authors, titles, subjects and places. Each catalogue volume contains an appendix with black and white photos of some of the manuscripts.

One of the recent trends in cataloguing Persian manuscripts is to move from printed catalogues to electronic ones. Some libraries have included manuscripts in their electronic catalogues. These library catalogues give only the minimum of information on each manuscript (title, author, language, shelfmark) as is the case with the British *Fihrist—Islamic Manuscripts Catalogue Online* (<<http://www.fihrist.org.uk/>>). Others attempt to give similar information as in the classical printed catalogues, for example Emilie Savage-Smith's electronic catalogue *Islamic Medical Manuscripts at the National Library of Medicine*, Bethesda, Maryland (<<http://www.nlm.nih.gov/hmd/arabic/welcome.html>>). An additional feature of this particular catalogue is that it uses a hypertext feature to give additional bio-bibliographical information and explanations of textual and codicological terminology.

The best electronic catalogues take the presentations beyond the classical standard to include more profound codicological details and to provide digitized images for browsing. Until now, the best of the more ambitious electronic catalogues is the *Islamic Manuscript Collection* at the University of Michigan, Ann Arbor (<<http://www.lib.umich.edu/islamic/>>) that contains complete digital images allowing the user to browse the pages and zoom into details. The catalogue entries contain extensive description of the manuscripts as physical objects and give details of collation, layout, script, decoration, support and binding. Thus, the catalogue caters for a larger variety of interest than the classical catalogues that mainly benefited the philologists and other text based scholars. The University of Michigan catalogue gives relevant information to codicologists and art historians, as well.

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2.9. Catalogues of Slavonic manuscripts (PAm)

At least since the mid-nineteenth century the cataloguing and description of Slavic mediaeval manuscripts has constituted an important field within Slavic studies. Most catalogues have been focused on individual collections that are located in a particular place or in a particular repository (for a still useful example see Gorskij – Nevostruev 1855–1869), but also union catalogues with different scopes have been published (cf., for example, *Svodnyj katalog* ed. Šmidt et al. 1984, which describes Slavic manuscripts written in the eleventh to thirteenth centuries located in more than twenty repositories in the then Soviet Union).

The total number of Slavonic manuscripts is unknown, but an estimate of 60,000–80,000 may perhaps be not too far from the actual number. Out of these, the Russian National Library in St Petersburg seems (according to the statement on its website) to hold c.30,000, but there are impressive collections also in

Moscow, Kiev, Sofia, Belgrade, Skopje, Mount Athos, etc. The extant catalogues of various collections cover perhaps one third of the estimated total.

In most Slavic countries, the descriptions of their respective collections have also served a goal of establishing national scholarship: thus, collections located in Russia have as a rule been described by Russian scholars in Russian, collections located in Bulgaria by Bulgarian scholars in Bulgarian, etc. Thus, paradoxically, manuscripts written in Church Slavonic, the supranational ecclesiastical language common to the Slavic Christian Orthodox culture (albeit with local varieties and subvarieties), are even today usually described in the language of the country where they are located (for recent examples cf. Naumow – Kaszlej 2004; Holovata – Kol’buh 2007). However, collections located in non-Slavic countries have more often been described in more widely used languages such as French, German, or English (cf., for example, Roubetz 1919; Matejic 1983; Steensland 2005), or in Russian, which in some non-Slavic countries such as, for example, Sweden, sometimes has functioned as the ‘default’ Slavic language for the publishing of Slavic scholarship (cf., for example, Davidsson 1975a, with a parallel version in Swedish, Davidsson 1975b; Glubokovskij 1918, with a separate translation into French, Glubokovskij 1919). Bilingual catalogues of Slavic manuscripts were also published in some of the non-Russian republics of the Soviet Union (cf., for example, the Russian-Moldavian catalogue by Ovčinnikova-Pelin 1989).

The introduction and rapid spread of digital technologies from the 1990s and later has fundamentally influenced not only the production and dissemination of catalogues and descriptions of Slavic manuscripts, but also, and perhaps even more significantly, the accessibility of the described objects themselves (both through ‘facsimile’ editions and text editions: for the latter the discussion has focused on the distinction between the concepts *character* and *glyph* and their relation to encoding models such as Unicode, cf. Birnbaum 1996, as well as the discussion at the Fourteenth International Congress of Slavists in Ohrid, Macedonia, in 2008, see Birnbaum et al. 2008; Miklas et al. 2008). Of course, various types of editions cannot replace the actual manuscript objects for all types of research, but many tasks that would earlier have necessitated extensive travel, obtaining of permits, etc. can now be solved much more easily provided the researcher has access to a computer with an Internet connexion. During the last decade a considerable number of collections of Slavic manuscripts have become accessible through the World Wide Web, see, for example, the presentation of some of the most important manuscript collections at the Russian State Library in Moscow (*Dom živonačal’noj Troicy. Slavjanskije rukopisi* <<http://www.stsl.ru/manuscripts/index.php>>) of the Kopitar collection at the National and University Library in Ljubljana (*Kopitarjeva zbirka slovanskih kodeksov*; <<http://www.nuk.uni-lj.si/kopitarjevazbirka/>>), and of the collections of Mediaeval Slavic manuscripts in the Former Yugoslav Republic of Macedonia (*Srednovekovni slovanski rakopisi vo Makedonija*; <<http://staroslovenski.nubsk.edu.mk/>>). There are also sites focusing on particular, well-known manuscripts such as, for example, the excellent site on the tenth-century Glagolitic Kiev Folia at the *Biblioteka Frontistesca* (<http://ksana-k.narod.ru/kodex/11_kiev.html>); and the Russian National Library site dedicated to the Ostromir Gospel (*Ostromirovo evangelie (1056–1057) i rukopisnaja tradicija novozavetnyh tekstov*; <<http://www.nlr.ru/exib/Gospel/ostr/>>). In addition, the TITUS project (*Thesaurus Indogermanischer Text- und Sprachmaterialien*; for Old Church Slavonic see <<http://titus.uni-frankfurt.de/indexe.htm?texte/texte2.htm#aksl>>) includes both pictures and text transcriptions of some Old Russian and Old Church Slavonic texts.

Dissemination of cataloguing data has also been revolutionized by the possibilities of the Internet: many nineteenth- and twentieth-century printed catalogues and descriptions of Slavic manuscripts are now available through, for example, the *Biblioteka Frontistesca* (<<http://ksana-k.narod.ru/>>), *Elektronnaja biblioteka po paleoslavistike* (<<http://byzantinorossica.org.ru/paleoslavistics.html>>) and other websites, and the catalogue records of the Hilandar Research Library microfilm collections can be accessed through the Ohio State University Library on-line catalogue.

However, many catalogues are still published as traditional printed books (cf., for example, Naumow – Kaszlej 2004, Holovata – Kol’buh 2007, etc.), even if they sometimes have been produced with the help of computer description methodology (cf. Cleminson et al. 2007). At the moment, the possibilities of applying the principles of Text Encoding Initiative (TEI; <<http://www.tei-c.org/>>) seem to promise most for the future, but much work is still needed before the potential of this approach will be fully realized. Some of the relevant discussion is conducted within the Commission on Computer-Supported Processing of Mediaeval Slavonic Manuscripts and Early Printed Books to the International Committee of Slavists,

set up in 1998 (see *Obshtezhitie*), and since 2003 the journal *Scripta & e-Scripta* has been publishing articles and materials within this field. Among ongoing cataloguing projects that try to address these problems can be mentioned the Russian *Manuskript*" (<<http://manuscripts.ru/>>), the Bulgarian *Slovo* (<<http://slovo-aso.cl.bas.bg/>>), and the Swedish *Digitalised Descriptions* (cf. Ambrosiani – Granberg 2010).

To conclude: presently, the most important task seems to be the development of stable methods that can combine the best of the scholarly tradition with the new technical possibilities, not only by producing new catalogues and descriptions of Slavic manuscripts, but also by integrating both earlier and more recent scholarship and making it widely available to both the multinational Slavic research community and international research outside the Slavic field.

References

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2.10. Catalogues of Syriac manuscripts (ABi)

Syriac manuscripts must be understood here as a generic term including all manuscripts in Syriac script, which served naturally to write Syriac, but also other languages used by Syriac Christian communities: mainly Arabic (generally called *garšūnī*), and occasionally Malayalam, Sogdian, Turkish, Kurdish and Persian. Indeed in the libraries of Europe, Middle East and India, all manuscripts in Syriac script are put together and described in the same catalogues, regardless of their language, considering the manuscripts themselves often mix several languages. Syriac manuscript collections also include manuscripts in Christian Palestinian Aramaic, which has its own specific script very closely related to the Syriac script.

The exact number of Syriac manuscripts is not known but the general estimate is somewhere under 10,000 (see also General introduction § 3.12). Alain Desreumaux's *Répertoire des Bibliothèques et des catalogues de manuscrits syriaques*, published some twenty years ago, listed 858 titles, including both full-scale catalogues and articles on particular manuscripts (Desreumaux 1991; a new updated version is currently under preparation). By then, most of the major collections of Syriac manuscripts in western libraries (London, Vatican, Paris, Berlin, Oxford, Cambridge, all of these collections possessing between two hundred and one thousand Syriac manuscripts) had long since been catalogued. Many of the more ancient catalogues which were made between the eighteenth and the late nineteenth century are still widely used today. The pioneer work of Giuseppe and Stefano Assemani who catalogued the Syriac manuscripts in the Biblioteca Apostolica Vaticana, presents in many cases an extremely detailed description of texts; one can only regret that their transcription of notes and colophons are sometimes inaccurate (Assemani – Assemani 1758–1759). The monumental catalogue of the Syriac manuscripts in the British Library in London by William Wright, the largest collection in Europe, still remains a reference in the field of Syriac studies, providing us with an inexhaustible source of information concerning both the texts contained in the manuscripts and their history; indeed Wright made the painstaking effort of copying extensively notes and colophons both in Syriac and in Arabic, and his dating of manuscripts on palaeographic examination is usually sound (Wright 1870–1872). One particular feature of this catalogue, which does not reappear in the catalogue of Syriac manuscripts of Cambridge published some years later by Wright, is that the descriptions are not organized by shelfmarks but thematically (biblical, service books, theology, etc.). Each description concerns not the manuscript as a whole, but a specific codicological unit. As a result, the same manuscript can be described in up to twenty different places in the catalogue (see for example

MS London, BL, Add. 14667), and the reader has some difficulty in reconstructing mentally the codex as a whole in its modern form.

Since the publication of Desreumaux's repertory, cataloguing projects have extended to more eastern regions and started filling in the gaps in our knowledge of monastic and episcopal or patriarchal libraries in the Middle East and India, where manuscripts are still kept by the Syriac communities they were produced by and meant for. The libraries of the East Syriac Church in Iraq were thus catalogued by clergymen of the Chaldaean community (Haddād – Ishāq 1998; Ishāq 2005); the same is true for the libraries of the Syrian Catholic Church in Lebanon, Syria and Iraq (Sony 1993, 1997, 2005), or the Maronites in Lebanon (Baissari 1999, 2001). At the same time were also published detailed handwritten catalogues of the collections of the Syriac Orthodox monasteries and churches in Syria and Turkey that had been made earlier this century by Mar Filoksinos Yoḥanna Dolabani, future metropolitan of Mardin (compiled between 1920 and 1960; Dolabani 1994a, 1994b, 1994c; Dolabani et al. 1994), and Mar Ignatios Afrem I Barṣawm, future patriarch of the Syrian Orthodox Church (compiled in the 1910–1920s; Barṣawm 2008). However, if all of this amounts to considerable new material, many of these catalogues are mere inventories, which list the main texts with minimal information on the manuscripts themselves, and they only rarely meet the standards of cataloguing as far as identification of texts, codicology and palaeography are concerned. It must be said, nevertheless that some recent catalogues are much more detailed (for example Río Sánchez 2011; Harrak 2011; Río Sánchez – Zomeño 2012). In the field of digital cataloguing, the Hill Museum and Manuscript Library in Collegeville (<http://www.hmml.org/research2010/catalog/search_home.asp>) offers descriptions of a large amount of uncatalogued manuscripts in eastern libraries, not only Syriac for that matter, but pretends to be no more than a first inventory of their very large digital library.

Some recent catalogues stand out in this general picture and appear to draw new trends in Syriac cataloguing. The catalogue of the Syriac fragments from the 'New Finds' made in 1975 in the St Catherine Monastery on Mount Sinai (see Ch. 1 § 9.3.3) by Sebastian Brock (1995a) is of a very particular type, which offers some similarities with catalogues of papyri. It concerns very fragmentary manuscripts, sometimes mere confetti that were found in the '*geniza*' of the monastery. It gives an accurate codicological description and textual identification of the fragments. Each manuscript is fully documented through photographic reproductions, in order to allow the reconstitution of the complete codices with other existing fragments in the library of Saint Catherine or in western libraries. In this respect, the catalogue by Mother Philothea of the more complete manuscripts found in Sinai in 1975 that was published recently and should have offered much more substantial material is a real disappointment (Philothée du Sinai 2008). Different articles by Paul Géhin and Sebastian Brock have nonetheless allowed the reconstitution of these Sinai manuscripts (for example Géhin 2009). Another cataloguing project of the same type which concerns the Syriac manuscripts that still remain, most very fragmentary, in Dayr al-Suryān in Egypt has just been published by Sebastian Brock and Lucas Van Rompay (Brock – Van Rompay 2014).

The originality of Françoise Briquel-Chatonnet's catalogue of recent acquisitions in the Bibliothèque nationale de France in Paris published in 1997 lies in the attention paid to the history of the manuscript, as it takes into account the material aspects of the manuscripts, both palaeographical and codicological (Briquel-Chatonnet 1997). Compared to Greek or Latin, palaeographical studies in Syriac are still in their infancy and the very broad typology of handwritings elaborated by William Hatch in 1946 in his palaeographical album of dated manuscripts (Hatch 1946) definitely needs redefinition and refinement in order to be able to date more accurately handwritings and narrow down the age bracket of each manuscript. As for codicology, even such basic information as the quire collation had been almost completely ignored by Syriacists until Briquel-Chatonnet's catalogue, albeit with some exceptions (Coakley 1993). Mention should also be made here of the catalogue of decorated manuscripts by Jules Leroy (1964; see also Ch. 4 § 3.2).

The breach made into Syriac catalography on the ground of codicology and palaeography is bound to widen in the next few years with the completion of several catalogues, for example the projects for new cataloguing of the manuscripts in the Syriac Catholic monastery of Charfet in Lebanon (Briquel-Chatonnet et alii), in the Biblioteca Medicea Laurenziana in Florence (Pier Giorgio Borbone), in Tbilisi and Yerevan (E. Reinhardt and Andrea Schmidt) (for a presentation of some current cataloguing projects: Briquel-Chatonnet – Debié forthcoming), but also with such projects as the developing database *e-ktobe: manuscripts syriacques*, which offers updated descriptions of manuscripts, both from textual and codicological point of view (<<http://mss-syriaques.org/>>).

References

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2.11. Catalogues of Turkish manuscripts (DVP)

The cataloguing of Turkish (Anatolian / Ottoman) and Turkic (particularly Central Asian / Chagatay) manuscript sources has known a comparatively long history.

As early as 1702, Michael Talman published the *Elenchus librorum orientalium manuscriptorum, videlicet Græcorum, Arabicorum, Persicorum, Turcicorum ... a domino comite Aloysio Ferdinando Marsigli ... collectorum* in Vienna (Kut 1972, 210, no. 147). The sixth and last chapter of the catalogue dealt, in some detail, with a first bulk of Turkish manuscripts collected by Luigi Ferdinando Marsili (1658–1730) (Gullino – Preti 2007) during his sojourns in Constantinople starting from the year 1679. Marsili's Ottoman collection (now preserved in the University Library of Bologna) is still to be considered the most momentous in Italy—by the way, also still in need of a 'modern' catalogue. A few decades later, Stefano Evodio Assemani (1711–1782; regarding this Maronite prelate, see at least Tisserant 1932; Levi Della Vida 1962), the brilliant nephew of Giuseppe Assemani (1687–1768)—in his turn an active collector of *Turcica* (Proverbio 2010, 28 and following)—'edited' the *Bibliothecae Mediceae Laurentianae et Palatinae codicum mms. Orientalium catalogus*. The volume, published in Florence in 1742, was an outstanding achievement that has not been superseded. Sadly enough, the invaluable Medicean treasure of Ottoman books is also still in need of an analytic, up-to-date catalogue.

A general and well-documented (if not completely exhaustive) bibliographic glimpse into the field of Turkish cataloguing, from the earliest modern records up to the present time, is provided by Kut 1972. His itemized list extends also to Afghanistan, India, Iraq, Iran, Cyprus, Lebanon, Egypt, Syria, and obviously to Turkey (Kut 1972, 220–228).

Just a decade later, Eleazar Birnbaum completed his world survey of cataloguing accomplishments (Birnbaum 1983a-c, 1984a-b; İhsanoğlu 1984, a special catalogue which actually serves as an index of the gigantic four volumes *Osmanlı Tıbbi Bilimler Literatürü Tarihi*, edited by İhsanoğlu and Şeşen in 2008, is not included in Birnbaum 1984b), an authentic watershed in the broader domain of Turcology. Incidentally, we may recall that, at the very beginning of his career, Birnbaum had set a pivotal benchmark in treating the preliminary question of transliteration (Birnbaum 1967; see now Proverbio 2012b).

Very recently, Türkmen (2010) reviewed and thoroughly analysed the twentieth-century 'autochthonous' cataloguing production (it had been preceded by Bayraktar – Lugal 1995)—from the dawn of republican Turkish history up to 2006—which culminated with the long-lasting TÜYATOK project (i.e. the *Türkiye Yazmaları Toplu Kataloğu*, The Union Catalogue of Manuscripts in Turkey; cf. also Flemming 1986). Besides a detailed bibliography (Türkmen 2010, 215–226), the monograph provides useful statistics, along with a provisional evaluation of the total number of Turkish manuscripts preserved in Turkish libraries and collections—though the real number is certainly higher than the 214,272 items mentioned.

A main question, already raised by Birnbaum 1983a and Kut 1988—whether scholars ought to attend primarily to the compilation of extensive checklists that would cast new light on undetected collections, or rather perform in-depth analyses of a relatively small amount of manuscripts—now deserves a clear focus. Even if one cannot agree entirely with Birnbaum regarding the comparatively low quality of contemporary catalogues (see Birnbaum 1983a, 414a: 'Almost none of the twentieth-century catalogues are comparable [to previous ones]. Many reasons have been adduced, among these a shortage of well trained scholars and the lack of money for printing and publishing. Such specialized works have, after all, a very limited commercial market. The fact is that recent catalogues are much more skimpy in their descriptions and evaluations, and compare unfavourably in other ways too with their counterparts of the nineteenth century'), it is true that, in many respects, their average level lies far below that of some special catalogues, such as Maue 1996—which, by the way, does not fall within the range of the present paper. Obviously, Maue

1996 may be regarded only as an atypical model (all the items included in this catalogue, if not previously published, are transcribed *in extenso*).

Though an even cursory survey of the last decade's cataloguing issues is here impossible, one may observe that each of the following entries, which concerns only a few major western libraries (Schmidt [J.] 2000, 2002, 2006; Kut 2003, Balić 2006; Duda 2008; not to mention the now unavoidable <<http://www.yazmalar.gov.tr/>>, the present-day version of TÜYATOK) reflects a different cataloguing tradition. On one side, Duda 2008 represents the German-language area. But its tight, extremely rich structure is more due to its being a special catalogue, dealing exclusively with illuminated manuscripts, than to its adhering to the *Richtlinien* (Deutsche Forschungsgemeinschaft 1992). On the opposite side there are Kut 2003 (2010²) and Balić 2006. In spite of the fact that this latter is written in German, the only salient difference between the two catalogues is to be found in the external description, which is more meagre in Kut 2003. Otherwise the structure (quite skeletal) is identical: shelfmark, (external description), author and transcribed title, a (very) short *incipit*, reference to other (few) witnesses, chronological data and *marginalia*. No significant effort to retrieve any additional information, especially in case of anonymous texts, is detectable.

The reliability of such a 'short-title catalogue' is quite low. These are only a few examples, among many more, of such unreliability. In July 1929 the young Herbert W. Duda (1900–1975), who was finalizing his research dealing with the 'Forty Vezirs' text, sojourned in Venice, attending to a thorough inquiry into the Ottoman collection held by the Biblioteca Nazionale Marciana. But, notwithstanding the fact that the Marciana Library holds at least two manuscripts which bear this text (Venice, BNM, Or. 182 (= 35) and Or. 132 (= 108); see Proverbio 2010, 72), he failed to find either. The reason lies in a severe ambiguity in the old manuscript checklist by Pietro Bettio and Giovanni Veludo (1877), which, echoing the *Catalogo* published in Padua in 1792, reads: 'Historia Sansonis et moralia aliqua'.

Hindrances of past times? More than seventy years later, a manuscript special list, as exhaustive as that which is encompassed in Hazai – Tietze 2006, remains inevitably incomplete. One of the missing items is manuscript Manchester, John Rylands Library, Turkish 82. The reason is indirectly revealed by the recently published Schmidt [J.] 2011 (see p. 153 and following), which fails to identify the manuscript's content. A second missing item is manuscript Ankara, Milli Kütüphane, A 2868, classified as an *Arabian Nights* witness in the on-line catalogue of the National Library of Turkey (<http://www.yazmalar.gov.tr/detay_goster.php?k=136863>).

Nevertheless, although 'many [catalogues] cannot claim to be more than finding lists, furnished with author or title indexes ... we have learned to be grateful for almost any listing that is published, however inadequate it may be, because in most cases no other access is available' (Birnbaum 1983a, 414a).

When approaching a manuscript, a number of preliminary questions arise in order to describe it, including the question of how to distinguish between the date of the manuscript and that of the text. Oddly enough, if the former is not explicitly stated somewhere, the usual (and increasingly well-established) palaeographic and codicological tools are to be implemented. For the latter, the Turkologist, with few other options at his disposal, can rely on the instrument of the 'linguistische Datierung', not unknown in other fields of research, but for which a sound theoretical base, unavailable elsewhere, is provided by Doerfer 1993. His methodical classification of linguistic data, along with his chronology of linguistic changes (see Doerfer 1993, 26–64), is a paradigm to be implemented into other branches of Turkish tradition.

References

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3. Types and kinds of catalogues

3.1. Types of catalogues: checklists, summary catalogues, analytical catalogues, ‘special catalogues’ (PB)

The history of modern cataloguing, the beginnings of which may be attributed to the end of the seventeenth century (Petrucchi 2011⁶, 19–56), has seen three different catalographic models alternate and often exist side by side: the inventory or checklist, the summary catalogue and the analytical or full scale catalogue (according to the usual classification of western ‘cataloguing science’).

The first model, that is the checklist, which has venerable mediaeval precursors, consisting of an extremely concise description—author and contents of the work, writing material, number of leaves (sporadically), and some other information—not surprisingly represented the dawn of cataloguing, without ever having been completely abandoned, to the point that until recently it has been used to catalogue important collections, such as that of the Coptic manuscripts preserved in the Staatliche Museen of Berlin (Beltz 1978, 1980). However, an inventory based on a defined classification—alphabetical order of authors, subject, or similar—should be considered already a real catalogue (Derolez 1979).

Moreover, despite its limits, the checklist still represents a reasonable option when contingent factors—mainly the lack of time and economic resources—do not permit more detailed cataloguing. However, being not much more than a bare list, the checklist does not represent a satisfactory solution for the necessity of evaluation of a manuscript collection, nor does it offer full knowledge of the collection itself. It is not surprising, therefore, that the summary catalogue and the analytical catalogue, over time, imposed themselves as the only two valid options for a scientific cataloguing.

While the analytical or full scale catalogue is quite easy to define—consisting of a description, as accurate and exhaustive as possible, of all the physical and textual elements composing a manuscript (or a fragment)—the definition of the summary catalogue is more complex, since it ‘appears definable only in terms of subtraction when compared to the analytical catalogue and in terms of addition when compared to the bare inventory, and not for what it is in itself’ (Petrucchi 2001, 105). In brief, a summary catalogue consists of presenting the maximum amount of data compatible with the maximum conciseness.

Analytical catalogues and summary catalogues have had mixed fortunes over time. Since the Second World War, the first model has seen, among its most valuable applications, that of the Union Catalogue of Oriental Manuscripts in German Collections (*Verzeichnis der orientalischen Handschriften in Deutschland*) and that of the cataloguing of the Vatican Greek manuscripts. It is interesting to point out, however, that not all the catalogues which are presented as ‘analytical’ maintain their promise (see for instance the case of Keshavarz 1986). On the other hand, the summary catalogue had great success in several other catalographic experiences, having been used for the manuscripts of Madrid National Library (*Inventario general* 1953–1995), for those of the Bodleian Library (Madan et al. 1895–1953) or for some Italian collections, such as the Rossi collection of the Biblioteca Corsiniana in Rome (Petrucchi 1977), to mention but a few examples. In all these cases indexes play a very important role.

Compilers of summary catalogues—and not only they—have not hesitated to express at times their dissent or their doubts towards the use of analytical catalogues, underlining their irrepressible defects, such as very long times of completion and extremely high costs.

In the same way, however, compilers of analytical catalogues have often defended their own choice, discarding any form of description which is not totally exhaustive (Casamassima 1963, 181–195), although the most recent guidelines tend to lighten and simplify the description, without invalidating the completeness of cataloguing (Deutsche Forschungsgemeinschaft 1973; Derolez 1974a; Institut de recherche et d’histoire des textes 1977; Jemolo – Morelli 1990).

It is worth stressing, however, that almost all the works mentioned above take into consideration only complete or semi-complete codices and that much less attention has been dedicated to fragments until now, although they represent a large part of oriental—and to some extent also of western—manuscript heritage.

It is evident that such an approach depends on the fact that theoretical reflection, rules, guidelines and handbooks on cataloguing so far have been produced mainly by specialists in Greek and Latin manuscripts, with particular attention to mediaeval and Renaissance codices. On the other hand, in 1963, Casamassima clearly declared: ‘The notes that we have collected refer exclusively to the manuscripts of

western culture, mainly in Latin, and to Greek manuscripts. Manuscripts of other cultures (above all the oriental ones) are in fact objects belonging to other sciences, of different traditions of studies which, despite some affinities, make use of a different methodology' (Casamassima 1963, 182).

Such an observation has strongly influenced the following studies. Only recently different oriental manuscript cultures have tried to fill this gap and, although without homogeneous results, have set out a systematic catalographic and codicological reflection, which of course cannot leave out the experience of the cataloguing of Greek and Latin manuscripts, but it adds to this a series of specific problems.

Whatever the catalographic choice (analytical or summary catalogue) and the cultural and linguistic area to which it is applied, however, a good catalogue should have some features which cannot be disregarded: a concise and formular style and a homogeneous and consistent description, which always follows the same expositive scheme and makes use of a clear and shared terminology.

Besides the already described typologies, there are other kinds of catalogues. If the compilation of a union world catalogue, which has been proposed several times without ever being effected, turned out not to be an achievable enterprise (Richardson 1933–1937; Pelzer 1936, 621–630; Casamassima 1963, 187), other 'special' or 'thematic' catalogues have been more successful. Among these, catalogues of copyists, of owners, of collections, and also catalogues of catalogues, although they are much less established in oriental manuscript cataloguing than in Greek, Latin, and western catalogues in general.

The limited competence of scholars involved in cataloguing in art history, however, makes the category of catalogues of decorated manuscripts particularly notable, above all in the field of oriental manuscripts where the ornamentation and miniatures often have a central role. The following pages are therefore dedicated to this specific category.

References

Beltz 1978, 1980; Casamassima 1963; Derolez 1974a, 1979; Deutsche Forschungsgemeinschaft 1973; Institut de recherche et d'histoire des textes 1977; *Inventario general* 1953–1995; Jemolo – Morelli 1990; Keshavarz 1986; Madan et al. 1895–1953; Pelzer 1936; Petrucci 1977, 2001, 2002 (2011⁶); Richardson 1933–1937.

3.2. Catalogues of decorated manuscripts (EBW)

The first catalogues were written for users who were interested primarily in texts, and at best in codicological matters. In a standard entry, data on painted decoration were omitted or signalled in general terms like 'illustrations', 'illuminations' or 'miniatures', sometimes completed with the number. The binding decoration was likewise only mentioned and seldom described. These short observations were occasionally developed to more comprehensive notices in the case of the texts having decoration as standard (the Gospels, the Qur'ān, etc.) or if that aspect for some reason caught the attention of the cataloguer. However, they were seldom systematically provided. Exceptions are catalogues of the manuscripts belonging to the cultures giving equal importance to text and its illustration. There, a distinction between the decorated and undecorated book seems artificial, and in the titles of catalogues words such as 'decorated', 'illuminated' or 'illustrated' are often omitted (Der Nersessian 1958, 1973b; Richard [F.] 1989; Schmitz 1997; Nersessian 2002).

As manuscript decoration and illustration became an important sub-discipline of art history, the need for pertinent tools for this kind of study inclined the cataloguers to provide more substantial information about this matter. This concerned in the first place Latin manuscripts being the best known and of the greatest interest to European scholars. An early example of this approach is the catalogue of the Pierpont Morgan collection in New York (James 1906), a paradigmatic work which after more than hundred years still satisfies large groups of researchers, art historians included. The author applied the following description categories: title referring to the main text; book's shelfmark; writing material; size; number of folia, lines per page or per column; date; type of script; binding with reference to material and type; marks of ownership; collation, i.e. structure of the text block given in a numeric formula; textual content; ornamentation; list and description of the miniatures; characteristics of painting styles.

While the descriptions of the decoration in general catalogues gradually improved, art historians still found it important to write catalogues devoted exclusively to decorated manuscripts, applying description criteria which better responded to the interests of this group of scholars (Der Nersessian 1936–1937; Robinson [B.] 1958; Hutter 1977–1997). In part of these catalogues, textual contents, even of the great-

est interest, are only listed, and the description of codicological characteristics is limited to a minimum or omitted (Macler 1924; Marava-Chatzinicolaou – Toufexi-Paschou 1978–1997). In some cases such an approach was justified because the manuscripts concerned had been codicologically and philologically described on other occasions (for example Sargisyan 1914 and Der Nersessian 1936–1937; Blochet 1900 and 1926; Hammerschmidt – Jäger 1968 and Hammerschmidt 1977b). Some catalogues of decorated manuscripts provided very technical and purely codicological data, for instance the ruling schemes and the details of binding construction (Džurova 2006). Since the current tendency is to see the manuscript as a whole, catalogues that focus exclusively on manuscript decoration, extracting it from its environment, are an exception.

As one can expect, the best balanced level of information concerning decorated manuscripts is achieved in works written in cooperation between a philologist and an art historian or involving a whole group of specialists (Mackeprang et al. 1921; Luzatto – Mortara-Ottolenghi 1972; Pelikanidis et al. 1974–1991; Robinson [B.] – Skelton 1978; Korxmazyan et al. 1984). However, catalogues of this kind are rare, usually being planned for important collections belonging to rich institutional or private owners or included in long-term national projects. Published in several volumes over a period of years if not decades, they follow the same description scheme and the same design (Dublin, Chester Beatty: Der Nersessian 1958; Minorski 1958; Arberry et al. 1959–1962; Vienna, Österreichische Nationalbibliothek: Buberl 1937; Duda 1983, 1992, 2008; Athens, National Library of Greece: Marava-Chatzinicolaou – Toufexi-Paschou 1978–1997; *Verzeichnis der Orientalischen Handschriften in Deutschland*: Hammerschmidt – Jäger 1968; Stchoukine et al. 1971).

Since decorated manuscripts are a minority when compared with all handwritten books, the number of dedicated catalogues is also smaller. Among them, not surprisingly, works that deal with manuscript cultures distinguished by extensive practice in book decoration and/or written in scholarly centres known for their long-lasting tradition in manuscript studies predominate.

The type of catalogue, quantity of data provided and proportions between the descriptive sections are determined by several factors, such as the character of the manuscripts, the accumulated knowledge about them, their cultural background, the number of surviving examples, the type of collection, its size, accessibility, and, last but not least, the needs of the target audience. Here, catalogues of decorated manuscripts do not differ significantly from general catalogues. For instance, it would be unfeasible to produce a reasonably complete catalogue of Ethiopic illuminated manuscripts, their number being even impossible to estimate, but such catalogues exist for Syriac and Coptic.

Among the catalogues of decorated manuscripts one can distinguish the following main types (some of them may overlap):

- manuscripts written in one language and gathered in one country (Lichačeva 1977; Narkiss 1982; Sed-Rajna 1994), institution/library (Adamova 1996, 2012; Furlan 1978–1997; Simpson 1980), collection (Welch 1972–1978; Lowry – Nemazee 1988; Eleuteri 1993; Marava-Chatzinicolaou – Toufexi-Paschou 1978–1997);
- manuscripts written in one language but dispersed across countries (Leroy [Jules] 1964, 1974);
- manuscripts written in different languages but gathered in one country/city (Hatch 1931; Lamei 2000, 2002, 2005, 2013), institution (Gengaro et al. 1959; Pächt – Alexander 1966, 1970, 1973; Schmitz 1997) or collection (Plummer 1968; Pelikanidis et al. 1974–1991);
- manuscripts written in one language, executed during a particular period, kept in one or several places (Omont 1929; Popova 1975; Spatharakis 1981; Weitzmann – Galavaris 1990);
- manuscripts containing a particular text (Grabar [O.] 1984; Feydit 1986; Nersessian 1987);
- manuscripts selected for an exhibition (whether exclusively of manuscripts or not) (Greene et al. 1934; Vikar 1973; Evans – Wixom 1997; Werner [P.] 2002);
- manuscripts or collections sold by the auction houses (Sotheby's 1977; Fogg 1991);
- manuscripts executed in a single scriptorium, artistic school or workshop, kept in one or several places (Sed-Rajna 1970; Grabar [A.] 1972; Agemian 1991; Mostafa 1960).

Like general catalogues, many catalogues of decorated manuscripts are preceded by overviews of matters raised by the manuscripts collected in the publication, thus supplementing the individual catalogue entries. Consequently, instead of the codicological or palaeographical issues, the authors may present the cultural ambiances/relations, histories of the styles of miniatures, schools of painting, and studies on specific iconographic problems (Der Nersessian 1958; Minorski 1958; Weitzmann – Galavaris 1990).

Beside these catalogues *sensu stricto* there are publications complementing data gathered by the cataloguer. Here belong the albums of miniatures (Mačavariani 1970; Weitzmann 1977; Popova 1984; Atalla 2000), the publications accompanying the manuscript exhibitions (Jäger 1957; Nersessian 1987; Tahom 2007), and monographic studies of particular types of manuscripts or groups of manuscripts (Galavaris 1969; Ševčenko 1990; Narkiss – Sed-Rajna 1976, 1981, 1983, 1990, 1994). Several of them are written, at least partly, in the form of catalogue entries.

Also as a particular category of catalogues one can regard the lists of manuscript collections, divided according to the languages and specifying the repository place of the books and the number of codices (Buchthal – Kurz 1942; Arberry 1967), the iconographical indexes accompanied by the lists of the manuscripts containing the specific subjects (Davis – Norgren 1969; Titley 1977, 1981), and the facsimile editions complemented by the publications containing the collection of studies (*Ilias Ambrosiana* in Calderini et al. 1953 and Bianchi Bandinelli 1955; *Rabbula Gospel* in Cecchelli – Furlani 1959; *Maqamat Al-Hariri* 2003).

Almost all catalogues of decorated manuscripts and similar publications are supplied with illustrations, often as plates at the end of the book or in an accompanying volume (Werner [J.] 1920; Der Nersessian 1958; Depuydt 1993; Duda 1983, 1992, 2008). In the early catalogues, drawings, photogravures or collotypes were used; later on, black and white photographs and microfiche. In the catalogues published before the 1960s, the number of colour illustrations was very limited, an inconvenience that was sometimes compensated for by descriptions of the colours.

The number of illustrations included and the decision as to which part of the decoration is reproduced depend on the character of the catalogue, but generally priority is given to the miniatures and the ornamentation that is most important from the stylistic and iconographic point of view, the best preserved ones and those that have not been published previously. Generally the extent of the manuscript description is determined by how much information the reader can extract from the accompanying illustrations. The most ambitious publications comply with the principle of total registration of the decorated pages and with providing most of them, if not all, in colour (Der Nersessian 1973b has 502 illustrations; Buschhausen et al. 1976, 250 illustrations all in colour; Marava-Chatzinicolaou – Toufexi-Paschou 1978–1997, 1,600 illustrations most in colour). Illustrations of particularly good quality are often featured in catalogues by auction houses (Fogg 1991). The importance of illustrations was also recognized by some authors of general catalogues, who, while unable to provide data on art historical matters, compensated for this disadvantage by long series of colour reproductions of miniatures and ornamentation from the manuscripts described (Löfgren – Traini 1975, 1981; Depuydt 1993; Traini 2011).

The outlines of the manuscript descriptions used in our catalogues differ, but some categories constantly appear and may be regarded as standard. Basic information about the text(s), the manuscript's provenance and date are always specified, being important for all readers. The number and type of miniatures are provided, an indication of other ornamentation, a note on binding, and frequently also information on the condition of the manuscript. Subsequently, catalogues focus on decoration. The miniatures and historiated initials are listed by title or subject in the order of the folia, sometimes also described and commented on from the stylistic point of view. The same type of presentation may be applied to ornamentation (decoration of Canon Tables and calendars, initials, marginal decoration, head and tail-pieces, frames and backgrounds, the latter important for Islamic manuscripts), but usually they are grouped in categories, thematic or other, and treated collectively. This approach is useful for richly decorated manuscripts and those adorned with small ornamental units (initials, headpieces etc.), which are often repetitive. The colours are specified when the reproductions are in black-and-white or omitted. Decoration of undated manuscripts is analysed from stylistic and iconographical point of view in order to estimate the date of book production, an approach that requires considerable space for developing the relevant discussion. Notes about the identified scribes/painters are provided, followed by the lists of their other works. While manuscripts are often grouped by categories according to the contents and arranged chronologically within each group, the presentation of decoration follows the chronological order regardless of the textual content, in order to give an idea about the artistic evolution within the corpus described.

Particularly detailed catalogues add to the codicological section information on the size of the miniatures, the place of the ornamentation on the page, the range of pigments and colours of inks used with the results of chemical analysis (Uchova 1960; Mathews – Wieck 1994). They give precise descriptions

of the covers and the materials used for their decoration. The account of the provenance of the manuscript and the circumstances of its production is usually elaborate. The list of miniatures may be completed with transliteration and translation of the accompanying captions or, on occasion, longer texts (Der Nersessian 1973b; Hammerschmidt – Jäger 1968). Sometimes even a synopsis of the story illustrated appears (Appleyard 1993). The iconographic peculiarities are examined in a broader context. Comments concerning stylistic matters may include comparative material and develop into small monographs on the painting schools and artists (Der Nersessian 1958; Korxamazyan 1984). In the bibliography, citations from the basic catalogues may be found, alongside with references to the more important recent books and articles concerning the decoration of the manuscript described. Iconographical indexes and concordances are common.

Recently, several libraries have placed catalogues of decorated manuscripts on line, in connexion with the digitization of their collections. These online catalogues contain images, descriptions and search tools. Not infrequently, the selected material is presented in virtual exhibitions. Most of these catalogues are regularly updated. The most advanced digital cataloguing still concerns western illuminated books (cf. for instance the material presented by the British Library, <<http://www.bl.uk/catalogues/illuminatedmanuscripts/welcome.htm>>, last access June 2014).

References

- Adamova 1996, 2012; Agemian 1991; Appleyard 1993; Arberry 1967; Arberry et al. 1959–1962; Atalla 2000; Bianchi Bandinelli 1955; Blochet 1900, 1926; Buberl 1937; Buchthal – Kurz 1942; Buschhausen et al. 1976; Calderini et al. 1953; Cecchelli – Furlani 1959; Davis – Norgren 1969; Depuydt 1993; Der Nersessian 1936–1937, 1958, 1973b; Duda 1983, 1992, 2008; Džurova 2006; Evans – Wixom 1997; Feydit 1986; Fogg 1991; Furlan 1978–1997; Galavaris 1969; Gengaro et al. 1959; Grabar [A.] 1972; Grabar [O.] 1984; Greene et al. 1934; Hammerschmidt 1977b; Hammerschmidt – Jäger 1968; Hatch 1931; Hutter 1977–1997; Jäger 1957; James [M.] 1906–1907; Korxmazyan et al. 1984; Lamei 2000, 2002, 2005, 2013; Leroy [Jules] 1964, 1974; Lichačeva 1977; Löfgren – Traini 1975, 1981; Luzatto – Mortara-Ottolenghi 1972; Mačavariani 1970; Mackeprang et al. 1921; Macler 1924; *Maqamat Al-Hariri* 2003; Marava-Chatzinicolaou – Toufexi-Paschou 1978–1997; Mathews – Wieck 1994; Minorski 1958; Mostafa 1960; Narkiss 1982; Narkiss – Sed-Rajna 1976, 1981, 1983, 1990, 1994; Nersessian 1987, 2002; Omont 1929; Pächt – Alexander 1966, 1970, 1973; Pelikanidis et al. 1974–1991; Plummer 1968; Popova 1975, 1984; Richard [F.] 1989; Robinson [B.] 1958; Robinson [B.] – Skelton 1978; Sargisyan 1914; Schmitz 1997; Sed-Rajna 1970, 1994; Ševčenko 1990; Simpson 1980; Sotheby's 1977; Spatharakis 1981; Stchoukine et al. 1971; Tahom 2007; Titley 1977, 1981; Traini 2011; Uchova 1960; Vikan 1973; Weitzmann 1977; Weitzmann – Galavaris 1990; Welch 1972–1978; Werner [J.] 1920; Werner [P.] 2002.

4. Syntactical description of manuscripts (PAn)*

‘Finding the breaks in a volume is the most directly relevant task of codicology, especially for those who are interested in texts... But the catalogue—made by a person who did see and handle the manuscript—should at least help the reader to be at least aware of at least the more important breaks. And very many catalogues are deficient in this respect.’ J.P. Gumbert (1995a, 62)

Built on the development of codicology and book historical studies, a new awareness of the ancient manuscript as a complex object gradually developed in scholarly circles in the second half of the past century (for a history of the study of the complexity of the codex, see Andrist et al. 2013, 11–44; see also Ch. 1 § 1.3.5). Scholars noticed that the way data were presented in standard scholarly catalogues often did not make it easy for the readers to understand the historical structure of the object, and sometimes even gave food to the suspicion that this complexity had escaped the attention of the cataloguers themselves (see Gumbert 1995a, 2010a; Andrist 2008). This led to the development of an important new paradigm in organizing the descriptions, which has been spreading in some recent cataloguing projects, a paradigm that needs explanation.

4.1. Most manuscript books are complex objects

Has any reader ever found a full manuscript, containing one text, written in one shot by one scribe in a very regular script, showing no writer’s, reader’s or owner’s notes or marks whatsoever, and still preserved in its original integral and unaltered binding? Maybe such an object, made in recent times, exists. But most of the manuscript books oriental scholars work with are from older times. For example, codices from the Middle Ages that are kept in today’s libraries always betray some—and usually quite many—changes to their original state.

Of course, the level of complexity varies a lot from one book to another. In some cases, it is limited to a few notes and a new binding, or to some restorations and a label with a shelfmark. But in many cases, books bear the scars of an adventurous life. For example, an original unit from the ninth century could be heavily annotated by several enthusiastic readers, then accidentally mutilated in the eleventh century, and immediately but poorly restored. In the twelfth century, a new owner maybe bound it in a larger volume together with similar texts, copied at various times by various scribes, putting his name on the first page. Another fifty years later, his grandson started a new text on the last two leaves, which were empty, and added a small quire in order to finish his copy, etc. There is almost no limit to the types and amount of changes ancient manuscript books may have lived through.

As a result, an ancient manuscript book can be compared to an archaeological site: the original leaves and each set of changes are strata testifying to the progressive making of the object as it is today. If a reader wants to understand the history of this book, he or she has to be able to recognize the various strata and their specific content, as an archaeologist needs to know which layer any object or stone found belongs to (for a similar usage of this metaphor, see Derolez 1974b, 31). In many cases these strata are easily identifiable by the direct users of the book, because they were copied by different hands using various scripts, with a different layout and sometimes even a different material support; older folium numbers or quire signatures often confirm the diagnosis, or even give a clue to the amount of what has been lost. In other cases, the strata are more difficult to identify, for example when a regular scribe, or two scribes with very similar hands, produced two different books in different points in time, which were only later—sometimes much later—gathered together. On the other hand, two scribes or two artists working together on the same project could have produced their respective parts on different quires, with a different ruling and layout, or different techniques: this is also a type of complexity, but it informs the analysts about the working methods of these people, rather than about discrete strata of the book.

As one sees, complexity is also a complex concept. There are several types of strata, and the four most common ones, which allow for describing almost every situation provided enough information is available, can easily be defined. The cases presented in this sub-chapter only aim at explaining the relevance of structured descriptions, and the vocabulary used here serves this purpose only (technical vocabulary and deeper, more thorough analysis are found in the various descriptive systems; for an introduction to them see Andrist et al. 2013, 11–44).

* This sub-chapter has benefited considerably from discussions with and remarks by J. Peter Gumbert, Marilena Maniaci and Paola Buzi, whom the author thanks warmly.

Some strata are ‘paratactic’ constitutive parts of the book. They were produced independently from one another and could fairly easily be taken away without damaging their physical integrity or their content because they begin and end at boundaries between quires and, in normal cases, their content is also self-standing. For example, when two independent books were bound together, there are two strata, but both strata were produced independently of one another; they correspond to two different writing projects. Let us call them ‘primary strata’.

In other cases, like most of the restorations or added supplements on new folia, a new stratum on its own writing support is produced to supplement an already existing one. Both strata could be physically separated, but often with difficulty and damage. One can distinguish two situations:

a) first, when both strata remain autonomous as far as their content is concerned; this occurs for example when the owner of a volume, let us say an old Gospel book in good shape, has some extra texts entirely copied on new quires, for example more New Testament books, and has them then bound with the first book. As far as the projects are concerned, this ‘secondary stratum’ was never meant to stand alone, even though it can be withdrawn without damaging any of the contents. This situation is sometimes difficult to distinguish from two primary strata (or two phases of the same production), but it is important to differentiate between them, because, in a codex, a secondary stratum joined to a primary one implies the circulation of two books, while the presence of two primary strata implies the circulation of three books (see Andrist et al. 2013, 63, 66);

b) second, when one or both content(s) would be damaged if the strata are separated. For example, in the case of an ancient restoration of the first leaves of a codex containing the beginning of a text, on a new writing support, the leaves can theoretically be taken out again or unbound, and each of the two resulting parts is coherent as far as their production is concerned (providing there were no other modifications) but neither of the two resulting parts contains a full text. In the case of an added table of contents into an already existing book, for example, this new stratum can be cut off without damaging the main text; but the cut off leaves make little sense alone. In any case, the leaves of the original book clearly belong to the primary stratum. The new leaves, however, which were never meant to stand alone and are not textually autonomous, can be called a ‘tertiary stratum’.

Added written elements, small drawings in the margins or full texts copied on empty leaves are new contents on already used folia. Even though they can be very important, they are not materially independent production and cannot be physically separated from their host folia without damaging them. These are ‘quaternary strata’.

In some cases, the choice between the strata is not immediately obvious. For example, when a scribe starts a new content in an empty part of an existing book, then uses new folia in order to continue his work, one could think of a mix of a quaternary and tertiary strata. However, this is not the case, because both parts of the new content belong to the same new project and production, which must be clearly distinguished from the already existing production. Since this new production cannot be taken away without damaging the first stratum, it is considered a quaternary one. Another difficult case is that of the lower content of palimpsests. It may seem a special type of quaternary stratum because it is a peripheral production when compared with the main strata of the existing book. However, unlike quaternary strata, the lower production of a palimpsest is older than the main strata including the upper production. Besides, and even more importantly, the lower production implies the existence of another book that it used to belong to. As a result, palimpsests must be considered a special type of primary stratum.

In the past thirty years, codicologists have explored the stratigraphy of the codex from a methodological point of view, searching for new concepts and a new vocabulary to describe it (for example Munk Olsen 1998). This culminated in the first systematic proposal by J. Peter Gumbert in 2003, published one year later, who offered a complete set of concepts and a corresponding terminology, as a result of a long evolution testified by a series of publications (Gumbert 2004; for a survey of Gumbert’s evolution, see Andrist et al. 2013, 14–15, 17–18, 23–26). It is centred on the now popular notion of the ‘codicological unit’, defined in the first instance as ‘a discrete number of quires, worked in a single operation, containing a complete text or set of texts’ (Gumbert 2004, 25); a manuscript containing more than one codicological unit is called a ‘composite’ manuscript. Gumbert also coins a complex vocabulary to designate codicological units which underwent transformations. Even though this system is fully operative and represents a major step forward, it sometimes results in complex expressions or subtle distinctions, which are not

fully convincing (see Andrist et al. 2013, 41–44). Besides, the expressions ‘codicological units’ and ‘composite manuscripts’ are sometimes misused in publications by people who do not precisely understand them, creating regrettable ambiguities. New research was thus triggered, notably around the concept of the ‘production unit’, which can be applied indiscriminately to any stratum of the codex, no matter if it is delimited by a quire or a text boundary. In this new system, ‘production units’ are clearly distinguished from ‘circulation units’, which describe the full state of a codex at a certain point in time. The history of the codex can then be easily modelled as a continuum of circulation units which evolved according to added, removed or shifted production units or pieces thereof (Andrist et al. 2013, 59–81).

Once it is admitted that most manuscript books are complex objects, a few questions, discussed in the following paragraphs, remain. What does this complexity mean to the user of the manuscript? How does it affect the cataloguers and their readers? Is it important, after all, that this complexity be totally or partially made visible in their catalogues? And if it is, what are the best ways to achieve it?

4.2. The importance of the awareness of the strata of the manuscripts

Any historical research on ancient manuscripts relies to a greater or lesser degree on the dating of what is studied. Most of the time, scholars need to know more or less precisely when—and where—what they study was produced. For example, for a philologist working on the critical edition of a text, it does make a difference if a crucial passage was written at the same time as the bulk of the other sheets, or if it is on a leaf restored some years later; in the latter case it could depend on another branch of the textual family and its variant readings should be evaluated differently. If he or she is studying the transmission of a series of small pieces, it is crucial to know if the series was copied together within the same project, or if it was gradually built up through centuries, and if it was partially damaged through time. For art historians, it is potentially very significant if two paintings from different artists are on two pages of the same bifolium, or if both were produced on two independent leaves, later than the date of the copy of the main text. A book historian working on the history of paper cannot escape the question of whether the sheets with undated watermarks were used simultaneously with the ones with dated watermarks, or at a much later time. Any study on the reception of an author or the transmission of an iconographic model is bound, of course, to a reasonable dating of the leaves concerned (see also Andrist 2014).

Dated colophons or notes can only be securely used when it is clear to which stratum they belong: were they written by the main scribe, or added by a restorer a few centuries later? As a result, if a place and time are mentioned, do they apply to the whole codex or only to part of it, no matter if it is written by one or several hands?

The codex is a complex object, and therefore it is, as a whole, an undated object. Any given or deducible date applies only to its own stratum; every stratum has its own date. What matters to most users is the date of the production of the text copy or the picture they are interested in, that is the date of the stratum to which the features they are working with belong.

From a traditional catalogue description, it is often difficult to visualize a codex and its strata, especially if no standard or electronic facsimiles are available. Cataloguers, on the other hand, are working directly on the book, so they are often immediately and intuitively aware of its main strata and, in case of doubt, they can easily check the object directly. It is thus one of the most important basic tasks of a cataloguer to give the reader precise indications about the main strata of the object in question, and their time and place of origin (at least approximately). Ideally everyone using a description in a catalogue should have a way easily to know how many strata the book is made of, their respective extent and the date and place they were produced. In reality, there are many complicated cases, and often there is not enough time for a complete analysis to be made within the scope of the cataloguing project. In this case, the reader ought to find at least correct information on the primary and secondary strata and a brief note explaining the situation.

4.3. Recognizing the major historical strata: the physical language of the codex

As mentioned above, some strata are easily recognizable at first sight; others are more difficult to identify. For obvious reasons, the gradual making of manuscript books leaves scars or marks in them, particularly at the boundary of two strata. Anyone who can ‘read’ and ‘interpret’ these discontinuities in a codex is also in a good position to identify its strata correctly and reconstruct its constitutive history. This is why the physical complexity of the codex can be compared to a language, with its own syntactical rules. One can thus also speak of the syntactical structure of the codex, and also name the strata ‘syntactical elements’.

Fundamentally, any discontinuity can be significant; but places where there are concomitant discontinuities, i.e. wherever several features of the codex change at the same point, are even more significant. As far as primary, secondary, and tertiary strata are concerned, the descriptive features that can reasonably be observed while preparing a catalogue are the following (more details and special cases are discussed in Andrist et al. 2013, 83–110):

The quires. Every primary stratum of a codex was originally delimited either by the beginning or the end of the codex, or by a quire boundary. Most are made up of a series of quires and consequently, if they are bound with another book, the ‘border’ between them is necessarily delimited by a quire boundary.

The quire types. Often, books are made of a series of quires with the same number of leaves, while the last quire may be shorter or longer, in order to fit the remaining content to be copied. A discrepancy in the quire type may point to a mutilation, or to the end of a constitutive part of the manuscript; but it could also be an original irregularity in the quire composition. Of course, the real cause must be further investigated.

Ancient ‘sequence marks’. Scribes, binders or owners used to indicate the order of the folia or the quires by ‘sequence marks’, for example folium numbers, quire signatures, catchwords, religious symbols. Any discontinuities (such as systemic change or apparent errors) in the system could be at the border between two strata.

The writing support. Changes either between major categories (paper, parchment, papyrus) or, within a category, for example between different types of paper or different qualities of parchment, can be significant. Manuscripts using mixed materials, for example quires made of bifolia of paper embedded in a bifolium of parchment must naturally be dealt with at the level of the recurring sequence and not at every discontinuity of material support (two per quire).

The ruling technique. For example, if a part of the codex is blind ruled and another is ink ruled.

The layout, understood as both the resulting grid from ruling (the ruling pattern), and the way it is used. The ruling type can change, but also, for example, the number of written lines, or the way vertical lines in the margins are used.

Scribes, hands, and writing systems. For example if all the titles are written in a special characters and red ink, then suddenly they are written in normal characters and ink.

The decoration principles and characteristics, if any.

The content. Most importantly, where the content changes, and where fully or partially blank leaves are located.

Concomitant discontinuities are more significant. The most important components are definitely quires: a new text at the beginning of a new quire should immediately suggest that there could be two originally autonomous parts; also, a new scribe at the beginning of a new quire should raise the question if both persons were working together on the same project, or if one of them restored a mutilated codex many years later. Blank leaves at the end of a quire within the codex also call for an explanation. Some other concomitant discontinuities are not so important. For example, a change of ruling type almost always occurs at the beginning of a new quire, and a change of hand often means also a change in writing system, but neither is necessarily significant.

The list is just an indication; some features are not applicable in some cases, while other discontinuities could be meaningful (the ink; the presence and estimated frequency of glosses, if any; the style of the miniatures, if any; and so on).

Quaternary strata are usually distinguished by their special position, script and/or content, which represent also discontinuities against their surrounding context. But this is not the place to analyse them more deeply.

Several factors play a role in identifying the strata. Among them, the nature of the considered features: for example, a major change in layout is hard to hide, while a change of ruling system is often hidden and difficult to see. Another factor is the ability and knowledge of the cataloguers. For example, if a cataloguer is also a good palaeographer and has some experience in dating writings, he/she will more easily see the changes in scripts and hands from different centuries. It takes also some skill and practice to see significant changes in ruling types; this is also why it is advisable that cataloguers work in a network of specialists with complementary skills (it is also important they stay in touch with the progress of research in the various areas they need for their cataloguing work, and, from time to time, as possible, try to describe a particular codex as profoundly as possible, in order to improve their skills). Naturally, the state of

the art in related studies plays a significant role. Even if one has good skills as far as recognizing script is concerned, these will be of little use if there are no palaeographic studies in one's field.

Finally, there is the time factor. In a catalogue project the available time often does not allow for checking every aspect of every feature. For example, fully identifying all the watermarks of a codex takes several days.

This is why it is important that cataloguers plan ahead which aspects they are going to check systematically, and which they will apply only to specific objects, depending on circumstances and experience, giving the most attention to the potentially more significant discontinuities (see Ch. 4 § 5.2). In the introduction of the catalogue, the readers should be informed of the choices made.

4.4. Rendering the complexity of the described codex: syntactical types of descriptions

There are various ways to structure a catalogue description of a codex, but not every way makes it possible to inform the readers efficiently about its strata. In the following pages the traditional scholarly structure of a description is first considered, then four alternative types of description, whose overall structure allows a clearer representation of the physical complexity of the codex, are presented.

4.4.1 Traditional structure of a codex description

The traditional scholarly catalogues from the second half of the twentieth century represented major progress towards giving the readers a way to perceive, at least partially, the primary strata of the codex. One major reason for this progress was the systematic analysis of the quires (collation), since these are very important for determining the structural parts of a codex, as explained above. Provided the cataloguer worked precisely and the reader carefully compares the quire boundaries against other discontinuities in the description, the latter can often get a good idea of the primary and secondary strata of the codex; but it is work that the reader has to do himself, on his own initiative. (In the best catalogues of this type, most of the tertiary and quaternary strata, like restorations or marginal notes, are also mentioned in specific paragraphs or side comments. But this is by no means always the case, and when it is, it is not always done systematically).

The structure of this type of description can be summarized through the representation in Skeleton 1. Technically, there are many formal variants of this structure, depending on whether the content is described before (as here) or after the physical features, and how paragraphs and small capitals are used, etc. There are also many ways to apply it (see for example Deutsche Forschungsgemeinschaft 1992; Jemolo – Morelli 1990). But the general principles stay the same.

Since the various categories of information are presented for the whole codex at once, concomitant changes are not obvious, sometimes even difficult to identify. And the conclusion that there are several strata remains fragile because it is a deduction based on the catalogue only and it is not confirmed by someone who has seen the codex (unless there is a clear statement somewhere in the description, of course).

Besides, experience shows that descriptions often are not precise enough, including too many errors in the quire analysis; or a 'main hand' and a 'secondary hand' are mentioned, without specification of the folium extent of each; or information about layout is given for one page only, whereas the codex is composed of three main strata. The situation can be dramatic when this type of situation occurs in a catalogue of dated manuscripts, where the given dates should provide landmarks for further historical research, for example history of the scripts, the material supports, the transmission of a text and so on; there are cases where the date written by the hand responsible for a small later addition is presented in the catalogue as the date of the manuscript.

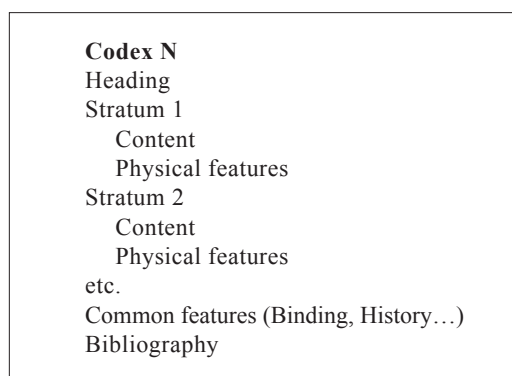
Codex N
Heading
Content
Physical feature a
Physical feature b
etc.
Bibliography

Skeleton 1: basic structure of a traditional scholarly description.

Even if these kinds of situation are not the most frequent ones, they disturb the research and demand new catalogographical solutions. The question about how to represent the main syntactical elements of a manuscript book correctly and usefully in a catalogue description has occupied a number of people since the last decades of the twentieth century. Several systems have been suggested and experimented with, and each of them definitely, though not equally, allows the user to understand the syntactical structure of the codex better.

4.4.2 Syntactical description type A (type 2a in Andrist 2014)

The clearest and easiest way to convey the structure of a codex in a description is to describe each main stratum fully, one after the other, within a more global description of the codex. The resulting basic structure of the description is represented in Skeleton 2.



Skeleton 2: basic structure of the syntactical description type A.

As far as manuscripts in Greek scripts are concerned, this structure was already used by Paul Canart for the description of collections of fragments (Canart 1970; see for example his description of Vat. gr. 1892, 528–540). Since then, this method has been used more broadly, for example in the catalogues of the Bibliothèque nationale de France (see its first mention in the *Catalogue général des manuscrits latins*, see Bibliothèque nationale 1975, 3; for example codex Paris, BnF, Latin 3548B, 46–52. For COMSt-related manuscripts, see for example the description of Paris, BnF, Syriac 434 in the catalogue of Syriac manuscripts, Briquel-Chatonnet 1997, 178–183).

After a series of pioneering theoretical studies (see the cataloguing rules version 2.0 in Andrist 2003 and the study in Andrist 2006), the catalogue of the Greek manuscripts in Bern applied this structure type systematically, using primary, secondary, and some tertiary strata as description units (Andrist 2007a; for a detailed explanation, see the cataloguing rules 3.0 in Andrist 2007b; for further theoretical developments, see Andrist et al. 2013, 135–169).

Since then, this method has been taken up by various paper and online catalogues or descriptions. One can mention for example the catalogue of the French and Occitan manuscripts in the Staatsbibliothek zu Berlin (Stutzmann – Tylus 2007; see for example the description of MS 338, 50–61), where the same structure is also found quite extensively but, unfortunately, not systematically; or the beautiful series *Manuscrits en caractères hébreux conservés dans les bibliothèques de France* (see for example the description of codex Paris, BnF, Hébreu 673 in Bobichon 2008, 54–63), including colour plates *ad locum*, and the relevant bibliography after each descriptive section.

One also occasionally finds online descriptions based on the same principles (see for example the description of codex Paris, BnF, Grec 1823 in the database ‘Archives et manuscrits’ of the Bibliothèque nationale de France where, after the general features, the description breaks down into four ‘Sous-unités de description’ (<<http://archivesetmanuscrits.bnf.fr/cdc.html>>); partially reproduced in Andrist 2014, where other examples in European online catalogues are also mentioned); the new version of the database *Pinakes* fully allows for this structure. However, as far as we know, no electronic catalogue has been entirely organized on these principles, so far (see Andrist 2014).

In this description type, the structure of the description matches the main structural articulations of the codex very well, and thus allows visualizing it. Related elements are described side by side and it is very difficult to mix information which is not contextually relevant. By presenting all the historically related elements of the various features at once, it almost mechanically reveals part of the most important internal history of the codex. This descriptive principle could also allow for a new generation of catalogue

databases, where, providing it is strictly implemented, electronic searches including a date would retrieve all the relevant available data, and only those.

However, in such descriptions ‘per stratum’ there is a risk of losing the general vision of the codex, especially in case of long ‘full size’ descriptions. This is why, in some of the catalogues based on these principles, the initial headings have been expanded into an overview of both the codex and the description (such is the case of the catalogues of the Greek manuscripts in Bern and the Hebrew manuscripts in Paris, in both of which this expanded heading is called a ‘chapeau’; see Andrist 2007a and Bobichon 2008).

4.4.3 Syntactical description type B (type 1d in Andrist 2014)

A more radical way to use the main strata as the basis for the description is to dedicate a full description to each primary stratum, independently from the other ones, as if it were an independent book, including all the usual descriptive features.

Gumbert is the first theoretician of this type of description. Since the early eighties, he both developed a precise definition of the parts of the codex around the concept of ‘codicological units’ (see above) and published the first practical method, called IIMM (presented below), of using these parts as the primary units for compact descriptions of every type of codex.

The same structural principles are also sometimes used for online descriptions, for example in the database of Syriac manuscripts *e-ktobe*, about some manuscripts made of several primary strata, but, unfortunately, not yet systematically (<<http://www.mss-syriaques.org>>; see for example the description of Paris, BnF, Syriac 434 in five units).

This structure (see Skeleton 3) is very easy to implement but, as a result, the one-to-one relationship between the number of the descriptions and the number of volumes being described is lost. In online databases, it is more difficult for the user to get an overview of the manuscript, particularly when the online description is obtained as a result of a search; database designers must always provide a way to set internal links to the related descriptions of the same codex within each description, as is for example convincingly done in the relevant *e-ktobe* descriptions (in the printed IIMM catalogues, this function is done through marginal arrows).

Codex N (first part)
Content
Physical features
Codex N (second part)
Content
Physical features
etc.
Information about the grouping
Bibliography

Skeleton 3: basic structure of the syntactical description type B.

4.4.4 Syntactical description type C (type 1c in Andrist 2014)

An acceptable compromise between the traditional structure and the syntactical description types A and B consists in numbering each stratum to be described (for example in the heading) and then systematically dividing each usual descriptive feature into as many strata as there are, explicitly using their stratum number.

The use of this structure (Skeleton 4) was suggested by Pamela Robinson as early as 1980, as she was working on Insular mediaeval manuscripts and developing her theory of the ‘booklets’ (Robinson [Pa.] 1980; about this publication and further studies of Pamela Robinson, and their impact, see Andrist et al. 2013, 12–14, 33, 42).

More recently, it was convincingly applied in various catalogues, for example in the catalogue of the Panagia of Chalkē (Kouroupou – Géhin 2008; see for example the description of cod. 90, 259–260) or the catalogue of the Greek manuscripts in Munich (Hajdú 2003; see for example the description of Bayerische Staatsbibliothek, Cod. graec. 113, 43–48).

The advantage of type C is the possibility for the readers to know quickly all the relevant data in a manuscript for any feature they are interested in. Since catalogues are mostly used by specialists in a particular field, they are thus able to find more quickly all the primary data they need: philologists see all

Codex N
 Heading
 Content
 1. ... of stratum 1
 2. ... of stratum 2
 etc.
 Physical feature (a)
 1. ... of stratum 1
 2. ... of stratum 2
 etc.
 Physical feature (b)
 1. ... of stratum 1
 2. ... of stratum 2
 etc.
 Common features (Binding, History...)
 Bibliography

Skeleton 4: basic structure of the syntactical description type C.

the content at once; art historians immediately find the miniatures and the decorative elements. There is, however, a major risk that they overlook the other features of the same unit, or lose sight of the chronological and contextual discrepancies, and make undue links between the elements they work on. Besides, anyone interested in visualizing each historical unit of the codex as a whole must, for each one of them, browse through all the features of the description.

Syntactical description type D (= type 2b in Andrist 2014)

Type D (illustrated by Skeleton 5) is one type of hybrid solution out of several existing ones. It has been sometimes advocated and used firstly by people interested in text history. It consists in presenting the textual content according to type C, and some or all other features according to type A, in order to get a quick overall access to the contents of the codex. In fact, any feature could be handled so, depending on the cataloguer's interests.

Codex N
 Heading
 Content
 1. content of stratum 1
 2. content of stratum 2
 etc.
 Stratum 1
 Physical features
 Stratum 2
 Physical features
 etc.
 Common features (Binding, History...)
 Bibliography

Skeleton 5: basic structure of the syntactical description type D.

This type is acceptable, providing the strata are also clearly distinguished in the Content section (or any special section). Some rare examples of this type are found in the catalogue Cleminson et al. 2007 (see for example the descriptions of Budapest, OSZK, Quart. Eccl. Slav. 17), where the features Layout, Hand, and Ink are sometimes described per stratum, contrary to the features Content or Paper, described globally, but structured per stratum.

4.4.5 Choosing a syntactical model

The first beneficiaries of any of the syntactical models presented above are the cataloguers themselves, because the structure of the description immediately pinpoints any omission. Besides, it helps them see the main discontinuities in the codex and thus suggests some aspects of its history. As a result, syntactical descriptions clearly contribute to a higher quality in a catalogue, and provide its users with a more accurate and legible presentation of the codex.

But choosing a syntactical model implies also some thinking about which type(s) of strata should be used as the basic description units. All the primary and secondary strata only? Some of the tertiary

strata as well, such as restoration leaves? Or should these be always described together with the strata they are now linked to? In any case, an acceptable descriptive solution must be found for the tertiary and quaternary strata, such as added slips or long notes; they must be either integrated with the relevant main description units, or grouped in some extra common feature unit.

In order to ensure some coherence throughout the catalogue, it is advisable to write up these decisions at the beginning of the project, then stick to them through the cataloguing process and finally inform the users in the introductory pages of the printed or online catalogue.

4.5. *Illustrated Inventory of Medieval Manuscripts (IIMM)*

As mentioned above, in the last thirty years Gumbert has developed, published and used the first method for making small size descriptions based on the structural parts of the codex (see Gumbert 1984, 2009a and 2009b including the description *Rules*). According to this method, called IIMM and meant to produce enriched inventories rather than regular catalogues, each primary and secondary layer is described autonomously, in four paragraphs, each of them taking up one to four lines (most often one line) with, on the opposite page, a full-size black and white picture of a small part of the manuscript.

A look at pages 44 and 45 of his last published IIMM catalogue (Gumbert 2009b) confirms the interest of his method: on these two pages, seven manuscripts, amounting to ten codex layers are described. For example:

BPL 78 is a one-layer manuscript:

Paragraph 1 (one line) gives the shelf-number, the origin and the date.

Paragraph 2 (one line) gives the content.

Paragraph 3 (two lines) gives the physical description, using many abbreviations.

Paragraph 4 (one line) gives the bibliography to the manuscript.

Besides, a 4×7 cm full-size reproduction of an extract from f. 2r is given on p. 45.

BPL 76C is also a one-layer manuscript, but the information in the first paragraph uses four lines.

BPL 81 is a three-layer manuscript. The description of the whole codex includes:

Three independent descriptions, one for each layer, but limited to the three first paragraphs of a normal description. Each description is marked in the left margin by an arrow pointing down.

At the end of the series, an extra bloc gives general information about the codex. It is marked in the left margin by an arrow pointing up:

Paragraph 1 (one line) gives the date when the layers were grouped.

Paragraph 2 (one line) gives the bibliography to the whole manuscript.

Three sample pictures, one for each layer, are given on page 45.

By doing so, Gumbert prevents the reader from dating the Hymns of SS Peter and Paul (in part 3, dating from the eleventh century) to the tenth century like part 1, or imagining that the copy of the *Regula canonicorum* (in part 2) was once on the bookshelf of Airvault of Poitiers (part 1).

Even though Gumbert inventories 'Latin' manuscripts, IIMM can be used, as it is or with very slight adjustments, for any kind of oriental codex. As a result, IIMM provides an unconventional way to do very compact, systematic and clear 'syntactical' descriptions of any codex.

4.6. *Misconceptions about syntactical descriptions*

Before concluding, it is worth addressing some recurring questions and misconceptions about syntactical descriptions.

1. Contrary to a widespread idea, a syntactical description is not necessarily a long one. IIMM is a good counter-example. For any given 'depth' of description, a syntactical description does not result in many more lines than an equivalent traditionally structured description, even when applied to codices of more than average complexity. And it does not necessarily take much more time, as soon as the cataloguer's eyes are accustomed to reading the language of the codex.

2. As we have already seen, syntactical descriptions are not restricted to printed catalogues of 'text manuscripts', but can be used for any kind of description, including for decorated manuscripts, and any kind of cataloguing project, including thematic catalogues or on-line ones. It is foremost a matter for the cataloguer to get into the habit of seeing and representing the codex syntactically. Where electronic catalogues are concerned, none of the above solutions is linked to any particular software or language

or database type, even though some software can make it easier to implement them. In many respects, electronic descriptions are not another world, because they address the same objects, with the same needs for exactness, even though electronics provides more opportunity for retrieving data or making links to images or electronic resources.

3. Syntactical descriptions do not compensate for the shortcomings of the cataloguing team, even when implemented online. The quality of the catalogue, its adequacy to the objects described and the relevance and systematics of its data always depend ultimately on the qualities of the people writing the descriptions.

4.7. Conclusion

Syntactical descriptions were born from the need to understand the strata of the codex better, and to make them better visible. After a few years, they have proved to be a new and improved way to understand and ‘communicate’ ancient Greek and Hebrew manuscripts. There is no reason why Syriac, Armenian, Arabic, and other catalogue readers should not also benefit from it.

As we have seen, the codex is like a language with its own rules, made of small significant details, recurring elements and more or less important discontinuities. When understood properly, this language informs the readers about the stratigraphy of the codex and, ultimately, its history. As Gumbert wrote in a recent email, ‘the stratigraphy of an excavation is not the same as the history of the site, but it is a diagram which provides the facts that are the basis of that history. And the history cannot be drawn in a diagram, but has to be told. But it cannot be told if the basic facts have not first been clearly set out. Similarly, the stratigraphy of a codex is not the same as its history... but it provides the basic facts; and the history of a book cannot be given in a schematic model, but can only be told’. The syntactical description types presented above are privileged ways to express this diagram unambiguously, tell this history in a closing section of the description, and share them with people who usually do not have access to the ‘excavated codex’.

References

Andrist 2003, 2006, 2007a, 2007b, 2008, 2014; Andrist et al. 2013; Bobichon 2008; Briquel-Chatonnet 1997; Canart 1970; Cleminson et al. 2007; Derolez 1974b; Gumbert 1984, 1995a, 2004, 2009a, 2009b, 2010a; Hajdú 2003; Kouroupou – Géhin 2008; Munk Olsen 1998; Robinson [Pa.] 1980; Stutzmann – Tyllus 2007. Web sources: Bibliothèque nationale de France, *Archives et manuscrits*, <<http://archivesetmanuscrits.bnf.fr/cdc.html>>, last access May 2014; *e-ktobe: manuscrits syriaques* <<http://mss-syriaques.org>>, last access May 2014; *Pinakes* <<http://pinakes.irht.cnrs.fr/>>, last access May 2014.

5. The physical description (PAn)*

From a practical point of view, even at different levels of investigation, both analytical and summary descriptions are expected to include a description of the main features of the ‘objects’ to be catalogued. Even though there is no accepted definition of what exactly those main features are, they can be grouped in four categories, as a pragmatic way to overview them: 1) the manufacture of the manuscript and its physical features; 2) the contents; 3) the history of the manuscript after its making; 4) the bibliography related to these three categories. Mainly because of national traditions and field habits, there are no standard ways of organizing these categories or the features within each of them. For example, where should the miniatures and ornamentation in a codex be dealt with? Some would bring them up alongside the textual content; others would consider them at the same level as the writing; other would rather put them in a fifth category.

As a general tendency in the past thirty years, the physical description of the codex has received more attention than before, probably due to the spread of a codicological awareness and wider interest in the objects as such and their conservation. Consequently, the space dedicated to the physical features in each description has grown considerably; while the relevant information was traditionally condensed to a few points in a few lines, it is often now either a large paragraph containing all the features addressed—where the information is not always easy to find—or a series of paragraphs, one per feature, each with its own heading.

No matter how skilful the cataloguers or how big the cataloguing team can be, the heads of the cataloguing project are always faced with the need to make a series of choices, for example: (1) Which features are to be described, and which ones are not? (2) How deeply is each feature to be described? Which aspects thereof must be addressed? In reality, it is scarcely possible to give all the information specialists in the related fields need or would like to have. It is however possible to draw their attention to objects which can be potentially interesting to their work, allowing them thus to study them later according to their standards; (3) According to which formal rules are they to be presented? Usually, there are many possible solutions, which are not always fully satisfactory, as a few examples below will illustrate.

However, because of these many preliminary and sometimes unconscious choices, there is no such thing as ‘an objective description’ of any manuscript. Every description is necessarily a subjective interpretation of the object; but within the frame of these initial decisions, the cataloguers can strive to discriminate between what they observe and the conclusions they draw from it, criticize themselves, and systematically, clearly and usefully bring the data to their future readers. There are various ways of taking the many initial decisions, for example, again, according to the surrounding habits, or haphazardly according to one’s personal interest. But the description of a codex can also be seen as the place where a global historical assessment of the object can be made by a person who can actually see and study it—and in many cases this is the only chance in a long period of time for this assessment to be made. An awareness of this opportunity and potential, and a readiness to exploit them will help in making appropriate decisions, as the description of the physical features of the object is an important part of this assessment.

This short sub-chapter is only a brief and incomplete survey and discussion of some of the main physical features of the codex, as one finds them in catalogues. They roughly match the main features expounded in Ch. 4 § 4, because they also play a role in understanding the internal structure and constitutive history of the codex, but this is not the place to discuss them in depth.

One is struck by the excessive level of heterogeneity in the descriptive solutions regarding the physical features of the manuscripts, especially since the features described are essentially the same in the various cultural areas, and the solutions used are not all equally convincing. By sharing remarks and illustrating a few solutions among many possible options, the author’s double goal is to help cataloguers reflect on the meaning of a physical description before they start their work, and encourage them to define their own practice better, explain it clearly to their readers, use it systematically, and, as a result, more efficiently communicate the fascinating dimension of the physical features of ancient handwritten books. He also hopes to contribute to bringing some harmonization to the way the most basic and universal features of the book as a physical object are described. More theoretical discussions and some examples of the potential scholarly use of this information can be found in specialized codicological studies (see Ch. 1 § 1). Some practical information can also be found in some general publications (for example, Géhin 2005; Clemens – Graham 2007, 129–133; Petrucci 2001); or in sometimes outdated cataloguing rules for

* The author warmly thanks Marilena Maniaci for her comments as he was preparing this subchapter.

national projects (for example in Germany, Deutsche Forschungsgemeinschaft 1992, as well as Riecke 2009; in Italy, Jemolo – Morelli 1990, De Robertis et al. 2007); or in introductions or ‘companions’ to more local cataloguing initiatives (for example, Del Barco 2011, vii–xvii; Layton 1987, liv–lxvi; Andrist 2007b). Peter Gumbert’s method of quickly and efficiently compiling an inventory of larger collections in a sound way could easily be adapted to the needs of oriental manuscript collections and deserves a special mention (see Gumbert 2009a, 2009b; see also Ch. 4 § 4.5).

As catalogue descriptions can be structured in different ways, for example according to the whole codex, or the codicological or production units (see Ch. 4 § 4), the neutral expression ‘description unit’ designates here whatever part of the codex is being described.

5.1. Page / folium numbers

Before presenting some of the main features of the physical description of a codex, some recurring situations about the way manuscripts’ pages are sometimes numbered must be briefly mentioned.

The two usual ways to number pages in a codex are by folium (plus the indication recto or verso) or page numbers, starting at the beginning of the codex and ending at the end thereof. But it happens that these two methods are mixed within the same codex; and the numbers sometimes start afresh at the beginning of the production units or even of each text. No matter what the situation, the readers need to know about it immediately, since it is a key to understanding the description and, for the future users of the codex, to finding whatever they need in it. Whenever the codex to be described is neither thoroughly paginated nor foliated, it is strongly recommended to ask the responsible librarian to foliate it before beginning the description, in order to avoid mistakes and facilitate the location of the features described.

Cataloguers are often faced with special situations, including unnumbered folia (gaps), numbers used more than once (doublets) or unused numbers (jumps). Should then the codex be renumbered starting with the first problematic page or folium? Even though it could make sense to do so (as some libraries do), it brings new difficulties in cases where the codex has already been referenced in some publications. Modifying the numbering could result in making previous literature, including scholarly publications, hard or impossible to use correctly. However, if the codex has received no attention (or very little) in publications, renumbering it is harmless; as a preventive working method, the old numbers should never be erased, but just crossed out. If the problematic numbering is not modified, there are still several ways to create an unambiguous system where no two folia or pages have the same number, for example by adding one or two stars (or adding ‘bis’ or ‘ter’, or ‘a’, ‘b’... etc.) to the repeated numbers, and adding numbers (with stars, or ‘bis’, ‘ter’ etc., maybe even in square parentheses to stress their late inscription) to unnumbered pages or folia.

Another problem sometimes occurs with a codex bearing two or more numbering systems; there are even situations in western libraries where Hebrew or Arabic manuscripts have received a modern foliation according to the Latin order of the pages against an original foliation in the natural order of the content. Again, the cataloguers must make their readers aware of the situation at the beginning of the description and clearly tell them which system is being used in the catalogue.

The numbering system used in the catalogue, which must of course match the main or best visible system in the codex, can be expressed in different ways, for example through a small formula like ‘p. 1–16, f. 17–104, 104bis, 105–110, 121–216’.

5.2. Number of folia

There seems to be a consensus among catalogue writers that each description should include the number of folia at the beginning of it. Indeed, there is an obvious interest for the readers or the owners of a codex to know how many leaves there are in a manuscript, as it allows one to visualize ‘how thick’ the volume is and also possibly determine whether a leaf has been lost since the catalogue was published.

However, there are various ways and sometimes a certain amount of confusion on how to communicate this very basic information. Some include all the folia in their figures without differentiating the end-leaves, even though these belong to the binding of the codex (see below); as result, it is not possible easily to find out how many folia are from the more ancient time(s). Others exclude the end-leaves or even any empty leaf before the first text page and after the last one, so that the total number of folia remains a mystery.

In a modern catalogue, the readers can expect to distinguish clearly how many folia are used as end-leaves and in the main body of the book. Among several good ways of giving this information, one can mention short formulas with the structure ‘el body el’, which have been widely adopted albeit with many formal variations. For example, a simple codex made of 3 end-leaves, then 240 folia, then 3 end-leaves could easily be represented as ‘III, 240, III’. Using a similar convention, a more complex codex made of 2 end-leaves of the current binding, then 1 end-leaf of an older binding, then 160 folia of a first production unit, then 50 folia of another production unit, then 3 end-leaves of the current binding could be represented as ‘210 f. = (2; 1) 160; 50 (3)’. Some catalogues mention numeration problems in this overview, rather than separately (see above), for example: ‘210 f. = (2; 1) 160 [p. 1–200; 200bis–ter, 201–319]; 50 (3)’. In case of recurring problems, the resulting formula can be hard to read, no matter how correct it is.

5.3. Writing support (for a theoretical discussion, see Ch. 1 § 1.1.1–3)

In catalogues, this important feature is always dealt with, but the depth of details varies a lot according to the type of support, the time available and the peculiarities of the codex.

Parchment: not much extra information is generally given about parchment in catalogues. In particular, it is not usual to identify the animal. One sometimes finds information about the quality of the original material, for example, if it was a fine or a coarse sheet; if it was irregularly scraped when it was manufactured; or if there are holes or stains. If visible, it is also interesting to note if the parchment was treated with special products including colourings, and the exact extent of it in the codex. Remarks of this kind can be very subjective, and they should be used very cautiously.

Paper without watermarks: there are different types of paper without watermarks (besides the reference publications mentioned above, see also Irigoin 1993, Humbert 1998 and an abundant useful sometimes annotated bibliography in Le Léanec-Bavavéas 1998, see also Ch. 1 §§ 1.1.3 and 2.1.4). When dealing with such material, it is expected that cataloguers will give all the information clearly to identify the type(s) found in the codex and, if applicable, the section(s) of the codex where each one of them is used. Paper historians have stressed the following aspects: (a) *the texture*: if it is regular or not; if the surface is smooth or coarse; (b) *chain lines*: if they are visible; if yes, if they are grouped or isolated; if the distance between two chain lines is roughly constant; if yes, roughly how many millimetres; (c) *laid lines*: if they are visible; if yes, if they are straight or curved; if they are regularly spaced; how many millimetres 20 lines take; (d) *format*: projected dimensions of the original sheet, if determinable; (e) *zigzags*: in Arabic paper, a sign called a *zigzag* can very occasionally be found.

Paper with watermarks: watermark analysis, consisting of comparing watermarks in a codex against dated watermarks in albums, is usually rewarding as far as dating the corresponding production unit is concerned, even though doing it properly is often a time-consuming activity. However, a careless analysis often results into a too optimistically precise dating. The various methods of drawing watermarks and their correct interpretation have been described several times (La Chapelle – Le Prat 1996; including theoretical considerations, Irigoin 1968 and Harlfinger 1980b; see also Rückert et al. 2009, 67–73, and the introduction in Sosower 2004; a huge amount of bibliography as well as a watermarks database are available on the website of the Bernstein consortium, <<http://www.memoryofpaper.eu>>).

Combined writing supports: the presence of combined writing supports is of major interest, and all the types (generally two) must be described. The way they alternate is significant for understanding the making of the book and should also be explained, for example ‘quires made of four bifolia of paper embedded in a bifolium of parchment’; or ‘two quires of parchment followed by four quires of paper’. One finds also embedded quires made of papyrus and parchment bifolia, or two types of paper bifolia of various paper thicknesses.

See also Agati 2009, 57–121; Déroche – Sagaria Rossi 2012, 43–50.

5.4. Quire structure (for a theoretical discussion, see Ch. 1, § 1.3.1–2)

Many catalogues of oriental manuscripts do not pay a lot of attention to the quire structure of the codex, even though it is a crucial information to perceive its internal organization, identify potential losses of folia and the clue to recognizing most of its production units (and, definitely, all the main ones). A precise collation is thus always needed. There are several ways to achieve this goal, again according to local or field traditions.

Using plain words is the easiest way and allows for any situation, but it takes much time and space, and the discontinuities in the quire structure do not usually appear very clearly. This is particularly true when only irregular quires are mentioned: for example, if a quire structure is described as ‘all quaternions, except the second, the twelfth and the twentieth quires in seven folia, besides the fifth and sixth quires in six folia, and the thirteenth quire with an added leaf’, who can easily tell if the text starting for example at the top of folium 104r is also at the beginning of a quire? Specialists have also designed specific formulas, two of which are frequently used in catalogues. Their principles and main advantages were described by Frank Bischoff in 1992 (see also Agati 2009, 166–172), but they have since been sometimes adapted to better suit the needs of the cataloguers (for example Layton 1987, lvii–lix; Andrist 2007b, 28).

For example, in the case of a codex whose body is made of four quaternions, then a quaternion whose eighth leaf has been cut off, then three quinions, then a quinion to which two leaves have been added,

– the so-called ‘English formula’ would be

$$1-4^8(\text{f. } 32) + 5^7(\text{f. } 39) + 6-8^{10}(\text{f. } 69) + 9^{12}(\text{f. } 81).$$

Each bloc of the formula has three elements: the position of the quire in the sequence; then in superscript the number of leaves in these quires; then in parenthesis the number of the last folium in the bloc;

– the so-called ‘German formula’ or ‘Chroust formula’ would be

$$4 \text{ IV}^{\text{f. } 32} + (\text{IV}-1)^{\text{f. } 39} + 3 \text{ V}^{\text{f. } 69} + (\text{V}+2)^{\text{f. } 81}.$$

Each bloc of the formula has three elements again: the number of quires in a row that shows the same basic quire structure; then the related quire structure (roman numerals designate the quire type; generally corresponding to the number of bifolia), to which the number of added or cut-off leaves is specified within parenthesis; then in superscript the folium number of the last folium in the bloc;

– an ‘improved German formula’ is preferred by the author because, like the English formula, it gives the position of the quires, and like the German formula, it puts the quires in the middle of the string and allows for a precise description of each quire, whenever its composition is known:

$$_{1-4} 4. \text{IV}^{\text{f. } 32} + _5 (\text{IV-pos. } 8)^{\text{f. } 39} + _{6-8} 3. \text{V}^{\text{f. } 69} + _9 (\text{V}+2^{\text{f. } 80-81})^{\text{f. } 81}.$$

Compared to the previous formula, the position of the quire in the sequence is now added in subscript as the first element of each bloc. Besides, the position of added leaves is specified according to their number, while the position of cut off leaves is specified according to their position in the quire.

– an improved ‘English formula’ is being currently developed for the project MaGI: *Manoscritti Greci d’Italia*.

Nota bene: within the two main systems, there are slight formal variations according to the cataloguers or special situations; for example, ‘+’ signs are sometimes replaced by commas; sometimes, in the case of an irregular numbering system in the codex (see above), the starting folium of each bloc is also specified.

In the above examples, the ending folium numbers are always specified, even though many catalogues omit them. However, specifying them clarifies the formula and also allows cataloguers easily to check there is no inconsistency in their descriptions, since it is self-consistent: the ending folium number of each bloc must be equivalent to the number of folia in the bloc added to the ending folium number of the previous bloc (0 for the first one).

For parchment manuscripts in cultural areas where Gregory’s Rule is usually respected, it is useful to note whether the hair and flesh sides of the folia respect it, and indicate which side is the first one, because discrepancies could point to losses of folia. For watermarked paper manuscripts, the position of the watermarks is a clue to the type of folding used to make up the bifolia (or even the quires). A change of watermark position could be significant in the production history of the book.

See also Agati 2009, 149–174; Déroche – Sagaria Rossi 2012, 98–108.

5.5. Ordering systems (for a theoretical discussion, see Ch. 1 § 1.3.4)

As described above, the correct order of the folia or the quires was sometimes secured by various types of ‘sequence marks’ in ancient times. Even if these signs were often cut off during the binding or re-binding processes, describing them (or whatever is left of them) often allows for a better understanding of the work of the scribes as well as for checking the unity and completeness of the volume. This is why it is worth noting all the extant quire marks of the codex described, as well as any change of practice and discontinuities in sequences. For example, in the case of quire signatures, it is useful to indicate where

in the quires and on the page the marks are found, in which language, which numeric system (for example, ordinal or cardinal numbers; in full words...) and, if discernible, if they were written by the scribe or another maybe later hand. This last information is important for evaluating such situations where two otherwise autonomous parts are united by a single quire mark system. The author generally gives also the value of the first and last fully readable numbers and the place where they can be found, in order to allow the readers to do any cross-checking they wish.

There is again no standard on how to convey this information, even though it is usually given in full directly after the description of the quires. Some cataloguers have developed specific formulas which could help save space and time (Layton 1987, lvii–lix; more generically, Andrist 2004).

See also Agati 2009, 279–285; Déroche – Sagaria Rossi 2012, 108–120.

5.6. Ruling (and pricking) (for a theoretical discussion, see Ch. 1 § 1.3.3)

It is often difficult for cataloguers to decide what to describe as far as ruling is concerned, especially since recent research has confirmed that some of ruling aspects can vary a lot even within the same production unit (for example Sautel 2012). As a result, ruling is too often neglected in catalogues or even entirely omitted.

Pricking: information about the presence of holes made to guide the ruling of the pages is sometimes found in catalogues. However, if their position and some precise information on the ruling type is not also given, this information is not significant.

Ruling technique: this is the most frequently mentioned aspect of ruling (even though the instrument used in this process is not frequently mentioned), and is usually and usefully done in a few words. Since variations or clear-cut changes in ruling technique within the description unit are potentially important for understanding the making of the codex, it is worth mentioning them, including where changes occur.

Ruling type / ruling pattern: some catalogues give information on what the ruling grids look like, but the way they convey it varies a lot. Some simply refer to a published ruling type diagram (as in Dukan 1988 or Lake – Lake 1934–1945, XI), while cataloguers of Greek manuscripts have for decades been in the habit of using ruling type formulas, following the pioneer work of Julien Leroy (1976), whose description method triggered other ones (for a discussion of the various methods, see Albiero 2011). Today Leroy's more compact formula is the most used one, while Denis Muzerelle's more analytical one is gaining momentum, because, unlike the first one, it is open and allows the reader mentally to visualize the grid easily and directly.

For example, let us consider the diagram shown in fig. 4.5.1. Leroy's formula describes it as '22C1a' (Sautel 1995). '22' means there are 2 extra vertical lines (outside the 2 necessary ones) and 2 horizontal lines in the margin; 'C' means the lines used for writing start at the left end of the page and usually stop at the right vertical lines; '1' means there is 1 text column; 'a' means the 2 extra horizontal lines are in the top margin. There is no extra letter about the two supplementary vertical lines, because they are equally positioned on either side of the text column.

Muzerelle's formula describes it as '2-2/2-0/0/C' (see Muzerelle 1994, 1999). '2-2' describes the 2 vertical lines on either side of the text column; '2-0' describes the 2 vertical lines in the top margin and the lack of lines in the bottom one; '0' means that the first and last lines used for writing are normal; 'C' conventionally means the lines used for writing start at the left end of the page and usually stop at the right vertical lines.

Ruling pattern: should the effective ruling grid of the selected pages be also fully described, including the number and position of the lines, the space between them and the possible pricking holes? Ideally, yes. However, since the

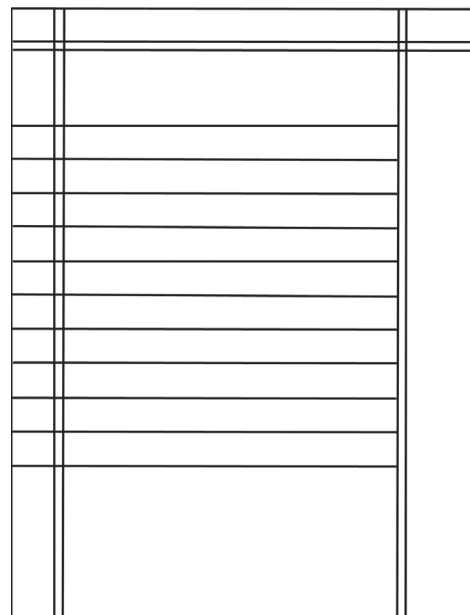


Fig. 4.5.1 Ruling diagram for type 22C1a (Leroy), 2-2/2-0/0/C (Muzerelle).

pattern generally varies through the manuscript, it is less characteristic than the ruling type, and therefore should not be ‘preferred’ to it. For the same reason, it is better to follow the recommendation of the codicologists and give the information for one specific page rather than artificially reconstructing a ‘standard’ ruling pattern out of supposed average values, as explained below.

Ruling system: it is generally not described in catalogues, but codicologists have repeatedly expressed the wish that it should be.

See also Agati 2009, 175–215; Déroche – Sagaria Rossi 2012, 121–126; Andrist et al. 2013, 51–57; Gumbert 2008; Sautel 2012.

5.7. Layout (besides ruling) (for a theoretical discussion, see Ch. 1 § 1.4)

Layout, dealing with the design of individual pages, is distinguished here from *mise en texte* dealing with the way a specific text is overall organized in the book (see Andrist et al. 2013, 95–100; Gumbert [2010b], no. 331.1; Déroche – Sagaria Rossi 2012, 191–226), for example how the main title and the chapter titles are distinguished from one another, if there is a conscious effort to begin the main chapters at the top of a page, or how the end of the chapters and the text are dealt with. In catalogues, the *mise en texte* is mostly not described, even if some elements thereof appear in the description of the decoration (see below). Basic aspects of the layout, including the number of columns and written lines per normal column are always explicitly given in catalogues, generally at the beginning; they allow the readers to visualize the pages and quickly compare the description units. More complete information about the writing space is generally also given, but often in an unsatisfactory manner. According to specialists, (1) giving the dimensions of the writing space is more useful if the dimensions of the margins are also given, so that it is possible to locate the ‘black’ and the ‘white’ areas on the page; (2) it is more useful to provide the description of a typical sample page, including the number of lines, rather than information about ‘average’ or ‘extreme’ situations; (3) for two-columns manuscripts, the dimension of the empty central space is also relevant; (4) the writing space should not be confused with the justification square, based on the ruling pattern; as a result, the justification space and the corresponding margins should be measured against the real written area, and not the ruled one; the right-end of the writing area(s) should then be measured on a typical line. Special situations can also be explained. Very few catalogues clearly distinguish them and give both pieces of information.

The way the ruling has been interpreted by the scribe is always an interesting piece of information, even though it is scarcely found in the catalogues: how many horizontal text ruling lines there are; how they effectively relate to the writing lines, for example if the text stands or hangs on the lines, if the first line and last lines are used, etc. Practical information about how to describe the layout is given below (see *Sample page*).

Other interesting aspects of the page layout include non-rectangular pages, pages with marginal commentaries, or with strongly varying written lines. The same overall principles apply in all these cases, where a higher quality of information is reached if one or several real sample page(s) are described rather than generic unqualified situations. For example, what can a reader deduce from a description telling there are 4–30 written lines per page? On the one hand, incompletely used pages, for example at the end of a text, should not be taken into account; on the other hand, in case of conflicting information within the description unit, one can always write, for example, ‘25–30 written lines, generally 28 or 29’.

See also Agati 2009, 219–240; Déroche – Sagaria Rossi 2012, 126–136.

5.8. Sample page (for the ruling pattern and the layout)

As mentioned before, codicologists agree that the description of the effective ruling pattern and the effective layout, if done, should represent one (or a few) carefully selected typical page(s), rather than an ‘average’ or reconstructed ‘normal’ grid or text area. There are various ways to describe a page layout and a ruling pattern. One can again give all the figures one after the other with an explanation, but there are also several possible methods allowing for a more or less easy to visualize representation of it, like Muzerelle’s method to describe the ruling pattern of a specific page, which can also be adapted to describe its layout, as sketched now.

Describing the ruling pattern: according to Muzerelle’s method all the horizontal then vertical distances between the lines are given, together with a series of signs both symbolizing the lines and indi-

cating their position relative to the text area (see Muzerelle 1999, 155–156). For example, in the above example (fig. 4.5.1), assuming it is the recto side of a page, the measure could be

‘10 < *5 ≤ 119 ≥ 5 > 15[×] 8 ; 5 ; 15 ≤ 160 ≥ 28[’.

It means there are 10 mm from the left edge of the page to the first vertical line, and 5 mm to the second line; these 5 mm are used to accommodate initials (sign *) and this second line actually limits the writing space (≤), which is 119 mm wide; the right vertical lines are also 5 mm distant from one another, and the right margin, which has been significantly trimmed ([), is 15 mm broad. After the sign ‘x’, the distance between the horizontal lines is described on the same principles. However, the author always provides vertical information before horizontal one.

Describing the page layout: the method used by the author is inspired by Muzerelle’s method for ruling patterns. The following example describes the written space for a two column page; both vertical and horizontal dimensions are taken in the middle of the page:

‘(p. X) m columns, n lines –
total height of the page × total width of the page –
(size of the top margin) vertical writing area (bottom margin) ×
(size of left margin) left column (central empty space) right col. (right margin)’.

In practical terms, this could take the shape

‘(f. 36r) 1 col., 22 l. – 167 × 109 mm – (21) 116 (30) × (17) 28 (5) 28 (31) mm’.

The cataloguer can then take advantage of the fact that this method is self-controlled: adding all the vertical information should result with the same value as the total height; the same is true with the horizontal figures.

In practice, both pieces of information can easily and meaningfully be combined, for example in Andrist et al. 2013, 162:

‘Pages: (f. 102r) 1 col., 29 l. – 264 × 218 mm =
traits: 18<12<13≤160≥13>24>24 × 18<8≤114≥6>10>29>7>26 mm;
text: (43) 162 (59) × (26) 107ca (85ca) mm.’

5.9. Script (for a theoretical discussion, see Ch. 2 § 1).

Script is usually mentioned in the catalogue descriptions. However, there is no common practice in the catalogues, nor, on the theoretical level, any widely admitted objective way of describing it or even a widely accepted terminology. Some would like to have a full description in words, while others deem it too much linked to specific scholarly traditions and would just date the script (if possible) and publish a picture of it. In-between, there is a long continuum of different possibilities. Let us share some subjective considerations on this very subjective and sensitive topic from a cataloguing point of view. (a) For sure, no matter which solution is preferred, a picture of the script will definitely make more sense to most of the readers than whatever is written, especially if the script on the picture is legible. In fact, many palaeographers prefer to get a 100% sized small part of a written page, or a good sized picture on the internet, than a strongly reduced full page in print. As a result, no matter what the basic description options are, it is a good idea, if possible, to publish also a sample of each script. (b) Most of the oriental traditions have some words to designate broad types of scripts (see Ch. 2) and it would not make sense not to use them in catalogues. For those cultural traditions where the story of script is advanced enough, it also makes sense to suggest a copying date and/or place according to the script, and compare it to the other dating elements. If one does not feel confident enough in dating scripts, it is not wrong to ask a specialized colleague. (c) Writing in a codex is often based on a system of several scripts used in different textual situations, often combined with a change of ink or size (see Andrist et al. 2013, 95–100); for example, there could be one script for the main body of the text and some others for the various levels of titles, the first words of the text or the chapters, the marginal commentaries, the colophon, etc. (d) Before cataloguers choose to give a full description and/or use a technical terminology, it is worth asking themselves how clear the resulting paragraph will be to most of the readers, at least to people working on the same cultural world. As terminology also evolves, including new meanings for old words, it is in any case necessary to provide some bibliographical references in the introduction, which will give much later readers a chance to understand the description correctly. (e) Describing a script, or a script system, is not the same as describing the way it is executed or its quality (see Ch. 2 § 1). Information on both these things is interesting and may contrib-

ute to a subjective evaluation of the quality of the production unit. Nor is it the same thing as identifying a scribe; as a result, information on the script is expected even if the scribe is named in a colophon or was recognized by the cataloguer or another specialist. (f) As far as assessing the codex is concerned, it makes sense to distinguish how many script systems as well as how many different hands there are, and where (or according to which ‘rules’) they change. If a secure result cannot be reached, because of the peculiarities of the scripts and the hands, the available time and/or the competence of the cataloguers, it is best not to give this type of information.

5.10. Decoration (see also Ch. 1 § 1.5.1 and Ch. 4 § 3.2)

The state of the description of decoration in catalogues is much like the script:

- usually catalogues give some information about it, especially when it has to do with miniatures or the use of coloured ink;
- there is however no common practice among cataloguers;
- neither is there any widely accepted objective way of describing decoration in words nor any standard general terminology (at least not in all the cultural areas, even when art historians are involved). Admittedly, the decoration of some codices is a complex achievement and its description cannot be fully done in a standard catalogue (but see Ch. 4 § 3.2 on specialized catalogues). As a result, there are various scholarly traditions, generally using their own terminology;
- pictures generally communicate it much better than any verbal description;
- evaluating the decoration in a reasonably subjective way in a catalogue is usually accepted, since it helps visualise the quality level of the description unit;
- a technical analysis is potentially useful for dating and locating the description unit;
- decoration often also works as a system adding sense or legibility to the main content and ‘usability’ of the book, as it often underlines the structure of the content and the hierarchy within each text copied (see also Ch. 1 § 1.5.1 and other tradition-specific relevant paragraphs in Ch. 1). For example, as far as the non-illustrative decoration is concerned, the title and beginning of a text is often particularly enhanced by decorative elements, while chapters and smaller text units can begin with various levels of coloured and decorated initials, which help the readers both better to understand the text and more quickly to find particular parts of it. Thus, describing the major aspects of the decoration also allows the readers better to understand the strategies of the people producing this unit as far as the *mise en texte* is concerned.

There are several reasons why the interest in the decoration is traditionally greater than in the script: because of its visual impact; or the implied monetary value, both at the time of production and now; or the greater fragility of the codex; sometimes also because of its significance for the history of art.

The author’s current way to avoid too subjective a description and present usable information is inspired by Canart 2005, and follows the following principles: (1) firstly, miniatures are singled out and described with the help of an art historian, or very briefly on the basis of existing publications; (2) secondly, the main elements of ornamentation are classified (in the typology of the relevant cultural area); (3) each major element is described individually, giving its location in the codex, position on the page, measurements, used motifs and colours; (4) other and more common elements (common initials, rubrication, ornamental patterns, etc.) are described en bloc.

For an example of a specialized catalogue, see Hutter 1977–1997; her cataloguing practice is explained at the beginning of each text volume.

5.11. Bindings (for theoretical considerations, see Ch. 1 § 1.7)

In the cataloguing habits of the oriental cultural areas, there is a fairly widespread tradition of mentioning the binding of the codex. However, it is usually limited to the most visible external aspects thereof, while specialists, mostly restorers, have developed very complex protocols for the technical description of all the analysable elements of binding (see for example Grosdidier de Matons – Vinour 2010; see also <<http://www.studite.org>>). It is of course not expected that standard catalogues should provide such descriptions, but, depending on the available time, a systematic description of the following not-too-difficult to observe elements (or at least a relevant subsection thereof as far as the cataloguing project is concerned) should be considered, since they are useful to describe the codex, and usually interesting to book or art historians dealing with bindings as well as people in charge of the long-time preservation of the codex.

General technique and type: plain information if the binding is a modern or an ancient one, a western or an oriental one. Giving the type, if known ('half binding', 'Limp vellum binding' etc.), helps to visualize the codex.

Outer dimensions: the three basic measurements. Ideally, the information distinguishes the width of the board and the width of the object, including the thickness of the spine.

Sewing: number of sewing stations; sewing supports; materials used.

Endbands (if any): the material; the colours and patterns of the threads, if any.

Boards (if any): the material (wood, cardboard); if visible, the technique how the thread(s) or supports are fixed.

Spine: its shape (rounded, straight...); how many raised bands, if any.

Covering and decoration: the material, colour and extent of the covering (the outside and the inside of the boards); the decoration (embossed ornamentation, gilding, etc.). Specialists are always interested in a full-size reproduction of the tooling.

Clasps (if any): the position, material and working system of the clasps; state of preservation.

End-leaves and paste-downs: the number of front and back end-leaves (if not already given), and a description as of any writing support. In the case of paper, an analysis of the watermarks, if present, can result in a good dating of the binding; however, one must make sure the sheets were not reused from an older binding or added during a later restoration.

Edges: if the edges are angular or rounded; if they were decorated (coloured, gaufered...).

Remains of previous bindings: traces of previous bindings, if any, including unused holes in the gutter, reused end-leaves, traces of clasps, etc. Other elements in the codex can indirectly also point to previous bindings, such as trimmed marginal notes, ancient quire signatures or similar.

Inscriptions: possible notes or ancient shelfmarks on the spine or the end-leaves and paste-downs often preserve important information for tracing the history of the book. Presenting them all at the same place in the description, rather than together with the description of every element, helps see them and evaluate a possible relationship between them.

Date of the current binding: based on the previous elements, an assessment of the date of the current binding is often possible. Since the current binding is necessarily younger than the latest standard main copying, dating the binding provides a *terminus ante quem* for the latest scribe's work. Inversely, dating the copying provides a *terminus post quem* for the binding. However, there is *a priori* no other direct chronological relation between both aspects, because, ever since the Middle Ages, manuscripts were often rebound. Unless it can be shown that the quires were bound shortly after being copied and the current binding is the original one, dating the scripts and the binding must be based on two independent analyses. Besides, since decorative elements are sometimes added by new owners in a later time (including the Middle Ages), one must be very careful when using visual elements (stamps, coats of arms, etc.) to date the binding.

As far as describing the binding is concerned, seeking the help of conservators could save the cataloguers a lot of time and guarantee the correct use of standard terminology. Since the general terminology varies among 'schools' and is subject to evolution, it is useful, in the introduction to the catalogue, to inform the readers about the system used and give some bibliography. See also Agati 2009, 347–381; Déroche – Sagaria Rossi 2012, 247–280; Szirmai 1999; Mouren 2013.

5.12. State of preservation

Many catalogues give an evaluation of the state of preservation of the manuscripts, but there is no rule as far as the place where the information is to be found. Some catalogues combine it with every relevant feature (writing support, binding, etc.), while others make it in an independent paragraph. The depth of the information varies also according to the scope of the cataloguing project.

5.13. Conclusion

A good physical description should be reliable and consistent. Reliability is important because both the ethics and the needs of manuscript studies require that one should give and receive information that reflects reality as closely as possible, even though, ultimately, studying the codex itself is the only way to get closer to the full reality of it. Consistency, both in the choice of the features to be described and the

way to do it, is central because it allows the reader to go through all the main features of the codex, and compare the manuscripts on a sound ground. However, systematic consistency is not a goal in itself but a means to understand and communicate better the physical reality of the codex and allow further research. There are exceptional objects and situations, where one needs exceptionally to convey ‘extra-systemic’ information. However, the cataloguer should never intentionally neglect any of the features that are included in the cataloguing project.

The physical make-up of the codex is definitely a language that is worth learning and using. Describing it systematically makes the cataloguer notice details and gather information that can help to assess and ‘communicate’ the codex better.

References

Agati 2009; Albiero 2011; Andrist 2004, 2007b; Andrist et al. 2010; Bischoff 1992; Canart 2005; Clemens – Graham 2007; De Robertis et al. 2007; Del Barco 2011; Déroche – Sagaria Rossi 2012; Deutsche Forschungsgemeinschaft 1992; Dukan 1988; Fingernagel 2007; Géhin 2005; Grosdidier de Matons – Vinourd 2010; Gumbert 2008, 2009a, 2009b, [2010b]; Harlfinger 1980b; Humbert 1998; Hutter 1977–1997; Irigoin 1968, 1993; Jemolo – Morelli 1990; La Chapelle – Le Prat 1996; Lake – Lake 1934–1945; Layton 1987; Le Léannec-Bavavéas 1998; Leroy [Julien] 1976; Mouren 2013; Muzerelle 1994, 1999; Petrucci 2001; Riecke 2009; Rückert et al. 2009; Sautel 1995, 2012; Sosower 2004; Szirmai 1999. Web sources: Bernstein consortium <<http://www.memoryofpaper.eu>>, last access 24 September 2013; *e-corpus* <<http://www.studite.org>>, last access 24 November 2014.

6. Catalogues and cataloguing of oriental manuscripts in the digital age (JG)

With the introduction of electronic means and methods into the cataloguing of manuscripts since the late 1980s, both the production of catalogues and their dissemination have begun to change considerably. As a matter of fact, the number of cataloguing projects concerning oriental manuscripts that are not digitally-based is steadily decreasing these days. A major difference in this context concerns the question whether the catalogues to be produced are still meant to be published in the ‘traditional’ way, that is in printed form, with digital means remaining restricted to preparatory functions, or whether the envisaged output is planned to be digital itself, that is online or via an electronic storage medium such as a DVD. If we leave the case of mere electronic typesetting (as a preliminary stage of printing) aside, both these aims usually build upon similar grounds in that they presuppose the conceptualization of database structures, but with different requirements concerning the scope, the granularity, and the retrievability of the data to be compiled, and with different prospects concerning their later usage. In the following sections, we will discuss the basics of database schemes and structures that are applicable to the cataloguing of manuscripts, the formats of electronic catalogues and their potential, and the challenges electronic cataloguing brings about.

6.1. Database schemes and structures

No matter whether a cataloguing project aims to result in book form or as an online website, databases that are meant to cover the information to be disseminated will have to address the basic issues of manuscript cataloguing as outlined in Ch. 4 § 1, namely (1) the manufacture of the manuscript and its physical aspects; (2) the contents of the manuscript; (3) the history of the manuscript after its making; and (4) bibliographical data related to both the physical and textual aspects of the manuscript. To what extent these data are compiled mostly depends on how detailed the catalogue is meant to be—anything between a mere ‘inventory list’ and a fully-fledged ‘analytical’ catalogue can be covered by the database structures of today, and as a matter of fact, database-like structures have even been underlying, explicitly or implicitly, many cataloguing projects that were initiated before the digital age. Thus, for example, the giant project of a ‘Union Catalogue of Oriental Manuscripts in German Collections’ of the Göttingen Academy of Sciences (*Katalogisierung der orientalischen Handschriften in Deutschland*, with the series *Verzeichnis* etc.) has been designed since its foundation in 1958 to follow a description pattern which comprises 26 sub-items, including shelf number, cover, material, state of preservation, page number, format, number of lines, writing style, decoration, scribe, date, origin, author, title of the work, quotations of the first and the last lines of the text as well as of colophons, further remarks and a number of registers (or concordances); and it should well be possible to continue the work ‘by using the format of the newly developed database framework which was set up on the basis of the MyIHS system developed by Leipzig University in 2006 according to the conditions of GNU (General Public License)’ as envisaged now (Raschmann 2012). The very fact that older catalogues usually possess an inherent database-like structure has been the reason why many digital cataloguing projects of today started by transforming the information stored in printed works or file cards into electronic data fitting into a database scheme, and ‘digitally-born’ cataloguing projects are not necessarily richer right from the beginning with respect to the data fields they contain, for example, the DOMLib / Ethio-SPaRe Manuscript Cataloguing Database project comprised a ‘minimal data model’ in its application phase (2009), consisting of ‘Signature; Short title; Material; Measurements; Number of folia; Dating; Scribe; Author; Donor; Location original; Location current; Short contents; *Incipit*; Illuminations; *Additiones*; Further details; Bibliography’ (the set has since been extended; see Nosnitsin 2012b).

However, database schemes developed for the cataloguing of manuscripts are anything but identical even today, and there are still some major differences in the database structures proper. First of all, it may be crucial for the database in question whether (1) the main concern of the compilers is the manuscript as an object of codicology (for example in establishing a catalogue of manuscripts of the same provenance); whether (2) they are rather interested, as philologists, in the texts contained in the manuscripts they intend to describe (for example in cataloguing all manuscripts containing the works of a given author, which may result in individual manuscripts being described only partially—an example of this is the online catalogue of the ‘Handschriftencensus’ project, <<http://www.handschriftencensus.de/>>, which aims at surveying the

manuscript transmission of German texts of the Middle Ages and which does not always mention texts in other languages present in the codices under consideration); or whether (3) they are primarily engaged in providing additional information ('metadata') concerning digitized images of the manuscripts they intend to make available. Differences may further be due to the scope of a given catalogue, depending, for example, on whether the object of cataloguing is the complete manuscript collection of a given country or repository, a special collection of a country or a repository determined by language, script, writing support, or age of the manuscripts, or manuscripts across different collections that share certain features. Noteworthy differences between databases may also arise from the level of consistency they require, especially with a view to how many fields must effectively be filled in, and, more importantly, how they have to be filled in; the existence of 'descriptive standards' (a good example—though in a poor design—for a descriptive standard usable for manuscript cataloguing is the Swiss 'Verbundkatalog Handschriften – Archive – Nachlässe (HAN)', <http://aleph.unibas.ch/F?con_lng=GER&func=file&local_base=DSV05&file_name=verbundhan>) may be crucial for later interoperability of the database (in the sense of data linkage and integration into portals and hypercatalogues, cf. below).

The most crucial question determining the structure of a database from the codicological point of view is to what extent and how it is able to reflect the different 'production units' that may be present in a given manuscript codex (cf. Ch. 4 § 4). To give but one example (kindly provided by P. Andrist): let us assume that part 1 of a given manuscript contains a text of Plato copied in the twelfth century, while part 2 of the same manuscript contains a text of Aristotle copied in the sixteenth century. It must be guaranteed in this case that the manuscript will not be 'hit' when executing a query for codices containing twelfth century copies of Aristotle's texts. The problem may even be more crucial if we take into account smaller production units such as reader and owner notes, as well as restoration and bindings, each with their own dating, and for the time being, no database (or search engine) seems to guarantee the contiguity of individual production units with the chronological information pertaining to them. This is due to the fact that relational database structures that were developed in the beginning of the digital age were mostly not flexible enough to adequately cover the structure of 'mixed' manuscripts consisting of several parts of different age, provenance, and/or content; but future generations, be they based upon SQL ('Structured Query Language', a widespread programming language to be used with relational databases) or XML ('eXtensible Markup Language', a more freely adaptable encoding system, cf. General introduction § 2.1) are likely to be able to overcome the problem. This is especially true for tree-like database structures using the XML-based 'MS Description' recommendation of the Text Encoding Initiative (TEI P5). However, it should be clear that this is not primarily a question of technology (relational databases vs. XML schemes) but of methodology, i.e. it depends on the overall design of the database.

6.2. Electronic catalogues and their potentials

With the establishment of digital databases containing the data to be catalogued, and especially with the development of the World Wide Web offering online access to them, it has become more and more tempting to disseminate the catalogued information on manuscripts electronically instead of or alongside a printed form, and the number of 'electronic catalogues' that are accessible online is steadily increasing today. Among the main advantages of this type of catalogues, we may mention, (a) that the data they contain can be retrieved dynamically via interactive search entry forms or the like, instead of static indexes (we may neglect here the mere electronic reproduction of a printed catalogue, for example, in PDF form, as this does not imply peculiar retrieval facilities other than sequential searches in the text); (b) that they can be linked to any other kind of electronic content in the web such as, for example, other catalogues, image repositories, or bibliographical materials; (c) that they can be steadily corrected, updated, extended and expanded. A few examples may suffice to illustrate these advantages.

(a) Search facilities and human interfaces

To access and retrieve the information contained in databases, it is necessary to provide human interfaces that allow for interactive communication between the user and the database in terms of search queries. Depending on the complexity of the database structure, search interfaces can be more or less sophisticated; in the maximum case, the search form may offer as many fields for the entry of query items as the database structure contains. This is true, for example, for the query forms offered by *SfarData*, the codicologi-

cal database of the Hebrew Paleography Project run by the Israel Academy of Sciences and Humanities, which provides, among others, seven check boxes to choose a given subset of data (styled ‘corpus’: for example, ‘documented dated’, ‘documented undated with identified scribe’); nine select boxes to choose a ‘major area’, ‘specific region’, ‘country’, ‘city’, etc.; several input boxes to enter search terms like ‘catalog no.’, ‘microfilm at IMHM’, or ‘words in colophon’; and a large set of additional entry points for searching the names of scribes, illustrators, and others (note that the site <<http://sfardata.nli.org.il>> is still under construction as of October 2014).

In accordance with recent practice developed for the retrieval from electronic catalogues of libraries, there is a strong tendency today to facilitate the entry of queries by enabling ‘full text’ searches, i.e. searches across many or even all the fields of the database without having to specify the fields in question. This has been implemented, for example, by *e-codices*, the Virtual Manuscript Library of Switzerland, which offers a facility to ‘search in manuscript descriptions’ right on its start page, thus allowing the user, for example, immediately to find 164 catalogue entries containing the word *parchment* among the 981 manuscripts catalogued in the database (<<http://www.e-codices.unifr.ch/>>). Even with this comfortable ‘Google-like’ search facility, users will have to be aware of possible differences in the interpretation of their queries; this is true, for example, for the entry of query strings consisting of more than one word: a search for *parchment codex* may be taken by the search engine to represent the two words *parchment* and *codex* individually, delivering all instances of descriptions that contain at least one of them (*parchment* ‘or’ *codex*), or it may expect that both words must both be present in a given description (*parchment* ‘and’ *codex*; this is the assumption of the *e-codices* search engine, which delivers 68 occurrences for the ‘collocation’ of the two words). In order to search for *parchment codex* as a two-word unit, it may be necessary to enter the string in quotation marks, again in accordance with ‘Google-like’ practices (this is true for *e-codices*, which delivers 6 occurrences of ‘parchment codex’ in its database).

b) Data linkage, portals and hypercatalogues

The possibility of linking data up with materials residing elsewhere in electronic form is with no doubt a major advantage of the digital age. In the case of electronic catalogues of manuscripts, this opens a wide range of hitherto unavailable functions that may be styled revolutionary indeed. For example, while printed catalogues normally contain but a few sample images of the manuscripts they describe or even no images at all, online catalogues may offer links to digital images of every single page of a given codex, provided they are accessible via an internet address (URL = Uniform resource locator). In the same way, the content description of a given manuscript can be linked up with a full representation of the text(s) it contains within an online edition or an electronic corpus, and bibliographical data in a catalogue can be linked up with digital representations of the works in question (for example, a first account of a manuscript in a traveller’s report, a former catalogue, or a scientific treatise concerning the codex). It goes without saying that all these links can be established in both directions, thus opening wide perspectives of cooperation for cataloguers with philologists and other people dealing with manuscripts.

Another great advantage of the linkability of online data consists in the possibility to put the information contained in various catalogues together, for example with respect to manuscripts of the same provenance that are stored in different repositories or even countries, or codices with similar textual content spread over the world. In this connexion, we can distinguish two different approaches which may be covered by the terms ‘portal’ and ‘hypercatalogue’, albeit the two terms are not always sharply differentiated. Portals in the proper sense are web sites that offer more or less structured access to a set of related web sites. Different from simple link-lists which contain nothing but a collection of links to internet addresses (cf. <<http://titus.fkidg1.uni-frankfurt.de/curric/comst/links.htm>> for the COMSt-internal link-list as of February 2010, last accessed June 2014; another example concerning manuscripts is <http://palaeography_training.bangor.ac.uk/paleo.php>, last accessed June 2014), portals may be able to combine the search facilities of the sites they are linked to, either by collecting their data via ‘data harvesting’ and storing them locally, i.e. on the portal site itself, or without doing so; this can be achieved via so-called protocols which allow for inter-machine communication, distributing a query across the sites involved and gathering the query results ‘on the fly’; an example of a portal working with both methods is the portal of the *Consortium of European Research Libraries* (CERL; <http://www.cerl.org/web/en/resources/cerl_portal/organization>; the CERL portal operates with the OAI-PMH protocol for data harvesting

(‘Open Archives Initiative’ Protocol for Metadata Harvesting) and the Z39.50 protocol for data access ‘on the fly’), which is mostly dedicated to manuscripts and early printed material of western provenance and which assembles the data from twelve online catalogues (or, to be more correct, the databases underlying them) to date. Unlike the ‘portal’ approach of this type, a ‘hypercatalogue’ would be more restricted thematically, bringing together the contents of different individual catalogues that have common objects such as, for example, a certain language, a script, a country, a time-span, or the like; one example of this is the *Pinakes* database hosted at the Institut de recherche et d’histoire des textes in Paris, which aims at providing a ‘census of all Greek texts from the beginning up to the end of the sixteenth century which are contained in manuscripts described in printed catalogues, with the exception of papyri’ (*‘Pinakes a pour objet principal le recensement de tous les textes grecs, des origines à la fin du XVI^e siècle, contenus dans les manuscrits décrits dans les catalogues imprimés de bibliothèques à l’exception des papyrus’*, cf. <<http://pinakes.irht.cnrs.fr/>>; the project was initiated as early as 1971 at the Pontifical Institute of Mediaeval Studies in Toronto and moved to Paris in 1993). In contrast to this project, which is explicitly based upon printed information digitized manually, hypercatalogues that are based upon electronic catalogues presuppose the ability of intercommunication between servers and databases, with at least a small common set of metadata elements distinguishing, for example, fields containing information on textual content, authors, scribes, provenance, or the like; for this purpose, database developers may refer to several international standards that have mostly been designed for library catalogues: cf. the so-called ‘Dublin Core’ metadata set, which consists of 15 elements (Title, Creator, Subject, Description, Publisher, Contributor, Date, Type, Format, Identifier, Source, Language, Relation, Coverage, Rights; cf. <<http://dublincore.org/documents/dcmi-terms/>>, last accessed June 2014). More recently accepted standards are METS (Metadata Encoding and Transmission Standard), an XML schema for encoding descriptive, administrative, and structural metadata regarding objects within a digital library, and MODS (Metadata Object Description Schema), a schema for a bibliographic element set that may be used for a variety of purposes.

c) Dynamic data

Unlike printed catalogues, electronic catalogues can be steadily corrected, updated, extended and expanded, provided they are built upon a database. As a matter of fact, many cataloguing projects of today make their data accessible long before they are completed, not only for better visibility but also in order to enable users to provide feedback. For portals and hypercatalogues, the resulting flexibility of the data they rely upon has a strong impact in that it forces them continuously to keep track of changes. This strongly speaks in favour of accessing the data ‘on the fly’ instead of data harvesting, because the latter method yields a snap-shot of a given moment that may then be perpetuated longer on the harvesting server than in its source.

6.3. Challenges and problems of electronic catalogues

The problem of the ‘dynamicity’ of digital data as outlined above is not the only challenge that compilers and users of electronic catalogues have to cope with. A few other problems that may be crucial will be treated below; they are related to the reliability of query results, to questions of authorship, and to the maintenance of data.

a) Reliability of query results

As was stated above, one advantage of electronic catalogues consists in the fact that the data constituting them are accessible from various perspectives via more or less sophisticated search engines. However, it may be questionable whether or not the data retrieved in this way are reliable, especially in the case of hypercatalogues and portals. The reason is that the more complex a database structure is, the more it has to be consistent in the data it contains, and the more its developers have to take care for users not to be misled. To give but two examples: a) as was shown above, the *e-codices* project offers easy access to the information contained in the manuscript descriptions it has stored, via a ‘Google-like’ full-text search. However, the user should be aware that the manuscript descriptions that are accessible in this way are written in several languages (German, French, English) so that a search for *parchment* will yield different results (164 hits) from a search for *Pergament* (452 hits) or *parchemin* (129 hits), and even the abbreviated form *Parch.* gives 60 hits. To find the information that the *e-codices* database comprises a total of 791 manuscripts whose support is parchment (including 2 mixed codices with papyrus, and 6 with paper), the user

has to move to the main search page instead (<<http://www.e-codices.unifr.ch/en/search/all>>); b) under the title of *e-corpus*, the Centre de Conservation du Livre (CCL) in Arles is establishing, together with several partners, ‘a collective digital library that catalogs and disseminates numerous documents: manuscripts, archives, books, journals, prints, audio recordings, video, etc.’ (<<http://www.e-corpus.org/>>). Structured in the form of a portal, it provides access to several ‘virtual collections’, among them the complete collection of digitized microfilms of the Georgian manuscripts from Mount Sinai hosted at the university library of Louvain-la-Neuve in Belgium, an invaluable tool indeed. The collection can be accessed by entering *géorgien* in the ‘Google-like’ query field on the start page (‘search in all collections’); however, in the query result, the 97 codices in question are arranged without any ordering rule being discernible, beginning with Sin.georg. 6, 8, 11, 16, 15 (<<http://www.e-corpus.org/search/search.php?search=search&page=1&q=g%C3%A9orgien&search=Search>>). Another result will be achieved by selecting *Bibliothèque de l’Université Catholique de Louvain, Institut orientaliste* as the ‘Location’ and *Georgian* as the ‘Language’ in the (main) search form (<<http://www.e-corpus.org/search/index.php>>): this, however, yields only 21 items, again starting with Sin.georg. 6 but continuing with Sin.grec 230 and 566. Searching for *Georgian* instead of *géorgien* via the ‘Google-like’ form yields no results from the collection at Louvain at all but, among others (of a total of 74 ‘hits’), a quotation from Tommaso Vallauri’s *Latinae exercitationes grammaticae et rhetoricae studiosis propositae* (1869) about Virgil’s *Bucolica et Georgica*. Note that a more or less numerical arrangement of the 97 items can be accessed via <http://www.e-corpus.org/eng/ref/96559/Sinai_Mf_UCL_Georgiens> (last updated 7 September 2011), but this is not searchable.

b) Authorship and authors’ rights

As with all other kinds of digital publications that are accessible online, compilers of electronic catalogues may be concerned about their authorship being protected well enough to prevent theft or misuse of their work. As everyone knows, not every change in a database is correct, and there are cases where the modified data is less correct than the previous one. Therefore it is very important that the name of the person who enters a given item of information into the database and who takes the ‘scientific responsibility’ for it to be secured, even across several stages of development of the database; in other words, if the compilers want to keep their author’s rights guaranteed when being read and quoted by others, they should take care to place their authorship ‘seal’ on every single description that might be accessed and displayed separately (for example via a search function); depending on the retrieval engine used, this might also be generated automatically. This implies that regulations must be agreed upon between the compilers of electronic catalogues and the institutions hosting and publishing them concerning the preservation of the former’s rights and concerning the question of whether, how and to what extent the institution may have the data modified or altered by others. And users of electronic catalogues should be sure to name the authors of the catalogued information they refer to, provided this is correctly ‘signed’.

In addition, authors of electronic catalogues may have to face problems with ‘scholarly referencing’. If, for example, in an article, someone refers to information found in a printed catalogue, the information is easily verifiable in the sense that anyone can check whether the person referring to it did, or did not, quote it correctly. When referring to information given in an electronic catalogue, there may be a discrepancy between a given quotation and what is found in the catalogue online at the time someone else accesses it; in this case it remains unclear if the quoting person did not excerpt it correctly or if the catalogue (output) was changed after the quotation was executed. It is therefore essential that quotations from online catalogues contain an indication of the exact date when the information was retrieved (in quite the same way as we should do with other online publications). It would further be desirable that future generations of databases to be used for electronic cataloguing provide a function for ‘tracking changes’ (in a similar way as Wikipedia does).

The safeguarding of authors’ rights may also be crucial for the compilers of electronic catalogues themselves. In general, authors’ rights are much harder to maintain in the globalized digital world than in the universe of printed matters. One reason is that the rights differ considerably from country to country, a fact that can easily be illustrated by the policy of the ‘Google Books’ project, which aims at digitizing all printed books of all times and places. Users of the project web site (<<http://books.google.com/>>) will realize easily that it is mostly older books that are accessible to them for full download (in PDF form), in accordance with copyright regulations. However, the terms of accessibility are different for users from the

USA and users from Europe: for US citizens (or, rather, users with a US-American IP address), Google will provide free access to books that were published before 1923; for Europeans (i.e. users with a European IP address), the borderline is the year 1871. This implies, for example, that the *Catalogue of the Hebrew Manuscripts Preserved in the University Library, Cambridge* (I) published by Salomon Marcus Schiller-Szinessy in 1876 is freely downloadable from the USA but not from Europe (<<http://books.google.de/books?id=GEMPAAAAIAAJ>>). This procedure is not only disturbing but also far from being legally exact, for no European country has a copyright regulation that would determine 1871 as a borderline year. Instead, copyright regulations usually prescribe that a given work be protected for a certain amount of time after the death of the author(s); in Germany, this is a period of 70 years. Obviously, Google deems it unnecessary to investigate authors' lives in order to determine the exact end of the protection period of a given work. I may quote here from an e-mail by Mr Jon Orwant (Google Inc.) of 2 May 2011: 'Each nation has their own copyright rules. Within the US, we are usually able to use 1923 as a cutoff date for determining whether books are in copyright, and so some of the seven books you identified are fully readable and downloadable inside the US. Outside the US we have to use the rules of the appropriate country. ... We are able to make the PDFs available within a country when the books are out of copyright in that country, and when we do they're available directly from Google Book Search; if you had a US IP address you could just visit Google Book Search and download the PDF with no involvement from us. But because copyright status is often hard to determine, we have settled on the following rule for countries that don't have a cutoff like the US: either the book must have been published before 1871, or there must be clear and convincing evidence that all authors of the book died more than 70 years ago...' (in the given example, this would have been as early as 1960 as Salomon Marcus Schiller-Szinessy died in 1890, cf. <http://en.wikipedia.org/wiki/Solomon_Marcus_Schiller-Szinessy>, last access May 2014; by the way, the book can be freely downloaded from the 'Internet Archive' at <<http://www.archive.org>>, a Canadian site that does not block European users, see <<https://archive.org/details/cataloguehebrew01schigoog>>, last access October 2014).

Be that as it may, compilers of electronic catalogues who wish to include data from other works, either as quotations or via links to online resources, should treat these in the same way as they would do with quotations in a printed book.

c) Maintenance and longevity of data

In contrast to printed books, digital media are often regarded as unstable and therefore uncertain. It is true, for example, that most data carriers of today (for example, CDs, DVDs, hard disks) have only a limited 'lifetime' during which the data they contain remain both unaltered and retrievable, and the question whether data compiled and stored today will still be interpretable in, say, fifty years' time also depends on the availability of matching software. The developers of electronic catalogues should therefore consider thoroughly how and where to publish them, and they should be aware of the necessity to maintain the data by regularly adapting them to upgraded soft- and hardware and the like.

One important prerequisite for this is the usage of international standards. In the field of oriental languages, this is first of all a matter of the encoding of scripts and characters. We are in the lucky position today to be able to apply the Unicode standard for this (<<http://www.unicode.org>>; cf. General introduction § 2.1), which comprises nearly all scripts and characters of the languages involved, both modern and ancient, thus enabling us even to present original scripts and Roman transcriptions side by side in one document. In comparison with the chaos produced by the mapping of proprietary fonts in the 1980s and 1990s, this is a huge achievement leading towards long-time interpretability of our data.

Another important issue is the standards to be applied in the structure of databases and their output. Here, too, proprietary formats should be avoided right from the beginning. Any solution that is based upon XML structures will be preferable to relational databases as they provide greater flexibility and, what is more, transformability into usual output schemes, for example as HTML-based web pages; however, relational databases still tend to be more homogeneous than XML bases, and the quality of XML bases largely depends on the skills of the person who tags the data. Given the huge amount of data that is already available online, it is anything but probable that the basic features of web output will change dramatically in the future; in other words, both the use of Unicode character encoding and of 'markup languages' of the HTML / XML type are likely to survive long enough so that electronic catalogues of today should build upon them.

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