

*Islamic Bindings
&
Bookmaking*

Islamic

Bindings & Bookmaking

By
Gulnar Bosch
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A Catalogue of an Exhibition
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Foreword

The planning of the Exhibition and Catalogue has been a cooperative effort, drawing on the individual resources of each of the three collaborators, united in a common desire to do justice to the subject of Islamic bookbinding and bookmaking on all its levels of historical, aesthetic and technical complexity. That such an activity could take place at all was due to the generosity of Mr. Gaylord Donnelley, who provided funds for a planning session which allowed the three participants to meet and work together in Chicago for a month in January, 1980. We are much indebted to him for his support at this early stage.

As a result of this meeting, a grant proposal was drawn up and submitted to the National Endowment for the Humanities; this was approved and the Endowment agreed to finance the Exhibition and Symposium, as well as this Catalogue which we hope will serve as a permanent record of our research. Two further results have been the conservation of the Moritz covers in Chicago and preservation in specially designed mounts, and the establishment of an archive of many hundreds of photographs of the Moritz bindings in Chicago, Dublin and Berlin, for the use of future researchers.

We are most grateful to the following individuals and institutions for the loan of material, and their advice and information on many matters: Dr. Patrick Henchy and Dr. David James, of the Chester Beatty Library and Gallery of Oriental Art, Dublin; Dr. Volkmar Enderlein of the Islamic Museum, Berlin, German Democratic Republic; Dr. Klaus Brisch and his assistants at the Islamic Museum, Dahlem, West Berlin; Dr. Esin Atil, Freer Gallery of Art, Smithsonian Institution, Washington D.C.; Peggy Loar and Anne Gosset, Smithsonian Institution Travelling Exhibition Service; Cornelius Howard, Irish Embassy, Washington D.C.; Dr. Dieter George of the Oriental Department, Staatsbibliothek Preussischer Kulturbesitz, West Berlin; Ray Desmond, The India Office Library and Records, London; Dr. Filiz Cagman and Dr. Zeren Tanindi, Topkapu Saray Museum Library, Istanbul and Anna Muthesius.

At the University of Chicago we thank the numerous individuals who have helped us: Robert Rosenthal, Curator of Special Collections, Sydney Huttner (now at Syracuse University), Ursula Ilic, and Jeffery Abt of the Joseph Regenstein Library; Professor Heshmat Moayyad, and Dr. Elton Daniel, of the Department of Near Eastern Languages and Civilizations; Professor Richard Chambers, Director of the Center for Middle East Studies; and Professor Edward Maser, Director of the Smart Gallery. We also thank the Director of the Oriental Institute, J. A. Brinkman, for permission to hold the Exhibition and Symposium at the Institute.

Our special thanks are also due to the Printing Department of the University of Chicago, and in particular Cynthia Susmilch for the design of the Catalogue; and to all the staff of the Oriental Institute Museum who have been involved in the project at every level; Barbara Hall, Conservator; Anita Ghaemi, Registrar; Jean Grant, Photographer; Samuel Wolff, Museum Assistant; John Larson, acting Archivist; Honorio Torres, Preparator, and his assistant Joseph Karbarz; Peggy Grant, Chairman of the Volunteer Program; Joan Barghusen, Educational Coordinator; Christine DerDerian, Manager of *The Suq* Museum Shop; and our Museum Secretary, Myrna Simon.

Introduction:

John Carswell

In 1925 the German scholar Bernhard Moritz offered for sale to James Henry Breasted, the founder of the Oriental Institute, a collection of miscellaneous antiquities, Arabic manuscripts and other objects, acquired by him when he lived and travelled in the Near East before the first World War.

Bernhard Moritz, Orientalist and Arabic scholar, was born on September 13th, 1859 in Guben, Germany.¹ A student at the University of Berlin, he received his Dr. phil. in 1882, and travelled between 1883 and 1885 in the Near East to gain first-hand knowledge of the Arab world. For a short while he was assistant in the Egyptian department of the Berlin Museum, and took part in Koldewey's Babylonian excavations at Zurgul and Hiba. He then taught Arabic at the Seminar for Oriental Languages in Berlin (founded by Bismarck in 1887), and travelled to Egypt in 1891, and Morocco in 1893. His first important work was the publication of a corpus of Arabic inscriptions from Oman and Zanzibar, *Sammlung arabischer Schriftstücke aus Zanzibar und Oman* (Stuttgart & Berlin, 1892).

In 1896 Moritz was appointed head of the Khedivial Library in Cairo, a post he held until 1911. Taking advantage of his situation he travelled widely, making geographical and historical studies of the area. Among his discoveries was an 8th. century A.D. Arabic inscription on the walls of Kasr Kharāna, important evidence for the dating of this structure to the early Islamic period. But his most outstanding contribution was his monumental study, *Arabic Palaeography* (Cairo, 1905) illustrated with facsimiles of many important manuscripts in the Khedivial Library.²

In 1911 his sojourn in Egypt came to an end and he returned to Berlin, to a new appointment as Director of the Library of the Seminar for Oriental Languages. He remained in this post until he retired in 1924 at the age of sixty-five. Moritz's interest in the Near East extended to modern times and he was actively interested in contemporary events. During the first World War he published a short study *Wie Ägypten englisch wurde* (Weimar, 1915) which discussed British attitudes towards the Egyptians, and the Arab world. After his retirement he accepted a post in the Foreign Office, putting his talents as an Arabist to work, translating documents and disseminating information about Germany in the Near East.

Intellectually he was first and foremost an Arabic scholar, but he was also interested in comparative philology and made a special study of foreign words in Aramaic. He also wrote about Turkish history, in particular the relations between Turkey and Venice at the time of Selim I. His work on the physical and historical geography of Arabia, *Arabien*

(Hannover, 1923) was not as comprehensive as he would have wished, for the results of his travels in 1911 in the company of Carl Schmidt were lost. His journals, sketch maps and several hundred photographs left in the safe keeping of the German Consul in Suez were destroyed, allegedly by the British military forces.

He did, however, return to Germany with a large and varied collection of antiquities, mirroring the diversity of his interests. It was this collection he proposed for sale to Breasted in 1925. The handlist he submitted contains over 350 different items, including Arabic, Persian, Turkish, Syriac, Ethiopic, Coptic and Samaritan manuscripts; Arabic, Coptic and Samaritan works on papyrus, parchment and paper; Assyrian, Parthian, and Sasanid seals; Palestinian seals, scarabs and beads; Babylonian and Assyrian cylinder seals; Roman clay stamps from Egypt; clay tesserae from Palmyra; Babylonian clay tablets; four Mamlūk *firmans*, and one gold, seventy-three silver, and a hundred-and-six bronze and copper coins. There were also three early Arabic stone inscriptions, including a 9th. century A.D. boundary marker from Egypt mentioning the Caliph Harūn al-Rashīd. The story is told of Moritz lending the latter piece to the great Islamic Exhibition at Munich in 1912, but with the odd stipulation that it should not be exhibited to the general public. As a result, it was kept locked in a drawer in Ernst Herzfeld's desk and shown only to selected visitors.³ Finally, among the other items in Moritz's list were the bookbindings, the basis for the present exhibition.

The negotiations between Moritz and Breasted were protracted and took several years to complete, the various stages being well documented in the Oriental Institute archives. The collection was finally purchased in 1929 for the sum of \$12,500, and the material arrived in Chicago on March 26th of that year.

Whilst the collection was of immediate interest to scholars working in a number of different fields, the Arabic material naturally attracted the attention of the Professor of Arabic, Martin Sprengling. In turn Sprengling entrusted the Arabic papyri to his pupil Miss Nabia Abbott, who used them for researches culminating in the publication of her pioneer work, *Studies in Arabic Literary Papyri* (Oriental Institute Publications, Vols. 75–77, 1955–1969). Most of the Qurʾāns in the Moritz collection were included in Professor Abbott's earlier work, *The Rise of the North Arabian Script and its Kurʾanic Development*, (O.I.P., Vol. 50, 1938).⁴ Many years later the rest of the Arabic manuscripts were listed by Miroslav Krek; his *Catalogue of the Arabic Manuscripts in the Oriental Institute of Chicago* was published by the American Oriental Society in 1961. To this day the Persian and Turkish manuscripts, the Mamlūk *firmans* and the numismatic collection still await further study.

As for the bookbindings,⁵ the first record of their presence in Chicago is a catalogue of *A Loan Exhibition of Islamic Bookbindings*, organized by the Oriental Department of the Art Institute of Chicago in 1932. This catalogue, by Julie Michelet, has a short introduction and a number of finely-reproduced illustrations; twelve of the Moritz bindings were included in the show. A further selection from the Moritz collection was shown at the Baltimore Museum of Art in 1957–1958, in an exhibition *The History of Bookbinding, 525–1950 A.D.*, organised by Dorothy E. Miner of the Walters Art Gallery. This inspired a study by Professor Richard Ettinghausen on Near Eastern bookcovers and their influence on European bindings. (*Ars Orientalis*, III, 1959).

A second pupil of Martin Sprengling, Gulnar Kheirallah Bosch, made the study of the Moritz bookbindings the subject of her doctoral thesis, *Islamic Bookbindings: Twelfth to Seventeenth centuries*, which was completed in 1952. Since then the bindings aroused no special interest, and when I was appointed curator of the Oriental Institute Museum in 1977, they were pointed out to me during a tour of the basement languishing on the top of a cupboard. This first encounter led to the collaboration of Gulnar Bosch, Guy Petherbridge and myself, and the preparation of the present exhibition and catalogue.

In the course of our investigation of the bookbindings we discovered that the Oriental Institute did not possess all of the Moritz collection, which had been divided at an early stage. The Islamic Museum in East Berlin possesses fifty-six Moritz bindings, and the Islamic Museum at Dahlem in West Berlin a further four fine examples. Besides these the Chester Beatty Library in Dublin owns sixty-three Moritz bindings. The Chester Beatty archives also supplied the information, from F. R. Martin in 1929, that the bindings were in fact the remains of books which Moritz had had rebound; and that the texts from two of the bindings, from the Aghia Sophia Library in Istanbul, had been taken to the Yıldız Palace twenty-five years before and rebound in red velvet.

Besides the Moritz bindings now in museum collections, a collection of thirty bindings in the possession of Carlo Alberto Chiesa in Milan are almost certainly from the original Moritz group. At least five covers in the Chiesa collection consist of only half a binding, the other halves being in East Berlin (one), Chester Beatty (two) and the Oriental Institute (two). Whether or not Moritz dismembered them we do not know. But one of Chiesa's bindings is illustrated by Tammara De Marinus in his entry 'Legatura' in *Enciclopedia Italiana di Scienze, Lettere ed Arti* (Rome, 1933-42). De Marinus, besides being a noted scholar of Italian bookbinding, was also a Florentine bookseller, and he may well have acted as an intermediary in the disposal of the Moritz collection. It should be noted that the Chiesa and Chester Beatty bindings have the same sort of leather repairs and are housed in similar mounts, and both sets have had many of the pasteboards and doublures removed.

Whatever the actual history of the acquisition of the bookbindings by Moritz, and the subsequent dispersal of the collection, the present study has provided the opportunity to reconstruct its scope, and to examine in detail Moritz's extraordinary collection of material.⁶ Not least important for this study is the fact that the Moritz collection when it came to Chicago also contained not one, but two copies of a rare 11th. century A.D. treatise on Islamic bookbinding by Tamin ibn al-Mu'izz ibn Bādīs, *ʿUmdat al-kuttāb wa ʿuddat dhawī al-albāb*, (*The Staff of the Scribes and Implements of the Discerning*): one of these copies was made at the instigation of Moritz himself from an original version in the Khedivial Library in Cairo. Thus we have not only the book covers themselves, but the additional advantage of first-hand information about the techniques that were used by Islamic craftsmen to make them.

1 Details of Moritz's life are drawn from his obituary by Helmut Scheel, in *Forschungen und Fortschritte*, 1 November 1939, pp. 391–2; and J. W. Fück, *Die arabischen Studien in Europa bis in den Anfang des 20. Jahrhunderts*, Leipzig, 1955, pp.316.

2 The cover of this work, complete with envelope flap, is modelled on a late Mamluk binding in the present exhibition, no. 99, A12068.

3 Martin Sprengling, "The *Arabian Nights* stone of the Oriental Institute" *The American Journal of Semitic Languages and Literatures*, Vol. LI, (4), July 1935, p.217.

4 As Professor Abbott wrote in her introduction, this was the first volume in the Oriental Institute series to be devoted to an Arabic subject.

5 We thank Anthony Hobson for drawing attention to this collection, and Carlo Alberto Chiesa for generously supplying details and photographs.

6 We are indebted to the Directors and Staff of the Chester Beatty Library, Dublin, and Islamic Museum, East Berlin, and the Islamic Museum, West Berlin, for allowing us to study the Moritz bindings in their collections.

Islamic Bookmaking: The Historical Setting

Gulnar Bosch

Detailed information bearing on Islamic bookbinding is scattered in Arabic, Persian, and Turkish sources and is therefore not easily accessible to the English reader. Relative datings and stylistic groupings of Islamic bookbindings have received a great deal of attention from Western scholars; but the relations between the bookbinder and the booktrade, the varied influences promoting the production itself with regional modifications in process and style, have been less generally known.

Therefore it was thought desirable to consider, with the aid of new sources and materials, the historical, technical, and stylistic aspects of Islamic bookbindings, with the stress on those produced between the twelfth and seventeenth centuries.

Interest in Islamic bookbinding is not new; but the Western student and connoisseur of Islamic art feels that the bindings merit attention for their own sake, even though their contents have been lost, while the Arab proverb says, "For the sake of the book the binding is loved."¹

Western interest in Islamic bookbinding has grown since 1890 when Paul Adam included them in his general history of bookbinding and its technique.² Adam's significant articles, based on personal acquaintance with the craft, have followed developments of investigation in the Islamic field.³ Succeeding scholars who pioneered in studying and publishing Islamic bindings were Hendley,⁴ Migeon,⁵ Sarre,⁶ Martin,⁷ Gottlieb,⁸ Loubier,⁹ Ibscher,¹⁰ Karabacek,¹¹ and Miguel y Planes.¹²

There was a dearth of interest caused by the first World War, until 1923 when Sarre¹³ and Gratzl¹⁴ published extensive monographs on Islamic bookbindings. Sarre's purpose was two-fold: to provide facsimile illustrations to aid further study of the material and to characterize the two main divisions, Egyptian and Persian-Turkish, pointing out their peculiarities. Gratzl's monograph added further subdivisions, Maghribī (North African) and South Arabian. A single binding from Java of the second quarter of the nineteenth century is added. He also aimed through paleographical and library accession indications to arrive at closer relative datings. The third major contribution was Grohmann and Arnold's *The Islamic Book*.¹⁵ Grohmann contributed a scholarly historical treatment of the early developments of the Islamic book which, with the stylistic analyses of the early bindings, emphasized the Coptic contribution, while Arnold summarized briefly the Persian-Turkish accomplishments in bookbinding.

The latter field was more thoroughly investigated by Sakisian in several articles.¹⁶ Within the same decade (1930–1940) followed the works of

Mousa,¹⁷ Ricard,¹⁸ Aga-Oglu,¹⁹ Michelet,²⁰ Thomas,²¹ a second work by Gratzl,²² and works by Kühnel.²³ Of these sources we have found Ricard particularly helpful because he deals with the North African region where our two main Arabic technical treatises were composed. Greater clarification continued in the same area with the publication of Marçais and Poinssot, where their painstaking approach to format of the book, composition and specific ornament gave us a body of evidence for their ninth to thirteenth century examples.²⁴ Meanwhile the present writer's doctoral dissertation dealt with original source material and the correlation with the Oriental Institute collection of bookbindings.²⁵ Further connections were established by Petersen between Coptic bookbindings and those of early Islam.²⁶ Ettinghausen's articles on early Persian bindings and on Near Eastern bookcovers added firmer chronology.²⁷ The cornerstone labor of Weisweiler, utilizing common or average book bindings which contained dated manuscripts, further organized our perception of composition and ornament in relation to chronology.²⁸ In this catalogue we hope to, in a sense, revert to Adam's seminal work with the aid of our colleague, Guy Petherbridge, book conservator and historian, with his total approach to the materials, tools and processes of the Islamic book.

After surveying the mounting number of publications by Western authors devoted to this fascinating study, most of them inspired by the beauty and technique of the specimens, one can well wonder whether the medieval Islamic authors also considered these objects worthy of their attention and whether they too were interested in the tools and technical processes used in the production of the bookbinding.

It was felt earlier in the course of this study that a search for a list of Islamic authors and works on bookbinding might not be unrewarding, when one considered the rarity of propaedeutic works at any time. This was particularly true in the Middle Ages, when the fundamentals of the trade were usually acquired by the apprenticeship of the future bookbinder. Often the references to materials and methods were casual or fragmentary, not even described, merely labeled with the name of the locale best known for it. Again, there were recipe books proffered, as by a good cook, without the method of successfully combining the ingredients. Fortunately for this study there were exceptions.

Some of the earlier sources were referred to, or brief citations from them were found, in later texts. Some titles indicate a treatment of bookbinding in particular, others of the art of the book in general, and still others, of it in combination with another professional art or branch of knowledge.

Without pretending to anything like an exhaustive bibliography, we present these sources in two groups: first, available works used dealing specifically with bookbinding or its ornamentation; and second, those which probably contain materials on bookbinding but which are either not immediately available or are presumably non-extant.

In the first group, we note: Abū Ja'far al-Naḥḥās (d.338 A.H./950 A.D.), the author of *Ṣinā'at al-kuttāb*, or *Craft of the Scribes*,²⁹ which was used by Tamim ibn al-Mu'izz ibn Bādīs (422/1031, d. 501/1108), the part author of *ʿUmdat al-kuttāb waʿuddat dhawī al-albāb*, or *Staff of the Scribes and Implements of the Discerning*. Two manuscripts are in the Oriental Institute collection,³⁰ one of which has since been published.³¹ Abū al-ʿIzz Ismaʿīl ibn al-Razzāz al-Jazārī (fl. c. 597/1200) describes designs, important for the study of ornament, in his work on automata, *Fī maʿarifāt al-ḥiyāl*

al-handasiya, or *Upon the Science of Geometric Contrivances*.³² Sīdī Aḥmad ibn ‘Arḍūn (d. 992/1584) composed a work on bookbinding which, as will be seen presently, Sufyānī,³³ our second main source for this study, found profitable. The Turkish work, *Menāqib-i-Hünerwerān*, or *Virtues of the Skillful*, was written in 996/1587 by Muṣṭafā ‘Alī.³⁴ This last work has been used by Karabacek,³⁵ Huart,³⁶ and Aga-Oglu.³⁷ Interesting excerpts from this work have been used for the present study.³⁸

The Arabic *Ṣinā‘at tasfīr al-kutub wa ḥall al-dhahab*, or *The Craft of Bookmaking and the Dissolving of Gold*, by Abū al-Abbas Aḥmad ibn Muḥammad al-Sufyānī, completed in 1029/1619, has been an invaluable source. The text has been published with a vocabulary correlated with modern terms and usages in the craft by P. Ricard,³⁹ and in English translation by Levey.⁴⁰ Sufyānī, in his introduction, bears testimony to the rarity of propaedeutic works, at least for his times, when he explains that it was only his disillusioning experience with ungrateful apprentices that led him at last to commit trade secrets to paper.⁴¹

Careful consideration of these titles leads one to expect that materials pertinent to some phases of bookbinding might well be found in other works bearing titles in which such terms as: *ṣinā‘ah*, *fann*, *‘amal*, *‘uddah*, as in the Ibn Bādīs work, *‘Umdat al-kuttāb wa ‘uddat⁴² dhawī al-albāb*, and *kātib*, or their plurals and variants, play the main role.⁴³

Such titles can be found for known extant sources that are, however, not immediately available to us as well as for non-extant works whose titles have (nevertheless) survived.

Among interesting works representative of the first of these two groups may be mentioned: Abū Hilāl al-Ḥasan ibn ‘Alī ibn Sahl al-Askarī, *Kitāb al-swā’il*, or *Book of Pioneers*, which was completed in 389/999 or 395/1005,⁴⁴ on the supposed inventors of the arts and their usages.⁴⁵ Here the high regard in which Arabs held the Book would presumably lead to the inclusion of its production among the arts. The voluminous *Nafā’is al-Funūn*, or *Preciosities of the Arts*, was composed between 736/1335 and 743/1342,⁴⁶ by Muḥammad ibn Maḥmud al-Amulī. The Persian work, *‘Uddat al-kātib*, or *Tools of the Scribe*, by ‘Abd Allāh ibn Ḥasan Dāmghani, was composed from reminiscences of methods of Sultan Alī Mashhadī and Majnūn of Herat (d. 945/1538). It is possible that the author lived in India under Akbar (reigned 963/1556-1014/1605).⁴⁷ Two comparatively later works of encyclopedic extent, probably also drawing their material, as was the custom, from earlier sources, are: *Majmū‘at al-sanā’i‘*, or *Compendium of the Crafts*, attributed to various seventeenth century authors,⁴⁸ and *Maṭla‘ al-‘ulūm wa majma‘ al-funūn*, or *Exposition of the Sciences and Compendium of the Arts*.⁴⁹ The former is known to contain recipes for the preparation of inks and colors and the latter, written by Wājid ‘Alī (c. 1262/1845–1263/1846), traces the methods of calligraphy, printing, painting, inkmaking, and painting on ivory.⁵⁰

Among early authors whose lost works (which it is hoped may yet turn up some day) bore titles of interest to us at this point may be mentioned: Jabir ibn Ḥaiyān (d. c. 200/815), who composed 300 tracts about different crafts, *sanā’ i ‘majmū‘ah*,⁵¹ among which one might expect to find a treatment of the art of bookbinding. Dabas, or Muḥammad ibn Yazīd, wrote *‘Amal al-ṣibagh wa al-midād wa al-ḥibr*, or *Manufacture of Dyes, Tints and Inks*.⁵² He was a student of al-Kindī, the philosopher (b. 284/897, d. 350/961). Dyes were of course necessary to bookbinding.

This brief bibliographical survey of the sources, both those utilized in

this study as well as some not yet available or found gives some idea of the nature of the works herein tapped and correlated as well as pointing further to materials yet to be investigated in the course of further research into the art of the book and its many related fields.

The Historical Setting

Our aim is twofold in this section, first to find the reasons for the phenomenal growth of the Islamic book trade which soon surpassed its predecessors; and second, to discover the Islamic disposition toward the arts and crafts in general in order better to appreciate the status of the book-binder in particular.

Islamic book production was a natural evolution of previous practices, for the Arab came with Islam into a world where books had long been ornamented, treasured, and preserved by Christians, Manichaeans, and Jews. Despite early religious disapproval of all books except the *Qurʾān*—which realized Muḥammad's hope that Allāh would vouchsafe the Arabs a written guide for reading and prayer⁵³—the Arab soon felt the need to record, in his own language, rapidly growing religious, historical, and literary contributions.⁵⁴

Immediately preceding and contemporary with early Islamic book production there was great activity among the Christians, Manichaeans, and Jews. In the Theban district of Upper Egypt the Coptic monks executed commissions to write, bind and adorn books.⁵⁵ It is not clear, however, whether "adorning" meant illumination of the text or ornamentation of the leather bindings, or both. Extant bindings of the period from the Fayyūm, the White Monastery, and Edfu were plentifully ornamented, and two of these specimens were found in Thebes.⁵⁶ It is certain that bindings were made at Akhmīm-Panopolis, where other leather products were found.⁵⁷

Recent archaeological finds confirmed the production of Manichaean books and bookbindings.⁵⁸ St. Augustine commented on Manichaean expenditure on their codices, "*so numerous, so large, and so costly*,"⁵⁹ and again "*on the burning all those luxurious parchments and exquisite texts on decorated skins*."⁶⁰ The Muslim Jāḥiẓ (d. 255/869) rebuked his fellow Muslim, Ibrāhīm al-Sindī, for praising the Manichaeans for their desire to obtain the best materials and calligraphy and for their expenditure on fine books, since he (al-Sindī) considered these as an evidence of their respect for learning, and of their nobility of soul. Jāḥiẓ's reprimand rested on the argument that the lavish expenditure of the Manichaeans on their books, like that of the Christians on their churches, was a further step in the wrong direction since it aimed only at worldly display.⁶¹ The Manichaeans were persecuted by orthodox Islam but many were able to hide their books, some of which came to light from time to time. The supporters of the heterodox al-Hallāj (martyred in 310/922) imitated these lavish books in the writing in gold on Chinese paper, and in encasing them in silk or brocade or binding them with costly leather.⁶²

The Jews also had a long tradition of having preserved and treasured books before Islam, using scrolls with the unwritten part at the end of the scroll left for protection.⁶³ From the seventh to the fifteenth centuries, when sheathes and boxes were used,⁶⁴ there was an express injunction that, in case of fire even on the Sabbath, books and cases should be saved.⁶⁵ God, they felt, was honored by good and beautiful bindings and by the display of books.⁶⁶ The bookbinders were regarded with the same

high esteem that was given the goldsmith in Jewish communities. Even their tools, such as the awl and needles, were treated with respect.⁶⁷ Consequently prosperous Jewish craftsmen continued to live in Spain far into the period of the Christian reconquest. Many documents mention their owning houses,⁶⁸ their activity as bookbinders,⁶⁹ and their participation in the related trades of leather handling and book manufacture.⁷⁰ Muslims, Christians, and Jews alike were reluctant to have their sacred books bound by anyone other than a coreligionist, for they feared that the unbeliever might incorporate in the boards of the books some profane material, or that in cutting the margins of the book he might profane the mass of waste paper in some way.⁷¹ Pope Benedict XIII found it necessary to issue an edict in 1415 forbidding Jews to bind books in which the name of Christ or the Virgin Mary appeared.⁷² Alfonso V (999–1027) notified the Aljamos of the Aragonese Jews to notify the others that “*Christians were forbidden to give to be bound, by the above-mentioned Jews, books of an ecclesiastical nature as the missal, the breviary, and the like used to celebrate the divine offices. That the above-mentioned Christians would be punished and fined according to the established amount.*”⁷³ These edicts would seem to point to a general tendency among Spanish Christians of employing Jewish bookbinders.

We shall now consider the influences behind the rapid rise of Islamic book production that resulted in its surpassing that of its predecessors. It is first necessary to have some understanding of *The Book*, that is, *Qurʾān* قُرْآن, or collected revelations to Muḥammad, as the nucleus of the Muslim’s zealous book activity.

The *Qurʾān* is considered “the faithful reproduction of the original scriptures in heaven”; some of it having been memorized and some of it having been written down by Muḥammad’s followers.⁷⁴ That some of it was written down in Muḥammad’s time is attested by numerous traditions.⁷⁵ The standard edition of the *Qurʾān*, taking the form of a codex instead of a roll, is credited to the third Caliph of Islam ‘Uthmān (reigned 23/644–35/656), who had it compiled and copies made.⁷⁶ The strict orthodox school considered that the “What lies between the two covers is the word of God,”⁷⁷ applied to any Arabic copy of the *Qurʾān*, *muṣḥaf*, plural *maṣāḥif*.

Another question to arise concerning book production was whether anything should be written down except the *Qurʾān* following the example of Muḥammad, of whom it was said, according to some of the companions of the Prophet, that he left nothing (written) except that which was between the two covers.⁷⁸ It took some time for permission to be extended to other religious literature, such as the Traditions, embodying the practice of the Prophet. These were handed down orally for a considerable time and the listeners or students memorized what they heard. Therefore a theologian, like al-Dhahabī (b. 673/1274, d. 749/1348), reminds us that it was a token of sanctity never to be seen employing written material other than the *Qurʾān*, in his work devoted to the biographies of those who knew the traditions by heart.⁷⁹ Nevertheless he has left us a large body of religious literature.⁸⁰ In his own case the theologian made his works an exception to the rule.

That such a restriction on books did not prevail but extended first to religious books and then to secular literature is evident even in the time of Jāḥiẓ (. 255/869), in his *Praise of Books*:

The Persians left as their heritage their architecture, building cities and fortresses like those of Ardashīr, Iṣṭakhīr, and Madā'in. The Arab shared with the Persian in architecture but specialized in writing anecdotes and poetry. . . .

The composing of books is more effective than building in recording the accomplishments of the passing ages and centuries. For there is no doubt that construction eventually perishes, and its traces disappear, while books handed from one generation to another, and from nation to nation, remain ever renewed. And their reading is more enlightening as a resume of the period than architecture and painting. . . .

Were it not for the wisdom garnered in books most of the learning would have been lost. The power of forgetfulness would have triumphed over the power of memory.⁸¹

He pictures for us the attitude of the cultivated which persisted in spite of the long continued disapproval of some of the theologians like Subkī (b. 727/1326, d. 772/1370) who enjoined the *warrāq* ورقاق or stationer,⁸² the *nāsikh* ناسخ or copyist,⁸³ and the *mujallid* مجلد or bookbinder,⁸⁴ to limit their activities to books on ethics, tradition, prayer, and exhortation. He also sought to hinder them from selling their services to those who would perpetrate the stories of the desert or of passion, false testimonies or false tradition, even though the world tempted them with higher wages to make the books that lead astray.

Theologians disputed vainly other practices affecting the copying of the *Qurʾān*, such as: diacritical marks, vowel sounds, and punctuation signs, as well as its ornamentation in color, gold and silver.⁸⁵ The latter was an expression of the desire to beautify what was valued and exalted,⁸⁶ and included the decoration of headings, five and ten verse marks, titlepages, flyleaves, end papers, and covers.⁸⁷ Some theologians were found to praise this ornamentation, like Ibn Masʿūd (d. 33/653), on the ground that the more beautiful the *muṣḥaf*'s decoration the more the reader was aided. Ibn Sīrīn (d. 110/728) told Ibn Abī Dāʾūd that gold decoration was beautiful. There were others like Abū al-Dārdāʾ (d. 31/651) and Abū Dharr (d. 33/653) who disapproved of using gold for decoration, as reported by IbnʿAbbās (d. 68/687–8) and AbūʿUbaid (d. 223/857).⁸⁸

The early centuries of the Muslim era did produce, as we have seen, many books other than the *Qurʾān* which were praised and treasured by the cultivated. In turn, the decoration of these other books and the tools of calligraphy gained the attention of the theologian and *muḥtasib*. On the one hand, *Shāikh* Abū Muḥammed⁸⁹ (d. 438/1047) in his *Mukhtasar al-mukhtasar*, or *Abridgement of the Abridgement*, insists that if it is permissible to decorate books other than the *Qurʾān* with gold and silver, it is permissible so to decorate the inkstand and penbox. On the other hand, the "if" of the finding above is disregarded in the *ḥisbah* regulations of Ibn al-Ukhuwwa (d. 720/1329), who considers the decoration of copies of the *Qurʾān* with gold and silver lawful, if the object was to show regard for it, but it was not lawful to decorate books other than the *Qurʾān* with gold and silver, nor was the decoration of inkstands, small knives, and penboxes permitted.⁹⁰ These sample findings show that ornamentation had extended with general acceptance to the *Qurʾān* and in spite of theological and legal attitudes to the other books. The amount of secular Islamic literature which has survived the destruction of libraries in wars, fires, and pillagings proves that the attitude of the cultivated prevailed.

The volume of book production was due to the prolific work of some authors and the fewer individual contributions of the many. Many were the authors with hundreds of titles to their credit. Jābir ibn Ḥaiyān (d. c.

200/815) has already been mentioned as the author of three hundred pamphlets about the arts;⁹¹ Abū al-ʿAmaithal (d. 240/854) is said to have filled a thousand volumes with his verses;⁹² Ibn Hazm (d. 456/1063–4) left no less than 400 works.⁹³ That this productivity continued into the later centuries is still attested, for instance, by the output of Jalāl al-Dīn al-Suyūṭī (b. 849/1445, d. 911/1505) the number of whose known works, exceeding 336, might seem incredible were it not for the known facts that many of these were brief tracts.⁹⁴

Authorship and transcription were encouraged by the numerous avid bibliophiles of medieval Islam⁹⁵ when libraries served as one of the prizes of war and avocations of peace. The three great royal libraries of fame were those of (1) the Abbāsid Caliph, al-Maʾmūn (reigned 198/813–218/833);⁹⁶ (2) the Umayyad, al-Ḥakam II of Spain (reigned 350/961–366/976), whose catalogue alone filled forty-four volumes of twenty leaves (40 pages) each;⁹⁷ and (3) the Fātimid, al-Ḥākim, founded 396/1005 in Cairo.⁹⁸ All three libraries employed staffs to keep the libraries in order, to translate, copy, illuminate, and bind or repair the bindings of the books.⁹⁹

Many prosperous citizens or learned men accumulated libraries worthy of vying with the royal ones. In the time of Maʾmūn, three brothers known as the Banū Mūsā, were reputed to have spent 500 dinars a month for their translators alone.¹⁰⁰ The *wazīr* Ibn Killis (b. 318/930, d. 381/991) in Fātimid Cairo established a library upon which he expended 1,000 dinars a month for the staff of authors, copyists, and bookbinders.¹⁰¹ In Cordova many rich men spared neither trouble nor expense in collecting books, until in the tenth century, according to Abū Ṣāʿid, “any man of power, or one holding a government position considered himself obliged to have a library of his own.”¹⁰² In Spain, the Denia library of al-Kātib Abū Jaʿfar Aḥmad ibn ʿAbbās, *wazīr* to Zuhair al-Saqlabī, in the beginning of the sixth century A.H., was famous for its size.¹⁰³

The emphasis on numerical estimates of books in a library shows that books were displayed as material evidence of culture and position though at times they were acquired out of mere vanity. Ibn Khaldūn (d. 809/1406) after attending a book-auction, where he was outbid on a book by someone who merely wanted the book to fill a vacant place in his library, observed pungently: “*He gets the nut who has no teeth.*”¹⁰⁴

The contents of Islamic libraries are recorded as consisting of *dafātīr* دَفَاتِير, or pamphlets; *makhṛūmah* مَخْرُومَة, or perforated, sewn-together sheets; and *mujallad* مُجَلَّد, or leather-bound volumes.¹⁰⁵

Royal libraries were not, as a rule, readily accessible. This is illustrated by the case of Ibn Sīnā, who asked for the privilege of the use of the royal library of Bukhārā as his reward for curing Sulṭān Nūḥ ibn Maṣṣūr (reigned 336/976–387/997).¹⁰⁶ On the other hand, the movement of scholars to libraries in many parts of the Islamic world was encouraged. The Spaniard, Ibn Saʿīd lauds Baghdād for its not less than thirty-six libraries where he was allowed to make excerpts from important works.¹⁰⁷

Excerpts were made not only in libraries but also in the shops of the bookseller, where scholars were free to browse, copy and discuss the books which became links in the scholarly tradition of Islam. Al-Muhallab, the Umayyad general (d. ca. 82/702), admonished his sons in his will: “*Oh my sons, do not remain in the market places except with the bookseller and the maker of mail armour.*”¹⁰⁸ Here, the equal value placed on the knowledge of books and the knowledge of weapons seems to show the high esteem in which the former was held even by a general.

Scholars were accustomed to rent bookshops in order to better peruse the stock. This practice was reported of Fath ibn Khāqān (d. 247/861)¹⁰⁹ and of Jāḥiẓ (d. 255/869).¹¹⁰ Nor did this practice inconvenience the literary public because of the large number of such shops, if we may believe the report of Y'qūbī (d. 284/897) that the district of Waḍḍah in Baghdād had one hundred bookshops.¹¹¹

The bookseller's shop of the poet al-Azraqī's father, Ismā'īl al-Warrāq, was chosen by Firdausī (d. 411/1020) as a congenial refuge for six months when he fled to Herāt from Sulṭān Maḥmūd of Ghazna's anger. As the story has it, the Sulṭān had given him a niggardly reward (for composing the famous *Shāhnāma*) which compensation Firdausī contemptuously divided between his bath attendant and sherbet-seller before fleeing from Ghazna.¹¹²

In the days of al-Sarrāj (b. 418/1027, d. 500/1106), the quarter of the booksellers, *warrāqūn* in Baghdād was important enough to have its own *Qāḍī*, or judge. A gate called *bāb al-warrāqīn* opened into the place of the mosque from this section.¹¹³ The book-market continued as a rendezvous of authors and clients in Ibn al-Jauzī's time (b. 510/1116, d. 597/1200).¹¹⁴ Yāqūt (b. 575/1179, d. 627/1229) refers to the bookshops, and his famous geography was copied by a book-handler.¹¹⁵ Maqrīzī (b. 766/1364, d. 845/1442), a Mamlūk writer, refers to the book market as *suq al-kutub* خَزَانَةُ الْكُتُبِ; to the library as *khizānat al-kutub*¹¹⁶ خَزَانَةُ الْكُتُبِ, and also refers to the market of the *warrāqūn*.¹¹⁷ Leo Africanus (c. 935/1528) in writing a Latin description of Africa for the Pope in Rome, says that in Fez there were about thirty stationers or booksellers.¹¹⁸

We may conclude from these sample references that to the author-producer and the bibliophile-consumer we must add the book-seller-middleman as the third vital force behind Islamic book production. His shop provided a meeting place for the others, and his person, often of no mean literary acumen, provided added stimulation. The combination of these three factors resulted in an Islamic book trade that exceeded its predecessors.

Our next step is to inquire into the attitude of Islamic society toward the arts and crafts in general and toward the bookbinder in particular.

Crafts and professions have in a measure been praised from early Islamic times. A few early examples of the sayings of the Prophet and his Companions are to the point. Muḥammad urged his son-in-law, 'Alī, to turn his grandsons toward a craft while young.¹¹⁹ To those who sought counsel from the Prophet, he gave advice: "God loves the truthful merchant and sincere craftsman."¹²⁰ When 'Umar, the second Caliph, took stock of a man he asked him if he had a trade or craft. If the answer was "no," he looked upon him with contempt.¹²¹

Later theological works classify and rate the crafts according to the Islamic outlook of the author. *Rasā'il Ikhwān al-ṣafā wa khillān al-wafā*, or *Treatises of the Sincere Brethren and Faithful Friends*, is an encyclopedia of philosophy and science written about 373/983. This brotherhood, in a sense a cult of the intellect, was religiously and politically "ultra Shī'ite" in its views.¹²² A section of the encyclopedia touches upon the moral-philosophical distinctions between the crafts, and seeks to classify and appraise them in reference to the following five points: (1) the material used in the crafts (those of the goldsmith, jeweller, and perfumer rank higher); (2) the product that is wrought of the material (the making of a metal astrolabe ranks higher than the minting of money); (3) the essential

human need served by the craft (weaving, cultivating the soil, and building ranking highest); (4) the advantage of the craft to the general public (like keeping the baths where all men are equally benefited, or sweeping public places); and (5) the craft as an artistic end in itself (here jugglers and musicians rank higher than painters, whose art is considered as having nothing to it except the imitating of the forms of natural things, which in spite of the skilfulness of the craftsman produces errors).¹²³

Ghazālī (b. 450/1058, d. 505/1111) incorporates the Sunnite and Šūfī views in the *Iḥyāʾ ʿulūm al-dīn*, or *The Revitalization of the Religious Sciences*.¹²⁴ The *Iḥyāʾ* contains an encyclopedic range of subject matter which shows some indebtedness to the *Ikhwān al-ṣafā*.¹²⁵ Scattered through this work are references to crafts that are often introduced as illustrations in presenting problems of his time. In the first chapter, the “Book of Science,” crafts are dealt with in the section called “On Testimonies of Reason,”¹²⁶ in a manner that is reminiscent of the evaluations of the *Ikhwān*.

In line with the theological approach is that of the public including the aristocrat and the commoner. The case of Tamīm ibn al-Muʿizz ibn Bādīs, our early bookbinding authority, is an illustration of a sovereign interested in the economic welfare of his people. He gained his knowledge of the crafts from his father, al-Muʿizz, whom he succeeded as the sovereign of Ifrīqiya (Tunisia) and the neighboring countries. Father and son honored persons of talent and encouraged aptitude in the crafts throughout all the cities and among all classes of their kingdom. Their subjects were trained to produce articles which they traded with double profits in distant lands.¹²⁷

Craft designations attached to people’s names were carried with some pride,¹²⁸ and professional men were not opposed to earning their living by means of a craft.¹²⁹ An understanding of the daily problems and practices pertaining to a craft may be gained by studying the regulations of the *ḥisbah*, or office of public welfare, administered by the *muḥtasib*, or officer responsible for them.

Among the authors to treat the subject was Mawardī (b. 364/975, d. 450/1058), whose main concern with the crafts of goldsmithing, weaving, bleaching, and dyeing, seems to be the fear that the craftsman may abscond with materials belonging to the client.¹³⁰ Sarakhṣī, appointed *muḥtasib* in 282/895, wrote two books (which have not yet come to light) on the subject the *Small Book on the Frauds and Profession of the Ḥisbah* and the *Large Book on the Frauds and Profession of the Ḥisbah*.¹³¹ But these probably discussed the duties and qualifications of the *muḥtasib* as an officer with specific control of trade practices, and one who, therefore, required an inside knowledge of good and suitable materials and of correct processes, as did the works of Saqqati (end of 5th/11th century),¹³² Abd al-Rahman ibn Nasr (d. 589/1193)¹³³ and Ibn al-Ukhuwwa (d. 729/1328).¹³⁴ Some of their regulations and restrictions as for dyeing (fast and non-fast dyes), for shoemaking (the best leather and thread to be used), and for painting (no portrayal of what is forbidden), are also applicable to the processing and binding of the book.

Each of these Moslem attitudes, theological, royal, common and legal, reflects primarily the acceptance of the crafts on an economic or practical basis. What of the crafts at the level of the arts? Let us re-examine the sources. We find that there is no clear-cut disapproval of the figural arts in the *Qurʾān*.¹³⁵ The *Ikhwān al-ṣafā*, by mentioning the painters as a craft group,¹³⁶ shows an openmindedness towards the arts not then generally

current in orthodox Sunnite or Shī'ite circles.¹³⁷ In the section "On Testimonies of Reason," Ghazālī enlarges the domain of the crafts to include what we would call the professional sphere, but his classification omits specific mention of art and decoration.¹³⁸

Evidences of the general appreciation of art despite theological disapproval or indifference are reflected in poetic allusions to decorations and objects of art;¹³⁹ in the attitude of men of science as to the good effect of beautiful decoration in stimulating mind and body;¹⁴⁰ in the various descriptive adjectives applied by accepted writers to the degree of skill in an art;¹⁴¹ and in the association of specific arts with certain races or countries.¹⁴²

We have seen how the crafts entailed in the production of the book, including that of bookbinding, through their major objective of making copies of the *Qur'ān*, attained their classification as arts. The bookbinder's identity was often merged with that of others concerned with the production of books. This was due in part to a somewhat ambiguous expression encountered in the Arabic term *warrāq*, plural, *warrāqūn* *وَرَّاقٍ، وَرَّاقُونَ* used for a person engaged in one or all¹⁴³ of the activities of book production, including that of bookbinding.¹⁴⁴ This comprehensive use of the term no doubt reflects the multiple functions of the artisan in the book trade before differentiation of labour progressed in varying degrees.¹⁴⁵

We have noticed the term *warrāq* applied to the stationer and book-seller,¹⁴⁶ and shall point out some of its other applications especially where it indicates the participation of a bookbinder.

The *warrāq* is characterized as a scribe by Ṣūlī (d. 335/946). The *warrāq*, he reports, was asked "What do you wish for," and, replied: "A split pen, brilliant ink, and thin leather." Ṣūlī naturally couples "the ink with the inkstand, the paper with the writing, and the *warrāqūn* with the books."¹⁴⁷ The first *warrāq* recorded by name in Islam is Mālik ibn Dīnār (d. 130/747), who copied *Qur'ans* for a fee.¹⁴⁸ Abū Bishr al-Dhulābī (d. 320/932) was called al-Warrāq al-Razī, or the scribe of Rai because he was originally from the province of Rai and copied or sold books.¹⁴⁹

To Dhahabī, as in the earlier days, "the *warraq* is the *nasikh* *نَاسِخٍ*, or copyist, who furthermore sells paper (*kāghid*) and is therefore called al-kāghidī."¹⁵⁰ Nuwairī amplifies the duties of the *warrāq*, saying that when the book leaves the writer's hand after he has authenticated and written its words, it should be emended from beginning to end. In another paragraph he adds that emendation is among the collective functions of the *wirāqah* *وَرَّاقَة*, or craft of the *warrāq*.¹⁵¹ Subkī says that the *warraq* is a papermaker and seller, and lauds his excellence as a craftsman. He implies that in the craft are those who assist in the writing of the *muṣḥaf*, the books of science, and the contracts and oaths of the people.¹⁵² We can even discern the office of the notary-public in this definition.

The book agent acted as an intermediary in obtaining new works from authors,¹⁵³ or collector's items for resale to the bibliophiles.¹⁵⁴ The idea of the book agent as *warrāq* is illustrated by Khalīl ibn Aḥmad who brought the *Kitāb al-Ain* from Khurasan to the market of Basra for sale.¹⁵⁵

Many of the *warrāqūn* were active as authors, editors, and compilers. The Spaniard, Ibn 'Abd Rabbihi (b. 246/860, d. 328/940) emphasizes this literary activity.¹⁵⁶ Nadīm in Baghdād uses *warrāq* as editor or compiler in the case of Sindī ibn 'Alī, while discussing the *Grand Book of Songs*

attributed to Ishaq al-Mawṣilī.¹⁵⁷ Nadīm himself is an illustrious example of the *warrāq* as bibliophile or author, which may have been an inherited designation since his father sold books.¹⁵⁸

The honorable status of the *wirāqah* is suggested in two instances where a high ranking envoy is associated with the craft.¹⁵⁹ Abū al Yusr of Baghdād (b. c. 221-835, d. 298-910) was noted for the perfection of his calligraphy and for the beauty of his *wirāqah*.¹⁶⁰ That *wirāqah* may suggest something other than calligraphy is strengthened by the tale of Ḥafar al-Baghdādī, one of the envoys to the Andalus, who stayed in Cordova. Being one of the well known *warrāqūn* famed for accuracy and beautiful calligraphy, like ‘Abbās ibn Amr, al-Ṣaqālī and Yūsuf al-Ballūtī, he covered books and was employed by al-Ḥakam II (reigned 350/961–366/976) for the *wirāqah*.¹⁶¹

The *warrāq* as a bookbinder and *wirāqah* as including bookbinding is indicated by Ibn Khallikan’s (b. 608/1211, d. 682/1283) use of the latter term and is so translated by de Slane.¹⁶² The passage refers to the neglected profession of *wirāqah* in twelfth century Spain and compares the poverty of its practitioner, to the tailor’s needle “*which clothes others but is naked itself*,” the implication being that a *warrāq* as bookbinder provides protective covering for books, but not enough economic protection for himself.¹⁶³

Ibn Khaldūn, a century after Ibn Khallikan, lists among the function of the *warrāqūn*, the copying and emendating of the books, and *tajlīd* تجلید or binding of them.¹⁶⁴

In these many references to the term *warrāq* we have seen that it was used to cover the many distinct branches of the book trade, one of which apparently was bookbinding, and that on occasion it indicated the collective functions of the entire production.

A variety of Arabic and Persian terms for different phases of bookbinding and for the bookbinders are frequently met with, some clear enough, others again need clarification. Associated with *jild*¹⁶⁵ جلد or leather, are the following: *mujallad*¹⁶⁶ مجلد, the term for volume or book; *tajlid*¹⁶⁷ تجلید, the word for the process of bookbinding, used by Ibn Bādīs and others; and *mujallid*¹⁶⁸ مجلّد, and its plural *mujallidūn* مجلّدون, used for bookbinder.

From the root *sfr*, *safara* سَفَرَ,¹⁶⁹ or he wrote, comes: *tasfīr*¹⁷⁰ تَسْفِير, or the process of bookbinding; and both, *saffār*,¹⁷¹ plural, *saffārūn* سَفَّارُون, *musaffir*, plural, *musaffirūn* مُسَفِّرُون,¹⁷² or bookbinder, the former is used especially in the Maghrib.

The rest of the terms, less frequently used, may be divided into four groups according to the basic meaning of their roots: (1) where the sense is to gather together—*‘arm* عَرَم, or to heap up, yields *‘arrām* عَرَام, or bookbinder, according to Lane;¹⁷³ and *hzm* حَزَم, or to bundle, gives us *hazzam* حَزَام, or the sewer of paper into bundles;¹⁷⁴ (2) where the sense is to put together the core, with *ṣuḥuf* صُحُف, or manuscripts, books, and pamphlets, and *ṣaḥḥāf* صَحَاف, or the binder (of the *ṣuḥuf*) and bookseller;¹⁷⁵ *ḥbk* حَبَكَ, or to bind, may become *ḥabbāk* حَبَّاک, or the sewer of the leaves of a book, ornamental sewer, or bookbinder;¹⁷⁶ *ḍbr* ضَبَرَ, or to stitch the leaves of a book;¹⁷⁷ the term *juz* جُز, or part, portion, quire, coupled with Persian *bandī* بَنْدِی, *juz bandī* جُز بَنْدِی, or the stitching together of the parts of a book;¹⁷⁸ and *shdd* شَدَّ, or to fasten tightly;¹⁷⁹ (3) where the sense suggest the covering part of binding—from *sha* سَحَى, or to scrape off, develops

shḥā سَحَّى, or to bind a book with thin leather;¹⁸⁰ and (4) where the meaning is to repair, or mend—the root *rmḥ* رَمَحَ, or to repair, may also mean to bind books.¹⁸¹

The parts of this study devoted to technical considerations will further clarify some of this terminology.

Islamic literature has preserved for us the personal names of some bookbinders because of the fame of their craftsmanship or because of their respected activity in another profession.

Nadīm names Ibn Abī Ḥarīsh, who worked as a bookbinder in the library of al-Ma'mūn (reigned 198/812–218/833), *Shifat al-Miqrāḍ al-ʿUjaifi* (which sounds like a punning nickname related to the awl and scissors, the implements of early bookbinding), AbūʿIsā ibn Shīrān, Dimyānah al-Aʿsar ibn al-Ḥajjām (which appears to be a Christian name), al-Ḥusain ibn al-Ṣaffār, Ibrāhīm, and his son Muḥammad.¹⁸² Muḥammad represents the second generation in the same craft. Qāḍī Ḥanīfa al-Nuʿmān was the librarian for the first three Fāṭimid Caliphs, serving until 335/946. During this time his chief duties were the collection, preservation (i.e. repairing bindings), and copying of books.¹⁸³ Muqaddasī, famous author and traveller, was proud of his bookbinding ability, which seemed to provide him with a part of the money for his other activities.¹⁸⁴ Another Qāḍī, Abū ʿAbdallāh al-Quḍāʿī and Ibn Khalaf, the *warrāq*, composed a catalogue for the *khizānat al-kutub*, or library, of Cairo, and repaired its volumes for the *wazīr*, Abū al-Qāsim ʿAlī ibn Aḥmad, in 435/1043.¹⁸⁵

The author of our early source on bookbinding, Tamīm ibn al-Muʿizz ibn Bādīs (b. 422/1031, d. 501/1108), was familiar enough with the process to have practiced the art.¹⁸⁶ Another author-bookbinder was the Spanish Ibn Sarā al-Shantarīnī (517/1123).¹⁸⁷ Rāwandī (c. 570/1174–580/1184) in his verse to his patron, Sulṭān Kai Khusrāw, says he studied calligraphy, bookbinding, and gilding in Iraq.¹⁸⁸ Jamāl al-Dīn Mūsā ibn Yagmūr (663/1264), *nāʾib al-salṭanah*, prefect of Damascus, also decorated bookbindings.¹⁸⁹

In the ninth/fifteenth century it appears that the bookbinder was sometimes also the copyist and illuminator. An early dated bookbinding where the bookbinder's name is known is dated on the evidence of its 863/1459 manuscript, which states that the text was written by the calligrapher Zayn al-ʿĀbidīn ibn Muḥammad, who was also the illuminator and binder.¹⁹⁰ The calligrapher-binders Mūsā ibn ʿAbd al-Ghaffar,¹⁹¹ Muḥammad ibn Aḥmad ibn ʿAlī al-Shams al-Ibyārī al-Qāhīrī (d. 884/1479),¹⁹² and Muḥammad ibn Muḥammad ibn Aḥmad ibn ʿAbdallāh al-Shams,¹⁹³ were active in Mamlūk Egypt and Syria.

Dūst Muḥammad (c. 951/1544) in *Ḥālāt-i-Hūnerwerān*, a Persian account of calligraphers and painters of the fifteenth and sixteenth centuries,¹⁹⁴ includes an account of Ustād Qiwām al-Dīn of Tabrīz, to which is attributed the invention of cut-pattern work (*munabbat-kāri*) on bindings,¹⁹⁵ who was brought by Baysunghur Mīrzā to Herāt as a member of the library staff assembled to produce books.¹⁹⁶ In a paragraph on the royal library of Shāh Tahmāsp, Dūst Muḥammad mentions his bookbinders, Kamāl al-Dīn and ʿAbd al-Wahhāb, known as Khwāja Kākā and Mawlānā Muḥsin.¹⁹⁷ In Turkey, Maḥmud Chelebi was head bookbinder at the time of Sulṭān Selīm (d. 1520). There seems to have been a family monopoly of the craft with Maḥmud's younger brother Ḥusain Chelebi, a Muṣṭafa Chelebi, and a Sulaymān ibn Chelebi, as members.¹⁹⁸

Sidi Aḥmad ibn ʿArḍūn (d. 992/1584), a judge of the Maghrib, probably practiced bookbinding to earn a living, as was the practice and pleasure

of many professional men. Sufyānī, one of our two chief sources for the technical clarification of Chapter Two, profited greatly by Sidī Aḥmad's writing on the subject.¹⁹⁹

Finally, we have the nineteenth century list of Habīb Iṣfahānī Mīrẓā, which includes Mīr Ḥusain Ghazwīnī, his pupil, Qāsimbeg of Tabrīz, the latter's son, Muḥammad Zamān, and Mawlā Qāsim 'Alī, a companion of Ḥusain.²⁰⁰ There are two items of interest in this list, the use of *ṣaḥḥaf*, the term for bookbinder,²⁰¹ and the mention of Tabrīz as the place from which the binders came to Turkey. As we have seen, this locale supplied us with the fifteenth-century binder, Qiwām al-Dīn.²⁰²

In addition some personal names of bookbinders have survived on the bookbindings themselves. A number of covers in the Moritz collection,²⁰³ particularly those from South Arabia, are stamped with small dies bearing names, presumably those of the bookbinders, since to the names are added the word *'amal* عَمَل, or "work." For example, Oriental Institute binding No. A12125 has a border of repeated stamps in the center fields of which are inscribed *'amal al-Rabī'* عَمَلُ الرَّبِيعِ, or "the work of al-Rabī'."²⁰⁴ Oriental Institute bookbindings Nos. A12132, A12134, A12135, and A12146, are all stamped *'amal Amīn* عَمَلُ أَمِين, or "work of Amīn."²⁰⁵ Two Persian bindings in other collections bear the names of bookbinders: one, signed Muḥammad 'Alī of Tabrīz, is dated 735/1334;²⁰⁶ and the other, which is much later, uses stamps above and below the centerpiece which are inscribed "Mullāh Mīr Muḥammad Ṣaḥḥaf, 1197" (1783).²⁰⁷

There are other dated and datable bookbindings, although it is always questionable whether the date of the binding is that of the enclosed manuscript. However, the concern here is the bindings to which the name of a bookbinder can be assigned and it is apparent that they are rare.

Summary

From the multiplication of the pre-eminent *Book of Islam* an organization mushroomed for the production and marketing of books throughout the Islamic world. It did not appear like a *jinn* out of the sands of the Arabian desert. Many of its practices and certain elements in its organization had been inherited from the Christians, Manichaeans, and Jews. But the widespread zest for learning, which centered in the study of the *Qur'ān* and Traditions about the life and sayings of Muḥammad and his Companions, was contagious and early extended to great quantities of books of scientific research in history and geography and to a literature filled with poetry and tales of adventure. The approval of some theologians for the copying, vowelizing, and decoration of the *Qur'ān*, because of the attitude and support of a large body of cultivated persons, was subsequently assumed for the rest of the books.

The organization behind the book trade was tightly interwoven. It was composed of many branches and stretched like a web across the Islamic world. Theological attitudes towards the crafts allied to book production were important as toward all Muslim activities. The theologians agreed with public opinion in extolling the crafts generally but differed with it in the question of the arts. Through the association with the *Qur'ān*, however, the bookbinder might assume the stature of an artist without discredit.

Therefore we find the bookbinders were esteemed as craftsmen and men of standing in their communities; and their craft was not unbecoming

to *Qādīs*, or judges. Sometimes the bookbinder is difficult to identify because the term *warrāq* was used for persons engaged in many of the different branches of the book trade. But whether this art served as an avocation, as in the case of Ibn Bādīs, the twelfth century sovereign of a realm, or as a vocation, as in that of our crusty Sufyānī of the seventeenth century, its products, the bindings, are among the greatest glories of the book. Some of the bindings even preserve the names of their binders as part of the ornamentation of their covers.

1. E. Westermarck, *Wit and Wisdom in Morocco, A Study of Native Proverbs*, London, 1930, No. 138, p. 289.
2. P. Adam, *Der Bucheinband; seine Technik und seine Geschichte*, Leipzig, 1890.
3. Adam, "Zur Entwicklungsgeschichte des Lederschnittes mit besonderem Bezug auf spanische Arbeiten," *Archiv für Buchbinderei*, III, 1904, pp. 175–181, 188–190. "Über türkisch-arabisch-persische Manuskripte und deren Einbände," *ibid.*, IV, 1904, pp. 141–143; IV, 1905, pp. 145–152, 161–168, 177–185; V, 1905, pp. 3–9. "Buch-einbände aus der K. K. Hofbibliothek in Wien," *ibid.*, XI, 1912, pp. 148–159, 170–174. "Beiträge zur Entwicklung der frühislamischen Einbände," *ibid.*, XIV, 1914, pp. 90–97; XV (1915), pp. 29–30. "Venezianer Einbände nach persischen Mustern," *ibid.*, XV, 1915, pp. 101–110.
4. T. Hendley, "Persian and Indian Book-binding," *Journal of Indian Art*, V, July, 1893, pp. 51–54.
5. G. Migeon, *Exposition des arts Musulmans au Pavillon de Marsan en 1903*, Paris, 1903, Plates XCVIII–C.
6. F. Sarre and F. R. Martin, *Die Ausstellung von Meisterwerken Muhammedanischer Kunst in München, 1910*, Munich, 1912.
7. *Ibid.*
8. Th. Gottlieb, *Bucheinbände: K. K. Hofbibliothek*, Vienna, 1910.
9. J. Loubier, "Orientalische Einbandkunst," *Archiv für Buchbinderei*, X, 1910, pp. 33–43. *Der Bucheinband in alter und neuer Zeit*, Berlin, 1911.
10. H. Ibscher, "Ägyptische Abteilung (Papyrus Sammlung) Bucheinbände aus Ägypten," *Amtliche Berichte aus den König. Kunstsammlung*, XXXIII, Nov., 1911, pp. 46–51. "Koptische Bucheinbände aus Ägypten," *Berliner Museen*, XLIX, 1928, pp. 86–90.
11. J. Karabacek, "Zur orientalischen Altertumskunde IV. Muhammedanische Kunststudien," *Kais. Akademie der Wissenschaften. Philosophische-historische Klasse, Sitzungsberichte*, Vienna CLXXII (1913), pp. 33–60.
12. Miguel y Planes, *Restauracion del arte hispano-Arabe en la decoracion exterior de los libros*, Barcelona, 1913.
13. F. Sarre, *Islamic Bookbindings*, London, 1923.
14. E. Gratzl, "Islamische Handschriftenbände der Bayerischen Staatsbibliothek," *Buch und Bucheinbände Aufsätze und graphische Blätter zum 60. Geburtstage von Hans Loubier*, Leipzig, 1925, pp. 118–147. *Islamische Bucheinbände: Des 14. bis 19. Jahrhunderts*, Leipzig, 1924.
15. T. W. Arnold and A. Grohmann, *The Islamic Book: A Contribution to Its Art and History from the VII–XVII Century*, Paris, 1924.
16. A. Sakisian, "La reliure turque du XV^e au XIX^e siècle," *La Revue de l'Art Ancien et Moderne*, LI, Jan.–Mar., 1927, pp. 277–284; LII, June–Dec., 1927, pp. 141–154. "La reliure dans la Perse Occidentale sous les mongols, au XIV^e et au début de XV^e siècle," *Ars Islamica*, II, 1934, pp. 80–91. "La reliure persane au XV^e siècle, sous les Turcomans," *Artibus Asiae*, VII, 1937, pp. 210–223. "Thèmes et motifs d'enluminure et de décoration arméniennes et musulmanes," *Ars Islamica*, VI, 1939, pp. 66–87.
17. A. Mousa, *Zur Geschichte der Islamischen Buchmalerei in Aegypten*, Cairo, 1931.
18. P. Ricard, "Reliures marocaines du XIII^e siècle, Notes sur des specimens d'époque et de tradition almohades," *Hespéris*, XVI, 1933, pp. 109–127.
19. M. Aga-Oglu, *Persian Bookbindings of the Fifteenth Century*, Ann Arbor, 1935.
20. J. Michelet, *A Loan Exhibition of Islamic Bookbindings. Handbook*, Chicago: The Oriental Department of the Chicago Art Institute, 1932, pp. 1–31.
21. H. Thomas, *Early Spanish Bookbindings: XI–XV Centuries*, London, 1939.
22. E. Gratzl, "Book Covers," *Survey of Persian Art*, ed. A. U. Pope, London, 1939, Vol. III, 1975–1994.
23. E. Kühnel, *Die Sammlung türkischer und islamischer Kunst in Tschinili Kioschk (Meisterwerk des Archeologischen Museen in Istanbul)*, Bd. 31, Berlin, 1938.
24. G. Marçais and L. Poinso, *Objets Kairouanais IX^e au XIII^e siècle: Réliures, verreries, cuivres et bronzes, bijoux*, Notes et Documents XI, Fasc. 1, *Directoire des Antiquités et Arts*, Tunis & Paris, 1948.

25. G. K. Bosch, *Islamic Bookbindings—Twelfth to Seventeenth Centuries*, Doctoral dissertation, Department of Oriental Languages and Literature, University of Chicago, 1952.
26. T. C. Petersen, "Early Islamic Bookbindings and Their Coptic Relations," *Ars Orientalis*, I, 1954, pp. 43–64.
27. R. Ettinghausen, "The Covers of the Morgan *Manāfi* Manuscript and Other Early Persian Bookbindings," *Studies in Art and Literature for Bella da Costa Greene*, (ed. D. Miner), Princeton, 1954, pp. 459–473; "Near Eastern Bookcovers and Their Influence on European Bindings" (a report on the exhibition "History of Bookbinding"—Baltimore Museum of Art, 1957–1958), *Ars Orientalis*, III, 1959, pp. 113–131.
28. M. Weisweiler, *Der islamische Bucheinband des Mittelalters nach Handschriften aus deutschen, holländischen und türkischen Bibliotheken*, Weisbaden, 1962.
29. Qalqashandī, *Ṣubḥ al-aʿshā* (Cairo, 1331/1913–1338/1919), VIII, 127. W. Bjorkman, *Beiträge zur Geschichte der Staatskanzlei im Islamischen Ägypten*, Hamburg, 1928, pp. 12, 76.
30. MS No. A 12061 (Catalogue no. 96 in the present exhibition) copied from Manuscript in the library of Aḥmad Pasha Timur in Cairo in 1908, hereafter referred to as Ibn Bādīs, 'Umdat al-kuttāb. M. Krek, *A Catalogue of Arabic Manuscripts in the Oriental Institute of Chicago*, American Oriental Society, New Haven, 1961, no. 102. G. Brockelmann, *Geschichte der Arabischen Literatur* (Weimar, 1898–1902), I, p. 91. Supplementband, I (Leiden, 1937), p. 147. Cf. also, W. Ahlwardt, *Verzeichnis der Arabischen Handschriften der Königlichen Bibliothek zu Berlin* (Berlin, 1887–1899), Vol. IX (1897), No. 10207. Cf. J. Karabacek, "Neue Quellen zur Papiergeschichte," *Mitteilungen aus der Sammlung der Papyrus Erzherzog Rainier*, IV (1888), pp. 79, 82–83, for extracts and translation from this work, as well as an opinion on its dates and collective authorship.
31. An excerpt is translated in G. K. Bosch, "The Staff of the Scribes and the Implements of the Discerning," *Ars Orientalis*, IV, pp. 1–13. In M. Levey, *Mediaeval Arabic Bookmaking and Its Relation to Early Chemistry and Pharmacology*, Transactions of the American Philosophical Society, New Series, Volume 52, Part 4, Philadelphia, 1962, the entire text is published with extensive notes. For physical description cf. M. Levey, M. Krek and H. Hadad, "Some notes on chemical terminology in an eleventh century work on bookbinding," *Isis* 47, 1956, pp. 239–243.
32. A. K. Coomaraswamy, *The Treatise of al-Jazārī on Automata*, Boston, 1924. E. Wiedemann and F. Hauser, "Über eine Palasttür und Schlosser nach al-Gazārī," *Der Islam*, XI, 1923, pp. 213–251.
33. Abou el-abbas aḥmed ben Moḥammed es-Sofiani (Sufyānī), Brockelmann, *Geschichte*, Supplement, II, p. 490. *Art de la reliure et de la dorure*, ed. P. Ricard, Fez, 1919 (hereafter referred to as Sufyānī, *Ṣināʿat tasfīr*), p. 2. Ibn 'Arḍūn's work itself is non-extant.
34. Muṣṭafā 'Alī, *Menāqib-i-Hünerwerān* Istanbul, 1926.
35. J. Karabacek, "Zur orientalischen Altertumskunde, IV Muhammedanische Kunststudien," *Kais. Akademie der Wissenschaften, Philosophische-historische Klasse, Sitzungsberichte*, Wein CLXXII, pp. 41 f.
36. C. Huart, *Les calligraphes et les miniaturistes de l'Orient musulman*, Paris, 1908, p. 130.
37. M. Aga-Oglu, *Persian Bookbindings*, p. 3.
38. I am indebted for these excerpts from the *Menāqib* to Dr. Aga-Oglu, who not only suggested them, but transcribed them, and to Dr. von Grünebaum, who aided in the translation.
39. Sufyānī, *Ṣināʿat tasfīr*.
40. Ibid., pp. 3–5.
41. M. Levey, *Mediaeval Arabic Bookmaking*, pp. 51–55.
42. Cf. supra, p. 2.
43. Abbott, "Arabic Paleography," *Ars Islamica*, Vol. VII, 1941.
44. G. Brockelmann, *Geschichte der arabischen Litterature*, Leiden, 1937, Supplement, I, p. 194, No. 8.
45. G. Brockelmann, "al-Askarī," *Encyclopaedia of Islam*, Vol. I, 1913.
46. Ḥajjī Khalifa, *Kashf al-zunūn*, ed. G. Flügel, London, 1835–1858, VII, p. 62. Also see *Catalogue Raisonné of the Būhār Library*, Calcutta, 1921–1923, Vol. I, No. 219.
47. W. Ivanow, *Concise Descriptive Catalogue of the Persian MSS in the Curzon Collection*, Asiatic Society of Bengal, Calcutta, 1926, No. 635: Ivanow feels that it is possible the author lived in India under Akbar (reigned 963/1556–1014/1605).
48. *Catalogue Raisonné of the Būhār Library*, Vol. I, No. 220. There are copies in the Bodleian Library, the India Office Library, and the British Library.
49. Ivanow, *Concise Descriptive Catalogue of the Persian MSS*, No. 486.
50. Although we are aware of the techniques of microfilm two things have deterred us: the cost of undertaking the reproduction of such extensive works and the hope that in the future either we, ourselves, or some other scholar might be able to examine these manuscripts.
51. M. Nadīm, *Kitāb al-fihrist*, ed. G. Flügel, Leipzig, 1871–1872, p. 357, l. 26. Hereafter designated as *Fihrist*.
52. Ibid., p. 359, l. 25.
53. T. Andrae, *Muḥammad, The Man and His Faith*, trans. T. Menzel, London, 1936, p. 94. For reference to the passage reflecting this, *Qurʾān*, al-qāhirah, 1347/1928, *Sūrah XXVIII*, p. 86. *Qurʾān; English, The Qurʾān*, trans. R. Bell, 2 vols.; Edinburgh, 1937–1939, II, p. 382.
54. R. Mackensen, "Background of the History of Moslem Libraries," *American Journal of Semitic Languages or AJSL*, LII, October, 1935, 110.
55. H. E. Winlock and W. E. Crum, *The Monastery of Epiphanius at Thebes* "The Metropolitan Museum of Art Egyptian Expedition," III, New York, 1936, p. 193.
56. Ibid., p. 194.
57. Adam, *Archiv für Buchbinderei*, XI 1911, p. 8. G. D. Hobson, "Some Early Bindings and Binder's Tools," Transactions of the Bibliographical Society, *The Library*, XIX, 1938–1939, p. 208.
58. A. von Le Coq, *Die Buddhistische Spätantike in Mittelasiien*. Vol. II, *Die Manichäischen Miniaturen*, Berlin, 1923, p. 5. Gratzl, *Survey of Persian Art*, III, p. 1875.
59. Nadīm, *Fihrist*, pp. 327 f.: Manichaeism spread and competed with Christianity in South Europe, North Africa, and West Asia. Its founder, Mani, was from Persia (b. 215–16 A.D., d. 272 or 276 A.D.) of heretic Christian or Zoroastrian sect; also see Le Coq, *Buddhistische Spätantike*, II, 11. Mani in his books allowed only the elect to have the higher pleasures of music, perfume, and painting. He is remembered as a painter by the Persians, and in Turkestan as a painter from China. His religious sanction of painting kept alive the art during the period of toleration of the Manichaeans by the Muslims; Nadīm, *Fihrist*, p. 336. On Mani not as a painter see A. V. Williams Jackson, *Researches in Manichaeism*.
60. St. Augustine, *Contra Faustum*, XIII, 6 and 13, *Corpus scriptorum ecclesiasticorum latinorum*, XXXV, quoted by Monneret de Villard, "Book Painting. B. Manichaean Relations," *Survey of Persian Art*, III, p. 1816.
61. A. Jāhīz, *Kitāb al-Hayawān*, Cairo, 1323/1905, I, pp. 28–29. Monneret de Villard, "Book Painting. B. Manichaean Relations," *Survey of Persian Art*, III, p. 1824. Arnold, *ibid.*, III, pp. 1817 f.
62. Mez, *Renaissance of Islam*, trans. S. Khuda Bukhsh and D. S. Margoliouth, London, 1937, p. 175.
63. L. Blau, "Buchwesen," *Encyclopaedia Judaica*, Vol. IV, cols. 1152–1153, 1146–1148.
64. Ibid., col. 1147.
65. S. Assaf, *Be'ohale Ya'akov*, Jerusalem, 1943, p. 21. I am indebted to the late Dr. Feigin for the translation of this treatise from Hebrew.
66. Ibid., p. 20. R. Wischnitzer-Bernstein, "Buckschmuck," *Encyclopaedia Judaica*, Vol. IV, col. 1139.
67. Assaf, *Be'ohale Ya'akov*, p. 26.
68. F. Baer, *Die Juden im Christlichen Spanien*, Berlin, 1929, II, p. 304. The year 1437.
69. Ibid., II, 304. The year 1437 A.D.; I, p. 412. The year 1359 A.D.; I, p. 413. The years 1367–1389 A.D.

70. Ibid., II, p. 428. The years 1486–91 A.D.; II, p. 512. The year 1490 A.D.
71. Assaf, *Be'ohale Ya'akov*, p. 25.
72. Baer, *Die Juden im Christlichen Spanien*, I, p. 847. Assaf, *Be'ohale Ya'akov*, p. 25.
73. Baer, *Die Juden im Christlichen Spanien*, I, p. 847.
74. F. Buhl, "Koran," *Encyclopaedia of Islam*, II, 1927, pp. 1063, 1068, 1076.
75. Suyūti, *al-Itqān fī 'ulūm al-Qur'ān*, Cairo, 1318/1900, I, p. 51. T. Nöldeke, *Geschichte des Qorans*, Leipzig, 1909–1938, I, p. 45. M. A. Kazem-Beg, "Observations," *Journal Asiatique*, ser. 4, II, Dec., 1843, p. 375.
76. T. Nöldeke, *Geschichte des Qorans*, II, 188p. 54–62. The question of the *Qur'ān* being a written document before the time of 'Uthmān or later has been discussed by N. Abbott, *Rise of the North Arabic Script and Its Kur'anic Development*, Oriental Institute Publications: L. Chicago, 1939, pp. 45–58.
77. Buhl, "Koran," *Encyclopaedia of Islam*, III, p. 1076.
78. A. Ibn Ḥanbel, *al-Musnad*, Cairo, 1895, I, p. 415. M. Bukhārī, *al-Jāmi' al-ṣaḥīḥ* ("Recueil des traditions mohamétanes orientales"); Bulaq, 1314–1315/1910–1911), III, Bk. LXVI, chap. xvi, p. 401.
79. Dhahabī, *Tadhkirat al-huffāz*, Haidarabad, n.d., I, p. 303. Quoted by D. S. Margoliouth, *Early Development of Mohammedanism*, New York, 1914, p. 69.
80. Brockelmann, *Geschichte der arabischen Litteratur*, G. II, Leiden, 1949, pp. 47–50; Dhahabī has left us 37 extant works.
81. Jāḥiẓ, *al-Hayawān*, Cairo, 1323/1905, V, pp. 35–36, is used as a source for this particular quotation which identifies the author in the opening line by "Amr ibn Baḥr al-Jāḥiẓ says," Pseudo-Jāḥiẓ (Baihaqī) *al-Maḥasin wa al-'addād*, Leyden, 1898, pp. 1–2. The passage from *al-mayawān* is quoted by A. F. Rifa'ī, *Asr al-Ma'mūn*, Cairo, 1927, I, p. 101. The passage of Pseudo-Jāḥiẓ is given in a German translation by A. Rufai, *Über die Bibliophilie in älteren Islam*, Istanbul, 1931, p. 26. A section praising books and describing the medium each nation used to write on is given by Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 475.
82. Subkī, *Mu'id al-ni'am wa mubīd al-niqam*, London, 1908, p. 188.
83. Ibid., pp. 186–187.
84. Ibid., pp. 186–188.
85. N. Abbott, op cit., pp. 39–41.
86. Nadīm, *Fihrist*, p. 6. N. Abbott, *Rise of the North Arabic Script*, p. 54. Grohmann, *Islamic Book*, pp. 20–22. All these authors agree to the early use of ornamentation.
87. These minutiae are dealt with by Suyūti, *Itqān*, II, p. 170. N. Abbott, *Rise of the North Arabic Script*, p. 55, also discusses these uses. Cf. Karabacek, *Sitzungsberichte*, CLXXII, 37, n. 2. Grohmann, *Islamic Book*, p. 22, calls attention to the II/VIII century manuscript of the *Qur'ān* reproduced by Moritz.
88. Suyūti, *Itqān*, II, p. 170. Nöldeke, *Geschichte des Qorane*, III, p. 260. Abbott, *Rise of the North Arabic Script*, p. 54.
89. Abū Muḥammad 'Alī ibn Yūsuf al-Juwainī is given as a Shāfi'ite, the father of Imām al-Harāmī (No. 12). The title *Mukhtasar al-mukhtasar* is not listed however. Brockelmann, *Geschichte der arabischen Litteratur*, G. I, p. 385; Supplement, I, p. 667.
90. Ibn al Ukhuwwa, *Ma'ālim al-qurba fī aḥkām al-ḥisba*, edited with abstract of contents, glossary and indices by R. Levy, "E. J. Gibbs Memorial," new series, XII (1938), p. 77. The abstract of Mr. Levy has cut much of this section. Ibid., p. 25.
91. Cf. supra, p. 3.
92. A. Ṭaifūr, *Kitab Baghdād*, Leipzig, 1908, VI, p. 307. Nadīm, *Fihrist*, p. 48, tells us that his name was 'Abd Allāh ibn Khulaid, maula of Ja'far ibn Sulaymān and that his nickname was al-'Amaithal, from the name of the long-tailed horse which walks with a stately gait, and it was Mus'ab the son of 'Abdallāh Ṭāhir of Khurasān who called him that. Abū al-Faraj, *Aghānī*, XV, pp. 106 f. list him as Abū al-'Amaithal 'Abdallāh ibn Khulaid, the poet of the family of 'Abdallāh b. Ṭāhir.
93. Maqqarī, *Nafḥ al-ṭib min ghuṣn al-Andalus al-ratib wa dhikr wazīrihā Lisān al-Din ibn al-Khaṭīb (Analectes sur l'histoire et la littérature des Arabes d'Espagne)*, ed. R. Dozy, G. Dugat, L. Krehl, and W. Wright, Leyden, 1855–1860, I, pp. 512, 515. Hereafter referred to as *Analects*. Maqqarī, *History of Mohammedan Dynasties in Spain*, trans. P. de Gayangos, London, 1840, I, p. 148. Hereafter referred to as *Analects*, trans. Cf. also Brockelmann, *Geschichte der arabischen Litteratur*, Supplement, I, p. 694; only 36 works are listed.
94. Ibid., 2d ed., II, pp. 180–204. H. A. Gibb, *Arabic Literature: An Introduction*, London, 1926, p. 106.
95. Western interest in Medieval Islamic libraries has been of long standing; cf. Quatremère, "Sur le goût des livres chez les Orientaux," *Journal Asiatique*, Ser. III, VI, 1838, pp. 35–78. A. Grohmann, "Bibliotheken und Bibliophilen im islamischen Orient," *Festschrift der National-Bibliothek in Wien*, Vienna, 1926, pp. 431–433. S. Scott, *History of the Moorish Empire in Europe*, Philadelphia, 1904, I, p. 672. O. Pinto, "Le Biblioteche degli arabi nell'età degli Abbassidi," *La Bibliofilia*, XXX, 1928, pp. 139–165. Translated into English by F. Krenkow, "The Libraries of the Arabs during the Time of the Abbasides," *Islamic Culture*, III, 1929, pp. 21–243. A. Rufai, *Über die Bibliophilie in älteren Islam*, Istanbul, 1931. R. Mackensen, "Four Great Libraries of Medieval Baghdad," *Library Quarterly*, II, July, 1932, pp. 279–299. R. Mackensen, "Background of the History of Moslem Libraries," *AJSL*, LI, Jan., 1935, pp. 114–125; LII, Oct., 1935, pp. 22–33, Jan., 1936, pp. 104–110. R. Mackensen, "Arabic Books and Libraries in the Umayyid Period," *AJSL*, LII, Jan., 1936, pp. 245–253; LIII Jan., 1937, pp. 239–250; LIV, Oct., 1937, 41–61; LVI, 1939, pp. 149–157. A recent work in Arabic has continued investigation along these lines; J. 'Auwād, *Khazā' in al-kutub al-qadimah fī al-'Irāq (Ancient Libraries of Iraq)*, Baghdad, 1948.
96. Nadīm, *Fihrist*, pp. 5, 19, 20, 120, 274.
97. Abū Ṣā'id of Toledo (d. 462/1069) *al-Ta'rif bi tabaqāt al-'uman*; cf. Maqqarī, *Analects*, I, p. 249; trans. I, p. 139; Appendix C, pp. xxxix–xlii.
98. The totals for this library are variously quoted, Abū Shāma al-Maqdisī, *al-Raudatain fī akhbār al-daulatain*, Cairo, 1287/1871, I, p. 200. Maqrīzī, *al-Mawā'iz wa al-f'tibar bi dhikr khaṭa' wa al-athar fī miṣr*, Cairo, 1270/1854, I, p. 409. Grohmann, "Bibliotheken," *Festschrift*, Quatremère, "Sur le goût," *National Bibliotheken*, VI, No. 55, p. 434; *Journal Asiatique*, Ser. III. A. Fyzee, "Qaḍī an-Nu'mān," *Journal of the Royal Asiatic Society*, 1934, p. 9: the Qaḍī relates that he served the first Fātimid Caliph seven years, 313/920–322/934, and the two succeeding Caliphs as librarian.
99. Nadīm, *Fihrist*, pp. 6, 10, 105. Maqqarī, *Analects*, I, p. 250. Ibid., trans. II, p. 169. Maqrīzī, *Khaṭa'*, I, pp. 407, 409, 445, 448 f. Qifṭī, *Ta'rikh al-hukamā'*, Leipzig, 1903, p. 440. Abū Shāma al-Maqdisī, *al-Raudatain*, I, p. 200. Ḍā' late as 1666, Chardin describes the palace of Isfahan as having 32 *kārkhanaḥ* or workshops, among them a library where bookbinders and painters worked under royal protection just as they had in Ma'mūn's day. J. Chardin, *Travels in Persia*, London, 1927, V, p. 499; VII, pp. 372–375.
100. Nadīm, *Fihrist*, pp. 243, 271; Ibn Khallikān, *Wafayāt al-a'yan wa anba' abnā' al-zamān (Bibliographical Dictionary)*, ed. and trans. W. M. de Slane, 4 vols.; Paris, 1843–1871, III, pp. 315 ff.; Mackensen, *Library Quarterly*, II, July, 1932, p. 284.
101. Maqrīzī, *Khaṭa'*, II, p. 6; cf. Mez, *Renaissance of Islam*, p. 176.
102. Maqqarī, *Analects*, trans., I, p. 139 f.
103. Maqqarī, *Analects*, II, p. 359. Cf. Brockelmann, *Geschichte*, I, p. 375.
104. Maqqarī, *Analects*, I, p. 302; trans., I, p. 139 f.; also see Appendix, p. xxvi for Ibn Khaldūn as al-Ḥaḍramī.
105. Maqqarī, *Analects*, II, p. 359. Ibn al-Athīr, *Chronicon*, ed. C. J. Tornberg, Lugduni-Batavorum, 1862, VIII, pp. 430 f., for what the *wazīr* Abū al-Faḍl al-Abbās ibn Ḥusain took from the wealthy of Basra. These totals contrast vividly with that of the royal library of France with 900 books in the thirteenth and fourteenth centuries. Scott, *History of the Moorish Empire*, III, p. 522. Cf. Mackensen, *AJSL*, LI, Jan., 1935, p. 125.

106. Ibn Alī Usaibī'ah, *ʿUyūn al-anbāʾ fi tabaqāt al-aṭibbāʾ*, Königsberg, 1884, p. 4. Qiftī, *Tārīkh al-hukamāʾ*, Leipzig, 1903, I, p. 441.
107. F. Trummer, *Ibn Saʿīd's Geschichte der vorislamischen Araber*, Stuttgart, 1928, p. 10. Ibn Saʿīd, died 673/1274 or 685/1286, could say he had travelled the lands between the Atlantic Ocean and the Persian Sea and had known the greatest scholars and best books.
108. Jāhiz (d. 255/869), *Risālat fī madh al-kutub wa al-hathth ilā jamʿahā*. Cf. Rufai, *Über die Bibliophilie*, p. 45, in which he publishes and translates the text from a manuscript in Awqāf-i-islam-iyya Museum, Constantinople, No. 3448, p. 15. The Muhallab mentioned by Jāhiz is not Muhallabī, the vizier of Muʿizzal-Dawla as Akhtar says, "Art of Waraqa," *Islamic Culture*, IX, p. 142. He quotes Ibn al-Tiqṭaqa, *al-Fakhrī fī al-ādāb al-sultāniyyah* (Elfachrj), ed. H. Derenbourg (Paris, 1895), p. 3. The author here writes it "al-Muhallab."
109. Nadīm, *Fihrist*, p. 116. For date of death see Ibn Khallikān, trans. de Slane, *Wafayāt al-aʿyān*, III, p. 667.
110. Gibb, *Arabic Literature*, p. 48.
111. Yaʿqūbī (d. 897), *al-Buldān*, Lugduni-Batavorum, 1892, p. 245. G. Le Strange, *Baghdad during the Abbasid Caliphate*, Oxford, 1900, p. 92. Not 300 as M. Akhtar, "Art of Waraqa," p. 139.
112. E. G. Browne, "Chahār Maqāla" ('Four Discourses') of Nidh ʾamī-i-Arūḍi-i-Samarqandī, *Journal of the Royal Asiatic Society*, 1899, p. 787.
113. A. Sarraj, *Maṣārīf al-ʿushshāq*, Constantinople, 1301/1883, pp. 215, 399.
114. Ibn al-Jauzī, *Manāqib Baghdād*, p. 26, according to Akhtar, *Islamic Culture*, IX, Jan., 1935, p. 143.
115. Kremer, *Culturgeschichte des Orients unter den Califen*, Vienna, 1875, II, p. 310.
116. Maqrīzī, *Khīṭaṭ*, II, pp. 102, 212. Grohmann, *The Islamic Book*, p. 32.
117. Maqrīzī (1364-1442), "Mawaʿiz al-iʿtibār," trans. P. Casanova, *Mémoires de L'Institut Français d'archéologie Orientale du Caire*, IV, 1920, pp. 73-74, or (edition Bulaq), I, p. 374.
118. J. Leo Africanus, *The History and Description of Africa*, trans. John Pory in 1600, ed. R. Brown, London, 1898, pp. 431, 436.
119. Bukhārī, *Jāmiʿ al-saḥīḥ*, II, p. 10. Raghīb al-Iṣbahānī, *Muḥāḍarāt al-ʿudabāʾ wa muḥāwarāt al-shuʿarāʾ wa la bulaghāʾ*, Cairo, 1287/1870, I, pp. 293-294.
120. Ibid., p. 283.
121. Ibid.
122. T. J. DeBoer, *History of Philosophy in Islam*, London, 1903, pp. 82-85. T. J. DeBoer, "Ikhwān al-ṣafā," *Encyclopaedia of Islam*, II, pp. 459-460. D. O'Leary, *Arabic Thought and Its Place in History*, London, 1939, pp. 164-167.
123. *Ikhwān al-ṣafā wa khillān al-wafā*, 3 vols. in 2; Bombay, 1887-1888, I, pp. 32-33. *Rasāʾil Ikhwān al-ṣafā*, al-juzʾ al-awwal, al-qism al-riyāḍī; Cairo, 1888, I, pp. 192-194. The latter consists of 13 essays.
124. O'Leary, *Arabic Thought and Its Place in History*, p. 223.
125. DeBoer in speaking of the *Ikhwān al-ṣafā* says: "The great religious father, Ghazālī, is ready enough to toss aside the wisdom of the Brethren as mere popular philosophy, but he does not hesitate to take over what was good in them. He owes more to their body of ideas than he would perhaps have cared to avow." DeBoer, *History of Philosophy in Islam*, p. 96.
126. M. Ghazālī, *Ihyāʾ ʿulūm al-dīn*, Cairo, 1289/1872, I, pp. 11-12.
127. Ibn Khallikān, *Wafayāt al-aʿyān*, I, pp. 98-99. Trans. I, p. 285. I. A. Yāqūt, *Irshād al-arīb ila maʿrifat al-adīb* (Dictionary of Learned Men), 2d ed.; London, 1923-1931, VI, Part VI, p. 96, under the heading "Muḥammad ibn Abī Saʿīd Muḥammad," known as Ibn Sharaf (d. 460/1068). Yāfīʿ, *Mirʾāt al-jāhan wa ʿibrat al-yaqṣan fī maʿrifat mā yaʿtabir min ḥawāḍith al-zamān*, Haidarabad, 1337/1918-1339/1920, II, p. 341. Brockelmann, *Geschichte*, I, p. 268. Supplement, I, p. 473, confuses the father with the son giving al-Muʿizz as author of our treatise. Among these products of Tunisia may well have been the books about which Ibn Bādīs evidences such detailed interest in the *ʿUmdat al-kuttāb*.
128. These designations could have a figurative meaning like *al-murāqqish*, or "the embellisher," for a poet. A. Thaʿālibī, *Laṭāʾif al-maʿārīf*, Lugduni-Batavorum, 1867, p. 17. *Al-naqqāsh*, or "the engraver," was a decorator of the stones of Baghdād. Samʿānī, *al-Ansāb*, "E. J. W. Gibb Memorial series," Vol. XX, 1912, fol. 567.
129. A scholar who tailored is reported by Subkī, *Muʿīd al-niʿam wa mubīd al-niqam*, II, p. 102. Subkī himself was a traditionalist who sold dyes. Mez, *Renaissance of Islam*, p. 186.
130. Māwardī, *al-Aḥkām al-sultāniyyah*, Bonn, 1803, p. 427; E. Fagnan, Mawardi, *Les statuts gouvernementaux*, Alger, 1915, p. 546.
131. *Fihrist*, pp. 262-263 (366, 17, 18). Ibn Abī Usaibīʾa, *ʿUyūn al-anabāʾ fi tabaqāt al-aṭibbāʾ*, I, pp. 214-215. F. Rosenthal, *Aḥmad ibn al-Tayyib al-Sarakhsī*, New Haven, 1943, pp. 23-24, 81. Qiftī, *Tārīkh al-hukama*, p. 785. Hajji Khalifah, *Kashf al-zunūn*, 3.66 (No. 4491), 5.46 (No. 9867).
132. M. Saqaṭī, *Un Manuel Hispanique de Ḥisba*, ed. G. S. Colin and E. Lévi-Provençal, Paris, 1931, pp. 24, 27, 29.
133. Ibn Naṣr, "Nihāya al-rutba fī ṭalab al-ḥisba," trans. W. Behrner, *Journal Asiatique*, 5th ser., XVII, 1861, 28 f.
134. Ibn al-Ukhuwwa (d. 1370), *Maʿālim al-qurba*, pp. 185, 282, 289. Translation, pp. 48, 92, 96.
135. Except the verse which has a phrase which Arnold translates as "Statues" and Bell translates as "stone altars"; see *Qurʾān*, sūrah V, vs. 92. Arnold, *Painting in Islam*, p. 5. Bell, *The Qurʾān Translated*, I, pp. 107, 93. The other possibility of Qurʾānic mention is discussed by Goldziher as implied in *Qurʾān*, sūrah V, vs. 110, in connection with a ḥadīth that the maker of likenesses would be punished on the judgment day when he would be called upon to breathe life into his forms. The *Qurʾān* mentions this power as delegated to Jesus. Goldziher interprets it as only giving the permission to make likenesses if you, like Jesus, have been given the power to breathe life into your forms. I. Goldziher, "Zum Islamischen Bilderverbot," *Zeitschrift Deutsche Morgenlandische Gesellschaft* or *ZDMG*, LXXIV, 1920, p. 288.
136. Cf. supra, pp. 8, 9.
137. Lammens and Arnold have shown that disapproval arose after the formulation of the great canonical collections in the III/IX century. H. Lammens, "L'attitude de l'Islam primitif en face des arts figurés," *Études sur le siècle des Ommayyades*, Beirut, 1930, pp. 351-389, 372. Arnold, *Painting in Islam*, p. 13. An introduction by ʿAbd al-Wahhāb ʿAzām to a recent book in Arabic on the subject concurs with western opinions as to this evidence. Z. M. Ḥasan, *al-Taswīr fī al-Islam ʿind al-Furs*, Cairo, 1354/1936. Nevertheless, by the time of the theologian Zuhri (fl. 532/1137), the prohibition of pictures was general. Accordingly another theologian, Nawawī, in the thirteenth century refused to allow the ability to cast a shadow as a factor in deciding the creative status of an object. Nawawī, *Minḥāj al-ṭalibin wa ʿumdat al-muftīn fī al-fiqh*, Cairo, 1338/1919, VIII, 398. T. Arnold, *Painting in Islam*, Oxford, 1928, pp. 9-10. For the Shiʿite view, cf. Jaʿfar ibn Saʿīd, *Sharāʾif al-Islām*, pp. 11-13. It is interesting to compare Maimonides on "Art and Charity" since this prohibition of the Muslims is attributed to the influence of Jewish converts on Islam. A. Guillaume, "The Influence of Judaism on Islam," *Legacy of Israel*, Oxford, 1927, pp. 129 ff.
138. This omission may have been caused by personal preference for the simple and undecorated, for in another section of the *Ihyāʾ* he urges a return to the primitive simplicity of pre-Umayyad days in mosque decoration. M. Ghazālī, *Ihyāʾ ʿulūm al-dīn*, I, p. 80.
139. Abū Nuwās (II/VIII century), court poet of Hārūn al-Rashīd, vividly describes the hunting scene on a Sassanian silver cup in a poem, Abū Nuwās, *Diwan*, Ahlwardt, (ed.), Griefswald, 1861, I, Die Weinlieder, No. 37. Cf. Kratchkowski, "Die Trinkschale," *Seminarium Kondakov*, II, 1928, pp. 113-26. A landscape painted on a wall is the subject of the poet *Mutanabbi*, Dieterici (ed.), Leipzig, 1847, p. 379; Bulaq (ed.), 1287/1870, II, p. 261. Cf. J. Horowitz,

"Die Beschreibung eines Gemäldes bei Mutanabbi," *Der Islam*, I, 1910, pp. 385–389. Both art appreciation and a sympathetic reaction to depictions of nature emerge in Mutanabbi's poem referred to above and in Sadid al-Dīn ibn Ruqā'ah's verse on cups painted with birds. Ghuzūlī, *Maṭālīf al-budūr fī manāzil al-surūr*, Cairo, 1299/1882–1300/1883, I, p. 131.

140. The sight of pictures possessing great beauty cheers the soul and strengthens it, chasing away worry, suspicion, and hypochondria, according to Badr al-Dīn ibn Muzafar, Qādī of Basra in *Mufarriḥ al-naḥs*. Ghuzūlī (writing c. 600/1203–604/1207) quotes the Qādī's opinion and praises not only the bath, but the additional benefit to be gained by pictures on its walls of scenes of love, meadows, gardens, the hunt, and the wild beasts, each having specific merit for the observer. Ghuzūlī, *Maṭālīf al-budūr*, II, p. 7. He follows with the description of a colored glass mosaic in a marble bathroom. *Ibid.*, II, pp. 8–9.

141. Jāḥiẓ gives *rifq al-kaff*, or "Gentle of hand," suggesting "deftness," and *ghāyat amīn al-hadhq*, or "extremely skillful." Jāḥiẓ, *Tria Opuscula*, Lugduni-Batavorum, 1903, pp. 44, 47. Ghuzūlī uses *badi'at al-ṣan'ah*, or "wondrous of craftsmanship," and *bayyināt al-ḥusn*, or "evidently beautiful." Ghuzūlī, *Maṭālīf al-budūr*, II, p. 7. Ibn Ḥijjah al-Ḥammawī tells of an image created by an artist, who was *māḥir ḥa'ah*, or "skillful in shaping." Raghib al-Iṣbahānī, *Muḥāḍarāt al-'udabā'*, on margins of Ibn Ḥijjah al-Ḥamawī (1366–1434), *Supplement to Thamarāt al-aurāq fī al-muḥāḍarāt*, II, pp. 31–32.

142. An identification of Harran with crafts and Iraq with books is found in a curious poem of comparisons between products and places. Tha'ālibī, *Latā'if al-ma'ārif*, Lugduni-Batavorum, 1867, p. 124. "The Chinese are excellent in art . . . and skillful of hand," *rifq-al-kaff* "in everything they undertake and practice." Jāḥiẓ, *Tria Opuscula*, pp. 43, 44, and: "We saw in China," the Arabs were wont to say, "rare and pleasing gifts. . . . The people of China are ancient and learned specializing in manual crafts and in natural adroitness and do work of rare and pleasing beauty. . . ." Tha'ālibī, *Latā'if al-ma'ārif*, p. 127. Concrete archaeological evidence is provided by Chinese objects in Islamic sites, as well as the Islamic imitations of them. F. Sarre, *Die Keramik von Samarra*, Berlin, 1925, pp. 101–102.

143. This multiplicity of function has a historical background in the precedent set by the seventh century Coptic monasteries. Documents attest that in one instance, the boy Pesentius learned the craft of bookbinding together with the profession of scribe. H. E. Winlock and W. E. Crum, *The Monastery of Epiphanius at Thebes*, Vol. III, *The Metropolitan Museum of Art Egyptian Expedition*, p. 136.

144. R. Dozy, *Supplément aux Dictionnaires Arabes*, Leiden, 1881, II, p. 797. *Warrāq*—maker and seller of paper, a stationer, copyist, a copyist-librarian, a bookbinder, a copyist-bookbinder, librarian, author, writer, reader of the *Qur'ān*. A recent detailed treatment of this subject of the *warrāq* is to be found in J. Auwād, *Khazā'in al-kutub*, Baghdad, 1949, pp. 8–25.

145. Jāḥiẓ contrasts such differentiation of labour in Iraq with the multiple function of the Turkish artisan in the making of weapons. One portion interests us particularly:

"He who planes the wood for the scabbard . . . is not the same as he who tans the leather for it. He who tans the leather for it is not the same as he who adorns it. And that one who adorns it and mounts its leather casing is other than he who stitches its belts. . . . The Turk does all these himself from the beginning of the process to the end. . . ." Jāḥiẓ, *Tria Opuscula*, pp. 46–47. C. T. Walker, "Jāḥiẓ of Basra to al-Fath ibn Khaqān or the 'Exploits of the Turks and the Army of the Khalifate in general.'" *JRAS*, 1915, pp. 685–686.

146. Cf. supra, pp. 6, 8.

147. Sūlī, *Adab al-kuttāb*, Cairo, 1341/1922, pp. 94 f. Rāghib, *Muḥāḍarāt al-'udabā'*, I, p. 63.

148. Baihaqī (Pseudo-Jāḥiẓ), *al-Maḥāsin wa al-masāwī*, p. 165. Nadīm, *Fihrist*, p. 6. Tha'ālibī, *Latā'if al-ma'ārif*, pp. 77–78. Abbot, *Rise of the North Arabic Script*, pp. 29, 53.

149. Ibn Khallikān, *Wafayāt al-a'yān*, III, p. 65 f.

150. Dhahabī (1274–1348), *al-Mushtabih fī asma' al-rijal*, Leiden, 1881, p. 546.

151. Nuwairī (1279–1332), *Nihāyat al-'arab*, Cairo, 1342/1923–1356/1937, p. 6.

152. Subkī (1326–1370), *Mu'īd al-ni'ām*, p. 188.

153. Maqqarī, *Anslecta*, I, p. 180 ff. as to the activities of Al-Ḥakam II in collecting books by means of agents all over the world.

154. Cf. supra, p. 6.

155. Nadīm, *Fihrist*, p. 42.

156. Ibn 'Abd Rabbihī (860–940), *al-Iqd al-farīd*, Cairo, 1293/1876, II, p. 223. Pinto, "Le Biblioteche degli arabi nell'età degli Abbassidi," *La Bibliofilia*, XXX, 1928, p. 142. Grohmann, *The Islamic Book*, p. 32.

157. Nadīm, *Fihrist*, pp. 141, 275. Farmer, *History of Arabian Music to the XIIIth Century*, London, 1929, p. 125, calls Sindī ibn 'Alī "a bookseller." Akhtar, *Art of Waraqat*, p. 132, calls him a scribe. That Farmer's interpretation is correct is affirmed by the *Fihrist*, p. 275; only the license was by Ishaq al-Mausūfī, the remaining material being selected from his other works by this editor.

158. *Ibid.*, p. 11. Vorwort, n. 2, "Wenn Chwolsohn (Saabier II S. IXI) besonders bemerkt, dass an-Nadīm auch genannt werde, so steht dieses eben statt oder was beides auf seine Beschäftigung mit Bücherabschreiben hinweist." That his father was

a bookseller or *warrāq*, see p. 303, l. 24; p. 318, l. 6; p. 351, l. 14, according to J. Fück, "al-Nadīm," *Encyclopaedia of Islam*, III, pp. 808–809.

159. Maqqarī, *Analects*, II, pp. 92, 76.

160. *Ibid.*, p. 92.

161. Ibn Ḥaiyān, *Muqtabis*. Cf. Maqqarī, *Analects*, II, p. 76.

162. Ibn Khallikān, *Wafayāt al-a'yān*, I, 264; trans. M. de Slane, II, pp. 59, 61.

163. *Ibid.*, p. 59. Akhtar considers de Slane's translation of the term used in the verses quoted by Ibn Khallikān a misinterpretation. He limits the term *wirāqah* to (1) copying and transcription, (2) stationery selling, and (3) book selling. But in supporting the fallen condition of the *wirāqah* he refers to a footnote in which Ibn Khaldūn also includes bookbinding in the term, thereby we feel negating his own argument about the expression. C. A. Akhtar, "The Art of the Waraqat," *Islamic Culture*, IX, 1935, 131. Akhtar gives the reference to the de Slane translation incorrectly; it should be Vol. II, instead of Vol. III.

164. Ibn Khaldūn (1332–1406), *al-Ibar wa diwān al-mubtada' wa al-khabār*, Cairo, 1284/1867, I, pp. 335, 352.

165. Lane, *Arabic-English Lexicon*, London, 1863–1893, I, p. 443, col. 3. Dozy, *Supplément*, I, p. 206. Adds the meaning—a leaf of parchment or paper.

166. Al-Khatīb al-Baghdādī, *Ta'rikh Baghdād*, XIV, p. 147. Uses *jild* for volume. F. Steingass, *Student's Arabic-English Dictionary*, London, 1884, p. 240. Lane, *Arabic-English Lexicon*, London, 1863–1893, I, p. 443, col. 2. Gives *mujallad* and a plural *mujalladat*. Dozy, *Supplément*, I, p. 206. Gives the same form. S. Hayyim, *Larger English-Persian Dictionary*, Teheran, 1941–1943, p. 163. Gives *jildgar*.

167. Dozy, *Supplément*, I, p. 205. Lane, *Arabic-English Lexicon*, I, p. 442, col. 2.

168. Lane, *Arabic-English Lexicon*, I, p. 443, col. 2. Nadīm, *Fihrist*, p. 10.

169. Lane, *Arabic-English Lexicon*, IV, p. 1370, col. 2. This word is a link with the Jewish-Christian world where it is applied to the Torah.

170. Sufyānī, *Ṣinā'at tasfīr al-kutub wa ḥall al-dhahab*, Title-page. It is Moroccan work.

171. Dozy, *Supplément*, I, p. 658. H. A. Salmoné, *Arabic-English Dictionary*, London, 1890, p. 358: uses the term for writer and scribe also. The thirty stationers or booksellers mentioned by Leo Africanus may have been bookbinders because the geographical description of the location of the shops is identical with that of the *saffārūn* as recently as 1904. We do not know what Arabic term Leo himself had in mind when he wrote in Latin. Also, Nicholas Clenard's letter about a stay in Fēz in 1540, only a few years afterwards seems to contradict Leo's report. For Clenard writes there were no bookshops in Fēz. Le Tourneau, who pub-

lished this letter, noted the contradiction and explains it in terms of Leo's confusion of the booksellers' shops with those of the bookbinders', which even today are next to the merchants of tanned hides. R. Le Tourneau, "Notes sur les lettres latines de Nicolas Clenard relatant son séjour dans le royaume de Fèz (1540–1541)," *Hesperis*, XIX, 1934, pp. 58 f. Letter of April 9, 1541. L. Massignon, *Le Maroc dans les premières années du XVI^e siècle*, Alger, 1906, p. 231. Also, on industry of Fèz Leo mentions bookbindings, p. 96.

172. Lane, *Arabic-English Lexicon*, IV, p. 1372, col. 1.

173. Dozy, *Supplément*, II, p. 122. H. A. Salmoné, *Arabic-English Dictionary*, London, 1890, p. 556.

174. Sufyānī, *Ṣinā'at tasfir*, p. 11 of the index. Lane, *Arabic-English Lexicon*, I, p. 561, col. 3.

175. Lane, *Arabic-English Lexicon*, I, p. 1655, col. 2. Salmoné, *Arabic-English Dictionary*, p. 439. A bookseller. Hayyim, *Larger English-Persian Dictionary*, p. 163. A traveller to the East noted in the bazaars of Ashref that the *ṣahḥāf* was also the *mujallid*. B. Dor, *Reise nach Masanderan in Jahre 1860*, I Abschnitt, St. Petersburg-Aschref, 1895, p. 165, n. 1. Cf. Grohmann and Arnold, *The Islamic Book*, p. 32. It has the meaning bookseller, bookbinder, and librarian. Steingass, *Persian-English Dictionary*, p. 782.

176. Lane, *Arabic-English Lexicon*, I, p. 504. Dozy, *Supplément*, I, 246. *Ḥabakah*—bookbinding, manner in which a book is bound. G. P. Badger, *English-Arabic Lexicon*, London, 1881, p. 85.

177. Ibid., p. 604. Arrange the leaves of a book. Dozy, *Supplément*, II, p. 1. Salmoné, *Arabic-English Dictionary*, p. 470, as bound together.

178. Steingass, *Persian-English Dictionary*, p. 362.

179. Dozy, *Supplément*, I, p. 735. Lane, *English-Arabic Lexicon*, I, p. 1517, col. 2.

180. Ibid., I, p. 1322, col. 3. Steingass, *Student's Arabic-English*, p. 484. To bind books in parchment; *tashīyat*—to bind books.

181. Cf. *infra*.

182. Nadīm, *Fihrist*, p. 10. Cf. also Grohmann and Arnold, *The Islamic Book*, p. 32.

183. Idrīs 'Imād al-Dīn ibn al-Ḥasan (d. 872/1468), *'Uyūn al-mukhtār fi dhikr al-nabī al-muṣṭafa al-mukhtār*; Vol. V, fol. 378, has not been published completely. Cf. Brockelmann, *Supplément*, II, p. 250. This excerpt is referred to by A. A. Fyzee, "Qāḍī al-Nu'mān," *Journal of the Royal Asiatic Society*, 1934, pp. 5, 7, 9. Page 9 refers to this activity as a librarian.

184. Muqaddasī (c. 985), *Aḥsan al-taqāsīm*, p. 100. Cf. Grohmann, *The Islamic Book*, p. 31.

185. Qiftī, *Ta'rīkh al-ḥukamā'*, p. 440.

186. Ibn Bādīs, *'Umdat al-kuttāb*.

187. Ibn Khallikān, *Wafayāt al-a'yān*, trans., II, p. 59.

188. M. Rāwandī, *Rāḥat al-ṣudūr wa āyat al-surūr*, ed. Muḥammad Iqbal, London, 1921, p. 437.

189. Ibn Taghrī Bardī, "al-Manḥal al-ṣāfi," *Mémoires de l'Institut d'Égypte*, Vol. XIX, Cairo, 1932, No. 2570, fol. 378. Index of G. Wiet. Cf. Mousa, *Zur Geschichte der Islamischen Buchmalerei in Aegypten*, p. 89.

190. Aga-Oglu, *Persian Bookbindings*, p. 16, Pl. XVII. Sakisian, *Artibus Asiae*, V, 1935, p. 224, Fig. 4. Gratzl, *Survey of Persian Art*, Vol. III, p. 1991.

191. Sakhāwī (1427–1497), *al-Dāu al-lāmī li-ahl al-qarn al-tāsi'*, Cairo, 1354/1935, X, p. 183. Mousa, *Zur Geschichte*, p. 100, gives references to the handwritten manuscript.

192. Sakhāwī, *al-Dāu al-lāmī*, VII, p. 22. Cf. Mousa, *Zur Geschichte*, p. 100.

193. Sakhāwī, *al-Dāu al-lāmī*, IX, p. 6. Mousa, *Zur Geschichte*, p. 100.

194. Dūst Muḥammad, *Hālāt-i Hünerwerān*, No. 174 album of Top. Kapu Museum Istanbul is dedicated to Abū al-Fath Bahram Mīrzā, brother of Shah Tahmāsp I (reigned 930/1524–984/1576), in the year 951/1544. Cf. L. Binyon, J. V. S. Wilkinson, and B. Gray, *Persian Miniature Painting*, London, 1933, Appendix I, pp. 183–188, gives a translation of this manuscript.

195. In *Menāqib-i Hünerwerān* the author does not mention any Herāt bookbinders although he praises a certain 'Abd Allāh of that city as a master of cut-pattern work. Muṣṭafa 'Alī, *Menāqib-i Hünerwerān*, p. 73.

196. Dūst Muḥammad, *Hālāt-i Hünerwerān*. Cf. B. Gray, *Persian Miniature Painting*, p. 185.

197. Ibid., p. 187.

198. Muṣṭafa 'Alī, *Menāqib-i Hünerwerān*, p. 63. Cf. Aga-Oglu, *Persian Bookbindings*, p. 4.

199. Sufyānī, *Ṣinā'at tasfir al-kutub wa ḥall al-dhahab*, p. 1. Brockelmann, *Geschichte*, Supplement, II, p. 693. *Revue du Monde Musulman*, XV, 1911, pp. 1 ff.

200. Ḥabīb Iṣfahānī mīrzā, *Khaṭṭ wa khaṭṭātān*, Constantinople, 1305/1887, p. 259. Huart also gives the names and adds the relationship but does not give his source. Huart, *Les Calligraphes*, p. 323.

201. G. K. Bosch, (1952) p. 34, on *ṣahḥāf* as a term for bookbinder.

202. Ibid., p. 37.

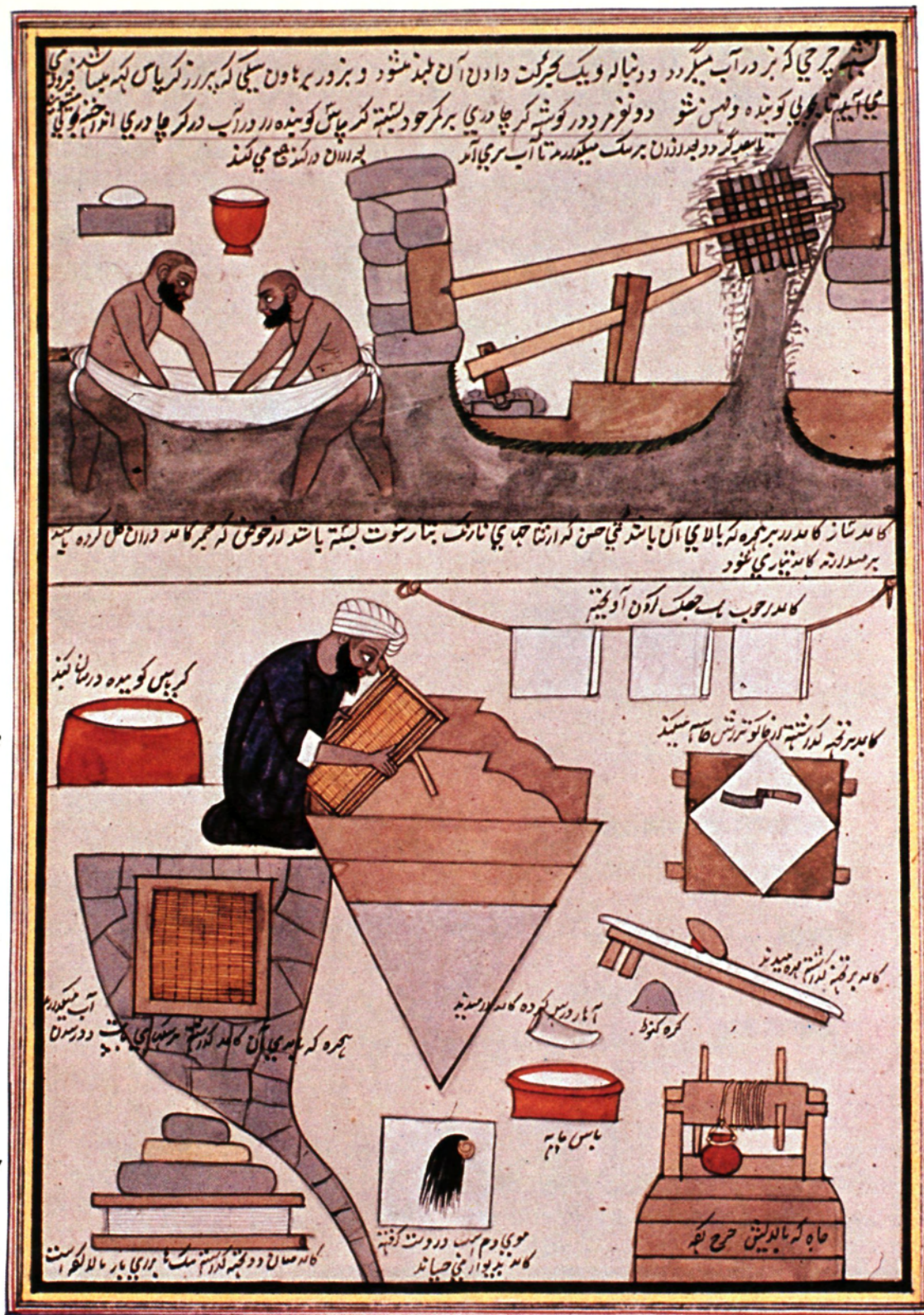
203. Ibid., pp. 152–154.

204. Catalogue no. 30.

205. Catalogue nos. 41, 36, 35, 31.

206. A. Sakisian, "La reliure dans la Perse occidentale," *Ars Islamica*, I, pp. 83–84, Fig. 3. Also cf. Gratzl, *Survey of Persian Art*, III, p. 1988.

207. Loubier, "Orientalische Einband Kunst," *Archive für Buchbinderei*, X, 1910, p. 39.



COLOUR PLATE A

A papermaker and his tools. From a Kashmiri manuscript illustrating traditional crafts and trades, c. 1850–1860 A.D. India Office Library and Records, London, Add. Or. 1699.

The authors are grateful to Professor Heshmat Moayyad, Department of Near Eastern Languages and Civilizations, University of Chicago for the translation of this text and that of Colour Plate B.

1) (A water-powered undershot stamping mill) "The picture of an instrument which works by the power of water. By pushing the wheel the tail (beater arm) is lifted and falls forcefully on a mortar which is filled with old canvas until it is well pounded and flattened.

Two men in the corner have tied the two ends of a (piece) of cloth around their waists. They have the beaten canvas in that cloth and wash it well until it is white. They then put it on the stone so that it dries and then they collect it in a pot."

2) "The beaten canvas in a bin."

3) "Canvas pulp."

4) "The well with the windlass at its head."

5) "The papermaker takes the soft mass of paper (pulp) which is dispersed in water . . . a net (mould) made of the twigs of the orange tree . . . the paper turns out well."

6) "The screen is placed on the paper and put on stones to remove the water."

7) "The paper is placed between two boards and some stones are placed on them."

8) "With a bunch of horsetail hair in the hand they put the paper on the wall (to dry)

9) "Paper hanging on a rope (literally a "branch") to dry.

10) "Paper is placed on a board and trimmed with a knife."

11) "Starch is put in this and blown on the paper."

12) "Paper is placed on a board and burnished."



COLOUR PLATE B

A bookbinder and his tools. From a Kashmiri manuscript illustrating traditional crafts and trades, c. 1850–1860 A.D. India Office Library and Records, London. Add. Or. 1700.

- 1) "The picture of a bookbinder and the binding instruments. In the middle (we see) the binder with his knife cutting the edges of the paper which he holds firmly in a press."
- 2) "The slab and rubbing instrument for making pasteboard."
- 3) "The ruler."
- 4) "The pastepot."
- 5) "The press with a book in it."
- 6) Paring knife.
- 7) Needle.
- 8) Thread.
- 9) Awl.
- 10) "Scissors."
- 11) Trimming knife.
- 12) Whetstone?
- 13) Awl or small knife?
- 14) "The mallet for smoothing the leather."
- 15) "The leather for the binding."
- 16) "Tool for the purpose of cutting the leather."

The Materials, Techniques and Structures of Islamic Bookmaking

Gulnar Bosch &
Guy Petherbridge

This work is primarily concerned with that major vehicle for the written word in Islam, the book in codex form, and in this chapter the materials, techniques and characteristic structures used in its production will be surveyed. The crafts of calligraphy, book illumination and painting are only briefly referred to, as others have considered them at length elsewhere.

At the time in the 7th. and 8th. centuries A.D. when the young religion and culture of Islam was penetrating the Middle East and consolidating its power, the codex form of book¹ (which is the book form that predominates to the present day) had passed through some five centuries of technical and structural evolution. The result was a well-functioning combination of materials and mechanical forms, whose basic principles changed little from then on. The codex consists of rectangular sheets of papyrus, parchment or paper folded into gatherings which are sewn together and attached to protective covers, the individual leaves being written either before or after compilation. The form had developed particularly to carry the doctrines and commentaries of those religions flourishing in this region prior to the Islamic conquests, of which Christianity was the most dominant.

The materials and techniques used in making the codex book amongst the communities of those countries bordering the Eastern Mediterranean, of which we have a substantial body of surviving evidence in the bound Coptic codices preserved by the Egyptian soil and climate² as well as in late Roman and Byzantine written sources, were adopted for the needs of Islam.

This bookmaking tradition, however, seems to have been first introduced to the Arabs in Arabia itself by Ethiopian craftsmen, whose bookbindings to this day relate closely to early Coptic examples, particularly in the sewing techniques. Ethiopia had long had cultural ties with Southern and Western Arabia and also controlled parts of these regions for periods of time, and the Aksumite kings, after their conversion in the first half of the 4th century A.D.,³ became particularly solicitous of the developing Christian communities of the area,⁴ coming to their defence when threatened by rival Jewish and pre-Islamic religious factions, notably during the campaign of 523–524 A.D. The strength of those Christian cities such as Zafar, Najrān and San'a⁵ and the prestige of their churches must imply the presence of scribes and bookmaking craftsmen who would be working within the Middle Eastern technical traditions, and with whom the early Muslims must have been in contact.

Al-Jāhiz, writing in the 9th. century A.D., says that the Abyssinians/Ethiopians claimed the credit of introducing to the Arabs the codex book form, *muṣḥaf*. Certainly the term is borrowed from the Ethiopic and the historical and cultural circumstances would make this possible. Islamic tradition attributes the first book of the *Qurʾān* to be made after the Prophet Muhammed's death to Sālim b. Maʿqil, who called the form *muṣḥaf*. Other traditions state that parts of the *Qurʾān* had been written on loose leaves during the lifetime of Muhammed and that these were protected by wooden boards. These were then copied in book form by Zayd Ibn Thabit in the time of Abū Bakr.⁶

Textblock Materials

Papyrus

Papyrus, as the primary writing material of the Roman Empire and the Hellenistic Near and Middle East,⁷ naturally became the material on which the text of the early forms of codex were written. Large numbers of Arabic papyri have been found in Egypt, some dating from the late 7th. and early 8th. centuries A.D., but most are single sheet, or relatively short documents concerned with state administration and taxation or private or commercial correspondence. In this land of its production, papyrus continued to be extensively used for Arabic writings through the third century of Islam, although few early Arabic codices are known. One, in the Egyptian National Library in Cairo, the *Jāmiʿ* of Ibn Wahb, a collection of traditions written at Asnā in Egypt, is dated 276 A.H./889 A.D. Another, also of Egyptian origin, is the story of the prophets in the tradition of Wahb ibn Munabbih and is dated 230 A.H./844 A.D.⁸

Documents have survived referring to the production, the types, the trade, and the price of papyrus. Al-Jāhiz says that Egyptian papyrus is for the West what the paper of Samarqand is for the East. However most of these references are to papyrus in roll or scroll form, although Irigoin⁹ suggests that, from the time of the late Roman Empire, sheets may have been made especially to the formats needed for codex production. By the middle of the 10th. century A.D., production is in sharp decline as is the quality of the product. The centre of the industry then shifted for a period to Sicily.¹⁰ Probably papyrus could no longer compete with paper which had taken over as the Islamic writing material *par excellence*. This cessation of production contributed to the introduction of Islamic paper into the Byzantine scriptoria. The conservative Imperial Chancellery, as the heirs of Roman bureaucracy, traditionally used papyrus scrolls for important documents such as chrysobulls and were forced to adopt paper, as the material most resembling papyrus, in the middle of the 11th. century A.D. (rather than use parchment, which by then had become the usual material on which codex books were written in the Byzantine Empire).¹¹

In Islamic manuscripts, as well as being used for the body of the text, papyrus sheets were decorated for use as endpapers,¹² if the evidence of surviving fragments has been interpreted correctly. From the early years of codex manufacture in the Middle East, papyrus sheets, often as waste scribe trials or leaves from discarded Christian or Islamic manuscripts, were pasted together and left under pressure to dry, forming thin boards which were then used as the basis of bookcovers. The latest recorded use of papyrus pasteboards seems to be in an 11th. century bookcover of horizontal format in the Egyptian National Library, Cairo.¹³ Such boards were the precursors of the paper pasteboards so characteristic of later Islamic bookbindings.

Parchment

Codices with leaves of parchment, a material better suited to the mechanical requirements of the codex form than papyrus, had a considerable previous history in the regions which became the heartlands of Islam. A small number of such codices survive from the first four centuries of Islam, notably in the national collections of Tunis and Cairo.

Although the books of the Christian and other cultures conquered by Islam were characteristically of the vertical format we are familiar with today, in which the height of the folios and covers is greater than their width, and which was the first adopted for the Islamic codex,¹⁴ by the 2nd. century A.H./8th. century A.D. Islamic books were changing from the vertical to the horizontal format.¹⁵ This change may have been in response to the characteristics of the Kūfic script itself or, as Ettinghausen has suggested,¹⁶ in imitation of epigraphical Qur'ānic panels in architecture. A reversion to the vertical format begins in the 4th. century A.H./10th. century A.D. and coincides with the development of the delicate and lighter Eastern Kūfic script and with the change from parchment to paper as the predominant writing material.¹⁷ The horizontal format is exclusively used in the Kairouan bindings of the 9th. and 10th. centuries A.D., and the majority of the 11th. century,¹⁸ and continued to be used in the Western areas of the Islamic world far longer than in the East, as did parchment as a writing material (until the 8th. century A.H./14th. century A.D.).

Nadīm (c. 377/987–988), in the *Fihrist*, says that skins were prepared so that people could write on them;¹⁹ and he contrasts the Byzantines' روميّ or Rūmī, writing materials—the skin of the wild ass, راقق²⁰ or parchment and vellum with those of the Persians, which were buffalo hides, cow hides, and sheepskins. He sympathizes with the people of Baghdad, who were forced to write for two years *fī jalūd turūs* في جلود طرؤس, or on palimpsests, because the storehouses were plundered in the civil wars of the Abbāsīd Caliph Amīn (reigned 193/809–198/813), and he informs us that the skins were very dry when they prepared them with نؤرة²¹ or depilatory paste, the main ingredient of which is lime,²¹ but that the skins became soft when they used the Kūfa method of preparation with dates.²²

Apart from this reference and a recipe in the *Plictho* of Gioanventura Rosetti, printed in 1548, which purports to be derived from the Islamic Near East but actually describes the process of alum tawing,²³ no Islamic descriptions seem to have survived of the methods of the production of parchment. However, examination of surviving parchment book leaves indicates that the skins were prepared by methods similar to those documented in mediaeval Europe.²⁴

Goat and sheep skins were the usual materials of the early Islamic parchments but skins of wild animals such as the gazelle were also used. The quality of some of these parchments, for example that of a *Qur'ān* of vertical format in Western Kūfic script, copied and illuminated by 'Alī ibn Aḥmad al-Warrāq for the Ḥāḍinah (the nurse) of the Zirid Amir al-Mu'izz ibn Bādīs (the father of the author of the bookmaking manual) in 410 A.H./1020 A.D. and now in the National Institute of Archaeology and Art, Tunis,²⁵ is exceptionally high, being very supple with a wonderful velvety white colour. As in luxury documents and manuscripts emanating from the Byzantine court, parchments were sometimes dyed a deep blue

and written in gold ink. Of particular beauty are the *Qurʾān* which al-Maʾmun (813–817 A.D.) presented to the chief mosque of Meshed and an almost complete *Qurʾān* copied probably in the early 4th. century A.H./10th. century A.D. in Kairouan.²⁶

Paper

While cataloguing the Arabic manuscripts in the library of the Escorial in Spain, a Spanish orientalist Miguel Casiri (1710–1791) came across an account, in an Arabic text dated 1482 A.D. based on the writings of various early authors, which he published in his *Bibliotheca Arabico-Hispana Excursiva* (Madrid, 1760–70),

*In the city of Samarqand a very fine paper is used, that is found nowhere else except amongst the Chinese. The Arabs, after their conquest of that city (in 704 A.D.) introduced amongst themselves the methods of its manufacture.*²⁷

While this date of the siege and capture may not be correct (it may have been 712 A.D.) and according to other Islamic historians, including the author of *The Kingdoms and their Routes*, papermaking was not introduced to Samarqand until after the battle of Thalās (751 A.D.) when Arab forces captured Chinese with papermaking knowledge, the place and the general time period have become conventionally accepted for the introduction of this manufacture into the Islamic world.²⁸

Paper was known, however, in other areas of the Arab world prior to this time. Its first mention by Arab writers is in 30 A.H./650 A.D. The first in Islam to use paper was reputedly the Caliph Omar in Mecca.²⁹ An import trade in paper is also indicated by the mention of a paper market in Baghdad in 830–832 A.D.³⁰ Samarqand seems to have enjoyed either a monopoly or an overwhelming predominance in papermaking for some time, although its manufacture did spread to Khorasan. These papers, as well as fine quality Chinese papers, maintained a high reputation for many centuries.

The renowned 10th./11th. century A.D. calligrapher, Ibn al-Bawwāb, master of the Nashkī script, setting out to restore the missing section of a manuscript in the hand of Ibn Muglah writes,

I went to the library and searched among the old paper for a paper resembling that of the Qurʾān. There were several sorts of old Samarqand and China paper in the library; very fine and admirable papers. I took what suited me and wrote out the missing juzʾ

Part of his reward for this work was cut sheets of Chinese paper.³¹ The Safavid treatise on calligraphers and painters by Qādī Aḥmad, written c. 1015 A.H./1606 A.D., quotes a poem by the calligrapher Maulānā Sulṭān-ʿAlī:³²

On Paper
There is no paper better than Chinese (khiṭāʾī)
However much you may try.
Saffron, henna, and a few drops
Of ink are (the means of the test?).
Until then, do not approve.
How good is the Samarqand paper!
Do not reject it if you are wise.
Writing upon it comes out clearly and well,
But the paper should be clean and white.

The new writing material soon gained prestige and popularity and quite rapidly became preferred to papyrus and parchment, as indicated by the report that the Tāhirid governor of Baghdad, finding himself short of paper

during the wars of Musta'in and Mu'tazz (248–255 A.H./862–869 A.D.), instructed his secretary to write in a small hand and to be brief, since papyrus was not desirable.³³ Apart from the early 9th. century A.D. mention of the paper market in Baghdad, the use of paper in that city is indicated between the years 754 and 775 A.D. and was being manufactured there by 794–795 A.D. At the end of the 8th. century A.D. Harūn al-Raschīd and his Barmakid viziers, the brothers Faḍl and Ja'far, promoted the industry and paper was used in the state chancellery.³⁴ That it had already gained considerable status is indicated by recommendations to the public to use it even for the copying of the *Qur'ān*.³⁵

In the 9th. century A.D. paper-mills were established in other centres: Tihama and San'a in the south west of the Arabian peninsula and at Cairo. By the end of the 10th. century Egypt was well-known for its paper.³⁶ A Persian traveller, Naṣir-i-Khusrau, in the first half of the 11th. century A.D. was amazed to find the merchants of Cairo wrapping their goods in paper.³⁷ There was even a street whose name indicates that it was a location for dealing in old papers.³⁸ Papermaking is reported in Tripoli, Hama and Damascus in Syria. This latter city became an important place of exportation of paper to Europe and gave its name to oriental papers in use there.

Papermaking spread along the North African littoral and by the second half of the 10th century A.D. was found in Tunis, Tlemcen, Ceuta and Fez.³⁹

As well as the reference in written sources to papermaking in the second and third centuries Hegira, a number of early papers have survived. The oldest paper from a codex to which a date can reasonably be attributed is a bifolio of the *Alf Lailah* or *Thousand Nights*. This sheet, now in the Oriental Institute, Chicago, (*OI 17618*; *Catalogue no. 98*) was later used as waste paper by a professional legal witness to try out a number of times with his pen the formula phrases used to witness legal documents. He gives his name, place and date (266 A.H.). As a reasonable time must have elapsed for the original codex to become discarded as waste, this paper is considered to predate that of the copy of the *Gharīb al-Ḥadīth*, dated 252 A.H./866 A.D., in Leiden. The only other dated paper codex of the third century A.H. is a copy of the *Masā'il* of Ibn Ḥanbal copied in 266 A.H./879 A.D. and now in the Zāhirīyah Library, Damascus.⁴⁰

By the 10th. century A.D., the Muslims in Spain were using paper for accounts and correspondence but it is not until 1056 A.D. that we have the first secure evidence for a paper-mill. In that year it is recorded that Abu Masafa or Abu-Mescufā owned a paper-mill near Xativa where 20 workmen were employed. His son Matumīn established another paper-mill at Ruzafa in 1094 A.D. while another has been mentioned in Toledo in 1085 A.D.⁴¹

Xativa remained Islamic territory until 1238 A.D. Its paper acquired great renown. Al-Idrīsī, the geographer, wrote c. 1150 A.D. that *magnificent paper is made such as can be found in no other place, and is exported to East and West*. Ibn al-Wardī stated that in Xativa *an excellent and incomparable paper is manufactured*, an opinion supported by another mediaeval writer, Qasim al-Sinhaji in his *Chronology of the Moorish Kings of Cordoba*, that *the finest and whitest paper in the world is made at Xativa*.⁴² After the Christian reconquest of Valencia in 1238 and Xativa in 1248 the Moslem and Jewish papermakers continued their craft, still producing the classic Arabic paper until well into the second half of the 14th. century

although substantial taxes were imposed.⁴³ The earliest surviving example of this paper is in the Mozarabic Breviary and Missal of the Library of Santo Domingo de Silos and possibly dates to the second half of the 10th. century A.D.⁴⁴

The eleventh chapter of the *Staff of the Scribes and Implements of the Discerning*, the 11th. century A.D. treatise by Ibn Bādīs, begins with a description of the manufacture of paper,⁴⁵

The best white flax is purified from its reed. It is moistened and combed until it softens. Then it is soaked in quicklime a night until morning. It is then rubbed with the hands and spread out in the sun until all of it dries in the daylight. It is then returned to water of quicklime, not the first water. It is so the next night until morning. It is then rubbed a night as in the first rubbing and spread out in the sun. This is done so three or five or seven days. If the water of quicklime is changed twice a day, then it is better.

If its whiteness is brought out, then cut it with the scissors little by little. It is then immersed in sweet water for seven days. The water is changed every day. When the quicklime has gone out from it, then it is pounded in a mortar very finely while it is moist. Then, nothing will be left of the lumps. Other water is put on it in a clean vessel. It is dissolved until it reaches a silky viscosity. Then it is introduced into the moulds in the desired size. These are made from the straw used for baskets, nails, and the walls are collapsible. Under it is an empty rib. The flax is beaten with the hand vigorously until it is mixed. Then it is thrown with the hand flat in the mould so that it will not be thick in one place and thin in another. When it is evened, then its water dries away. It is found proper in its mould. When the desired is attained, it is adjusted on a flat tablet. Then it is bound to a wall and straightened with the hand. It is left until it is dry. It separates and falls off.

Linen and hemp are the traditional fibres of Islamic papermaking, the linen usually coming to the mill in the form of old rags and the hemp as ropes or cordage. Each fibre type might be used exclusively as a raw material or they might be mixed together. Raschīd al-Dīn informs us that in the time of Harūn al-Raschīd the paper used was made from old ropes used in shipping.⁴⁶ As for linen fibres, there are some indications, as in Ibn Bādīs' description above, that the paper pulp was prepared from virgin flax fibres and there are a number of references by Islamic writers which are ambiguous in that they merely state that linen was used. But there is a large body of evidence, both in the written sources and in the papers themselves, that rags were the preferred fibre source as they continued to be in European hand papermaking.⁴⁷

After the fibres have undergone washing, alkaline and other treatments to remove unwanted impurities and to reduce them to a workable state mechanically or by fermentation, they are beaten in order to produce the pulp or stock from which the paper is actually made. The description of Ibn Bādīs may refer to the most elementary beating apparatus, the pestle and mortar, which is still used in papermaking in some parts of East Asia. In the early centuries of Islam more efficient forms of beating machinery such as the human-operated trip hammer, as found until this century in India, China and Indo-China, and various forms of water powered wheels which operated beating hammers, must have been introduced.⁴⁸ Such equipment derives from that used in the milling of foodstuffs of which we have descriptions by various mediaeval Islamic authors. A painting from a Kashmiri manuscript in the India Office Library and Records, written c. 1850–1860 A.D., illustrating traditional crafts and trades and their tools, shows the basic equipment of the Kashmiri Islamic papermaker including a water-powered undershot stamping mill.⁴⁹ (Colour Plate A)

The papermaker is shown sitting at the vat, as is still done today in India,⁵⁰ holding the papermaking mould. This is placed in the suspension of pulp in water which the vat contains and withdrawn horizontally, leaving an even deposit of paper fibres on the screen of the mould, through which the water drains back into the vat. The type of mould depicted here has a long history in oriental papermaking⁵¹ and probably reflects little change from the Chinese moulds used in the period when papermaking was introduced into the Islamic world. It consists of three main parts and may be the kind described by Ibn Bādīs: (1) the rectangular mould frame defined by three pieces of wood morticed at the corners, with a number of wooden crossbars or ribs; this structure supports (2) the mould cover, or papermaking screen, which is made of closely juxtaposed lengths of grass or reeds laced together by lines of stitching at intervals; during the paperforming operation the mould cover is held onto the supporting mould frame by (3) two deckle sticks which can be clearly seen in the Kashmiri painting. The parallel rows of grass or reeds (laidwires) and the horsehair lacings tying them together (chainwires) leave mouldmarks in the paper sheets (those of the former are termed *laidlines* and the latter *chainlines*) which are characteristic of the type of mould used and assist in its identification even though the moulds themselves have not survived.

This type of oriental mould cover is flexible in one axis (parallel to the laid-wires) and can be rolled. When the mould is taken from the vat the mould cover is lifted off and the paper transferred to a flat surface by turning the mould cover upside down and rolling it back so that the sheet of newly-made, wet paper is left on the surface. The paper could then be placed still damp against a flat surface such as a wall (as in Ibn Bādīs) or board so that it would dry flat and evenly.⁵² Alternatively a stack (or post) of freshly-made sheets could be pressed to remove excess moisture, and hung on a line to dry. Whatever the drying method, the sheets were finally stacked and placed between boards under a weight so that they would be as even as possible.

The chainlines of Islamic papers produced in the Near and Middle East have characteristic groupings in which two, three or four sets of chainlines are placed fairly close together, each set separated by a gap approximately three times larger than the distances separating the sets within each group.⁵³ Some Indian Islamic papers also show groupings of double sets of chainlines. In Spain by the 12th. century A.D. a new type of mould was being used,⁵⁴ the precursor of that used in European papermaking, in which the mould cover or screen was permanently fixed to the mould frame and was made of metal wires (initially it seems of iron). These early Spanish fixed moulds lacked sufficient supporting struts or ribs so that the screen sagged with the weight and hydraulic pressure of water and pulp during paper forming, producing distorted mouldmarks at the centre of the sheet. Spanish moulds also sometimes had double laidwires leaving distinctive mouldmarks.

Laid moulds were not the only category used in Islamic papermaking. There are substantial numbers of Islamic papers which reveal no clearly differentiated laid- or chainlines and would appear to have been made on some sort of wove mould, of which we have no surviving examples, but whose mould cover may have resembled those of Japanese moulds used today in which the laid screen is covered with a woven textile (in this case of lacquered silk to waterproof it).⁵⁵

There is as yet no evidence that figurative or epigraphical watermarks were used in traditional Islamic papermaking, the flexing action of the screen probably inhibiting the durable attachment of such a marking device (of wire or cord sewn onto the rigid wires of the mould in the European tradition).⁵⁶ That Egyptian papers were stamped with identifying marks, however, is indicated by an historical note in al-Baihaqī's *Kitāb al-maḥāsin wa'l-masāwī* attributing to 'Abd al-Malik, who lived during the reign of the Caliph al-Muqtadir bi'llāh, the change of the *tirāz* system from Greek to Arabic.⁵⁷

Many Spanish papers of the Valencia, Catalonia regions of the 12th. to mid-14th. centuries A.D. have characteristic marks which, however, are not true watermarks.⁵⁸ In these a mark, in the form of an extended zigzag or series of overlapping diagonal crosses, has been drawn with a brush or a pointed implement while the newly-made paper was still moist. The significance of these marks is obscure but they may imitate the knife marks sometimes used by mediaeval parchment makers, and still used by Moroccan tanners today, to indicate the skins worked by individual craftsmen.⁵⁹ The oldest of the zigzag papers are contained in the codex of Sibawaihi's *Gramātica* written in Spain in 558 A.H./c.1160 A.D. (Bibliothèque Nationale MS. Arabe 6499). The paper sheets of this manuscript alternate with parchment ones, which are also marked with zigzags.⁶⁰ Papers marked in this fashion are found used in Fez, Tunis, Tlemcen and Ceuta and indicate the close trade connections between Valencia/Catalonia and the Maghrib.⁶¹

The size of the papermaking mould, of course, dictates the size of the sheet of paper produced. Islamic authors give us a number of indications of the range of types used in certain regions and their sizes. There seems to have been a preference in luxury items for a large format heavy paper, a preference which was prompted at times by ulterior motives. Ibn Abī Uṣaibi (1203–1270 A.D.) saw a book of the 9th. century in the writing of al-Azraq, the scribe of Ḥunain ibn Ishāq (the translator of numerous Greek works into Syriac and Arabic). The book was extremely heavy due to its thick and large sheets of paper, each weighing the equivalent of three or four ordinary sheets and measuring one-third of a *Baghdādī* in size. Their works literally commanded their weight in silver *dirhams* and so they had especially commissioned the heavier paper to increase the weight of the book. The text was written in large Kūfic letters, with lines far apart to stretch the work out yet more.⁶²

Al-Jauhari,⁶³ at the end of the 10th. and the beginning of the 11th. century A.D., describes the best paper of his time as pure white, full-size, smooth, symmetrical of edges, and of a quality that will last a long time. As to the varieties of paper seen in his time, he describes the *Baghdādī* as a heavy paper yet pliable, smooth-surfaced and symmetrical. This large paper was not used full-sized as a rule except for *Qur'āns* and perhaps by the secretaries of the chancery for treaties and the decrees of the Sultanate. Next to the *Baghdādī* in classification, he places two varieties of the *Shamī*, or Syrian paper. One known as the *Ḥamawī* was inferior in cut to the *Baghdādī* while the other variety was inferior in strength. Next in order is the *Miṣrī*, or Egyptian, type of paper and it is inferior to both of the *Shamī* varieties. The *Miṣrī* also has two varieties, the *Manṣūrī* and the ordinary kind. The *Manṣūrī* is the larger and its surface is entirely burnished while those of the ordinary kind are not. Other papers than these are classified according to their length and breadth.

Among these is described a variety known as the *Fawwī*,⁶⁴ small of size, rough, and not used in writing but for wrapping sweets and drugs.

In listing the brands and sizes of papers, Qalqashandī tells us that measurements in the old days depended on the papyrus *tūmār* طومار, or scroll, which they divided according to the rank or profession of the user into two-thirds, halves, thirds, fourths, and sixths, and that in his time the *tūmār* was replaced by the *farkhah* فَرْخَة, or sheet, *kāmāl* كَامَال, or full-size, with the proportions of the *Baghdādī* as the standard.⁶⁵

He gives nine types in use: beginning with: (1) the standard, the full-size *Baghdādī* one cubit (the linen cubit of Egypt) in width, by one-and-one-half cubits in length (1099mm × 733mm); (2) the diminished *Baghdādī* (977mm × 651mm), of the *Miṣrī* or Egyptian type paper; (3) the two-thirds of the full-size *Manṣūrī* (488mm × 325mm); (4) the half-*Manṣūrī*⁶⁶ (366mm × 244mm); (5) the one-third *Manṣūrī* (244mm × 162mm); (6) the familiar (so-called) *Manṣūrī*, really one-fourth *Manṣūrī* (213mm × 142mm);⁶⁷ (7) the ordinary paper (183mm × 122mm); and of the *Shamī* or Syrian-type paper; (8) the full-size *Shamī*; and (9) the smallest size called *waraq al-ṭair*, or bird-paper (91mm × 61mm), which was extremely thin and used for writing dispatches to be sent by pigeon post.⁶⁸

Irigoin has carried out an investigation of Islamic papers, probably of Syrian⁶⁹ origin, utilised in Byzantine manuscripts from the middle of the 11th. century A.D. These were found to conform to three principle formats, averaging after trimming during bookbinding: 380mm × 260mm; 520mm × 380mm; and 750mm × 520mm. Measurement of Byzantine archival documents, whose edges have been less trimmed than those of codices, indicates that the original dimensions of the intermediate size are approximately 580mm × 420mm and he suggests for the smaller and larger formats original sizes of 420mm × 290mm and 840mm × 580mm respectively, none of which conforms to the theoretical reconstructions of sizes by Karabacek.

These formats are interrelated so that the width of one format is equal to the height of the format immediately smaller than it and is half the height of the format immediately larger. This system enables the simultaneous use of different formats by appropriate folding of the sheets.

It would appear from the above that there was indeed a degree of standardisation of terminology and format in the papers produced in the Near and Middle East. However, the situation seems to be very different in the papers of the only other area of the Islamic papermaking tradition of which we have detailed information. As Oriol Valls i Subirà states,

*Another highly complex aspect of the history of Catalan papers is that of paper sizes. Anarchy has always reigned in this department . . . Every papermaker made, and always has made, 'his' paper in accordance with his own—or his customer's wishes, and the most anarchic craft in all Spain must surely have been that of paper manufacture. Nor did the papermakers ever combine into fraternities, guilds, or societies.*⁷⁰

Foolscap was the format of paper exclusively used in Catalan archives, but even within this single format more than thirty sizes have been recorded. The most commonly encountered are 460/470mm × 280/290mm; 430/450mm × 250/270mm; 400/415mm × 290/300mm, and 440mm × 305mm, from which measurements it seems that an average vertical measurement of 290mm for the leaf after a single folding was the aim.⁷¹ The smallest sheet recorded (360mm × 270mm) is dated 1238 A.D. and the largest (500mm × 320mm) is dated 1230 A.D.⁷²

These sizes are reported to be typical for Catalonia but bear no relation to those recorded for the Near East nor to the Italian paper sizes listed by Briquet. Another twist to the problem of standard sizes was caused by the “Saracen papermakers of Xativa” in the first half of the 14th century A.D., by then under Christian domination, who are chastised by King Alfonso IV in 1331 A.D. and King Peter IV in 1338 A.D. and 1341 A.D. for fraudulently reducing the size of the sheet and threatening them with punishment, seemingly to no avail.⁷³

A text written at the end of the 16th. century A.D., the *Manāqib-i Hünervārān*, by Muṣṭafā ‘Alī lists the papers used during this later period, (1) *Daulatābādī* (from Daulatābād, India); (2) *Khata’ī* (from Kathay or North China); (3) *‘Adishāhī* (from Adisha); (4) *Harīrī* (paper from Samarqand); (5) *Sultānī* (from Samarqand); (6) *Hindī* (Indian); (7) *Nizāmshāhī* (from Nizamshah); (8) *Qāsimbegī* (from Qāsim Beg); (9) *Harīrī* (an Indian paper which cracked in course of time); (10) *Gamī* (from Tabriz, the colour of moist sugar—the making of this paper was a speciality of this city). He adds that,

*The most ordinary paper is produced at the mills at Damascus, the value of which is slight and well known. Also, “The ḥabashī (Abyssinian) and dimashqī (Damascus) papers are worthless; no paper should be employed that is inferior in quality to that of Samarqand.”*⁷⁴

As mentioned above, there was a flourishing trade exporting Islamic papers to the Byzantine Empire and other areas of Christian Europe from the 11th. century A.D. onwards and it was from Islam that the techniques of papermaking were ultimately transmitted. However, by the 14th. century A.D., as the new European industry established itself, the direction of the papermaking trade began to reverse. By the 15th. century A.D. Italy was the main source of paper for Greek manuscripts.⁷⁵ Already by the mid-14th. century A.D. the Arab chancelleries of North Africa were using some European papers⁷⁶ and the famous papermaking centres of Egypt and Syria were beginning to feel the effects of the competition, though it was centuries before papermaking really diminished in the central Islamic world.

Valls i Subirà records an Islamic document, dated 1360 A.D., whose paper appears to be Italian, possibly from Fabriano, but possesses a watermark *and* a zigzag, the latter marking being most unusual in Italian papers and must have been specially included for the Maghribi or Catalan market.⁷⁷ European paper was much used in books produced in the Ottoman court in the second half of the 15th. century A.D. and it is recorded that the Anatolian Turcoman Emir Dhū’l-Qadr Oghlu Shehsuwār of Elbistān in the year 873 A.H./1468 A.D. composed a letter *scritta su carta franca, cosparsa di polvere d’oro, con scritto sopra huwa*.⁷⁸ The European papermakers, although by now using the advanced rigid mould and sizing with gelatine instead of starch, were concerned that they provide their various Islamic markets with the type of product to which they were accustomed. Venice supplied papers to Turkey which derived from the North Italian papermaking hinterland, from centres such as Saló sul Garda, Bergamo, Vicenza, Padova, Friuli (and also for a time from Fabriano) many of which were provided with watermarks with significance for the Ottomans and their other Muslim customers.⁷⁹ Popular elements were the crescent, the star, and a crown. The three crescents watermark (known in Venice as *Trelune*) was especially common in export papers of the 17th. and 18th. centuries A.D.; these often have Venetian coun-

terminals.⁸⁰ During this period Italian papers are even found in *Qurʾāns* produced on the East African coast.⁸¹ Venice also exported papers to Syria, Egypt and North Africa.

France also from the 15th. century A.D. onwards exported papers to the Islamic world. Her papermakers also saw that papers were water-marked to suit the tastes of their clients. Syria appears to have been a particularly important customer, imports being mentioned in 1775 A.D.⁸² That the French as well as the Italians were exporting paper to Istanbul in the first half of the 18th. century A.D. is indicated by their use in the first Turkish printed books from the workshop of Ibrahim Mutaferrika.

Although papermaking is recorded in Tabriz in Western Persia in the 13th. century A.D. and it is recorded that paper was traded in Armenian Ani in Eastern Anatolia during the time of the Bagratids⁸³—so that it is possible that paper may have been manufactured in the older Islamicised areas of Asia Minor—Ottoman Turkey does not seem to have had a paper-mill until the mid-18th. century A.D. This was established at Kiaghīd-khāneh near Istanbul, in which area paper had been made in the late Byzantine period. The mill is reported by the French traveller Castellan to have been established by the Venetians; it is recorded as being in existence in the time of Mahmud I (1730–1754 A.D.). Other mills were set up, probably also with the assistance of foreign papermaking experts (the renegade Englishman Selīm Aghā (c. 1805) is reported to have advised at the Khunkiār iskelesi mill), at Yalova (Yaloq-ābā) (1159 A.H./1746 A.D.), under Selim III (1789–1807 A.D.) at Istanbul and at Beikos or Khunkiār iskelesi. These, however, did not have much success. Charles White, an Englishman who stayed for three years in Istanbul, noted in 1840 that these mills faced difficulty in the face of less costly imports of paper from Italy,⁸⁴ France, Germany and England and Walsh, in 1838, noted the neglect of the industry after Selim.⁸⁵

It should be noted that by the 18th. and 19th. centuries A.D. some, at least, of the papers produced by local mills were destined for the printing industry which required different paper characteristics (low degree of sizing, compressibility, etc.) from those for traditional Islamic calligraphic techniques. But the manuscript tradition flourished far longer in the Islamic world than it did in the West and paradoxically, while the European paper industry had swamped that of its Islamic antecedents for centuries, this ability to fulfil the requirements of its customers may have helped the hand papermakers of regions like the Veneto to survive longer than they might otherwise into the era of machine papermaking. For instance, as late as 1870 three-quarters of the hand-made paper production of the province of Treviso was exported to the Levant via Venice and Trieste.⁸⁶

Paper Dyeing

Islamic calligraphers and the users of their works showed a particular love for coloured papers and many beautiful examples have survived. As in the *Qurʾān*, Oriental Institute A12029D (Colour Plate E), a book might be made up of gatherings dyed different colours. Such appreciation is well expressed by Sulṭān-ʿAlī:⁸⁷

*The colour of paper best for writing
There is no better colour than that of Chinese (khitāʾī) paper
There is no need for you to test:
Writing on it is good, it is also good for gold,
It is excellent and it embellishes good writing.*

*For writing slightly tinted (nīm-rang) paper is suitable,
That it should be restful to the eye.
The red, green, and white colours
Strike the eye, like looking at the sun.
Darkish colours suit coloured writing.*

In Ibn Bādīs' twelfth chapter, *On the Art of Binding Books in Leather and the Use of All its Tools until it is finished by the Bookbinder*, there is a section beginning, *Description of dyeing leather and paper*, whose first recipe indicates that it was definitely for use on paper, although the following sections either mention just leather or no specific material at all. This recipe instructs,

The red in dyeing is of many types. In one, the best possible sapanwood is taken. There are two types; one is the "little" and the other is the "princely". An ounce is taken of the powder. It is immersed in water a night or a day. It is then put into a copper pot, a clean utensil. On it is poured ten raṭls of the best powdered, sieved wild galī. It is then boiled on a good fire until half the water is lost. The essential of the process is that a rod is left in it. Drip it on your thumb. If it remains and does not drip, then it is successful. It is taken down and purified. If desired, this may be repeated on that type which is sold. The first is the better of the two. It is left until it cools. Then dye with it. For dyeing, paper is put in the solution with care and then spread in the shade. . . .⁸⁸

Amongst the three recipes Ibn Bādīs gives for the sizing of paper (see below *Paper Sizing and Burnishing*) the third includes the addition of saffron to tone the paper. Of special interest is one of the dyes and dyeing processes described in some detail in both his sixth chapter and in the section on "dyeing leather and paper", which may be the process illustrated in the marginal paintings of a leaf of the Jahāngīr Album in the Prussian State Library, West Berlin⁸⁹ (Colour Plates C & D) where a red dye is shown being filtered in one painting and being used to dye paper in an adjacent one. The relevant section in the sixth chapter reads,

Another colour is the gleaming red ruby. Three raṭls⁹⁰ of carthamus are pulverized a day in the sun. It is then pulverized and sieved with a sieve which is larger than the flour sieve and smaller than the regular sieve. Then it is hung in a cloth above a wide filter on a support used by the dyers. While it is hanging, about sixty raṭls of water are poured over it. Let it drip into a basin so that not a drop of water remains in it. Then that water with which it is washed is poured over it. The carthamus in its cloth is then taken. For it, ten dirhams of black alum of the dyers are pounded. It is sprinkled over it more than once while it is being rubbed well with the hands. This is done each time until the palms are dyed with its redness. It is then hung again and twenty raṭls of pure water poured on it. It is allowed to drip until not a bit of water remains. What has dripped is the essence of the needed carthamus. With it are mixed a raṭl of wine vinegar and some water of gum. It is used the same day. Its colour comes out well. Nothing else mixes with it. It can be applied to gold, silver, and tin. It comes out well. When used on paper or parchment, it comes out a wonderful red colour.⁹¹

In Islamic Spain coloured papers were popular under the Nasrids, who reigned in Granada from the mid-13th. century to the end of the 15th. century A.D., and are termed *Nasri* papers. They vary in colour from red or vermilion to purple or pale pink.⁹²

Coloured papers had not only an aesthetic appeal but certain colours also had a symbolic significance. Blue was considered to be the colour of mourning and in Syria and Egypt orders giving the death sentence to criminals were written on blue paper. Red was considered the colour of festivity and joy and light-red and rose-tinted papers were especially popular for this reason. A full red colour, however, was considered a prerogative in official correspondence of persons of high rank or on whom

special favours were bestowed. Red also symbolized humanity and was thus used when presenting petitions for justice.⁹³

Paper Sizing and Burnishing

It was customary for Islamic writing papers to be given a highly burnished surface. European traditional hand-made papers were gelatine sized, but Islamic papers, after they were formed and dried flat, were sized with a vegetable starch or gum in order that a suitable non-absorbent surface could be made by burnishing. The paper could either be tub-sized or the size could be spread over the sheet in paste or powder form. Either process helped to fill the pores of the paper and, with the burnishing, made it appear whiter. As early documents reveal, paper initially imitated the appearance of parchment, but there was also a practical aspect to the sizing and burnishing—inks which had been developed for use on parchment surfaces and for which pen types and calligraphic styles had evolved required the compact, smooth surface of the parchment skin as prepared for writing. In the transitional period before paper became the dominant writing material scribes and calligraphers would have to use both materials (as well as papyrus in the Near East) in the course of their work. Individual codices were sometimes made up of both paper and parchment gatherings, as in the case of the 12th. century A.D. codex of Sibawaihi's *Gramática* mentioned above, and quite frequently in 12th.–14th. century A.D. Byzantine manuscripts.

A number of Islamic descriptions describe the techniques and materials involved in creating the polished surface. Qādī Aḥmad quotes a poem by Maulānā Sulṭān-ʿAlī:⁹⁴

On āhār paste
 Prepare the āhār paste from starch,
 Learn these words from an old man (repeating) ancient words.
 First make a paste, then pour in water,
 Then boil this for a moment on a hot fire;
 Then add to this starch some glue (liʿāb-i sirish)
 Strain (so that it is) neither too thin nor too thick,
 Spread it on paper and see
 That the paper should not move from its place;
 When you are applying āhār to your paper
 Moisten the paper slightly with water, carefully.

Ibn Bādīs after describing papermaking gives a group of recipes for preparing paper for burnishing,⁹⁵

One may take a powder, shining white, pure chalk and starch in equal quantities. The powder and the starch are macerated in cold water until there is no lumpiness. It is heated to the boiling point. When it boils, it is filtered on that powder. It is stirred until it settles and it becomes a sheet. Then the sheet is drawn back and glazed with the hand, then put on a reed. When all the sheet is glazed, the sheet is dry. It is glazed from the other side, then returned to a flat tablet. Water is sprinkled on it lightly. It is then gathered and stacked. It is polished as one with a cloth. Write on it.

Description of soaking of the paper. A very white kind of rice is cooked vigorously in a pot or in a glazed pan. There is no fat in the pot. It is washed, then the water of the rice is filtered in a sieve or it is drawn through a clean cloth. It is then spread out on a clean cloth. It is so until it is dry. Some people cook the husks and take the water with which it was soaked. Some people wet tragacanth or soak it with starch. This is after it is boiled with water and soaked as described.

Description of beautifying the paper that has been tested. In a copper pot, ten ratls of sweet water and good clean starch are cooked on the fire. It is boiled more than once until the water is diminished by two fingers or more. Then there

is added a little saffron in a quantity to strengthen its colour or purity. The solution is poured into a wide basin. The sheet is immersed in it lightly with care so that it is not torn. It is spread with a thin flax string in the shade. One must be careful that it is not reached by the sun else it will be spoiled. It is examined every hour with a turning over so that it will not stick. When dry, it is polished with glass burnishers on a board.

Another description of it. Old straw is moistened in water for three days. It is then boiled until a third of the water is lost. Starch, in the mentioned weight of the first description, is thrown into it. It comes out improved for pen colouring and drawing.

In many Islamic manuscript paintings which include a scribe or scribes at work in the composition, a figure is shown kneeling down and burnishing a sheet of paper on a wooden board, an action described by Sulṭān-ʿAlī:⁹⁶

*On polishing paper
The paper must be polished so
That no creases appear in it.
The board for polishing should be wiped clean
With a strong hand, but neither hard, nor softly.*

The burnishing implement appears to vary from region to region. Mo-ghul depictions of bookmaking craftsmen in the beautifully painted margins of two pages of the Jahāngīr Album (one in the Freer Gallery of Art, Washington⁹⁷ (Fig. 1) and the other in the Prussian State Library, West Berlin) of approximately the same period as the poems by Sulṭān-ʿAlī, include paper burnishing done with a pestle-like tool with broad rounded base on a wooden board. This type, often with a very stubby handle, is



Fig. 1. A craftsman burnishing a sheet of paper on a wooden board. A marginal painting from a leaf of the Jahāngīr Album, c. 1600–1610 A.D. Freer Gallery of Art, Smithsonian Institution, Washington, D.C., 54.116.

the most commonly observed in Islamic manuscript paintings but other tools were also used. In Turkey large oval glass balls were used, a group of which is preserved in the Topkapu Saray Museum, Istanbul (Fig. 2). In Istanbul to the present day paper marblers and calligraphers also use another type consisting of a bar of wood which holds a rectangular piece of hard polished stone (such as agate) with rounded edges.⁹⁸ Burnishing tools were mentioned by the traveller Olearius,

*They make their paper of old rags, as we do, which for the most part are of Cotton and Silk, and that it may not be hairy or uneven, they make it smooth with a Polishing-stone, or sometimes with an Oyster or mussel-shell.*⁹⁹

This sizing and burnishing was carried out either by the papermaker or paper dealer and very frequently by the scribe or calligrapher himself. The 17th. century A.D. traveller Evliya Celebi mentions the paper merchants of Istanbul who . . . *adorn their shops with Persian and Venetian paper . . . ; they pass (the time) smoothing and glazing paper in their shops.*¹⁰⁰ As part of the successful export trade of papers to the Anatolia and the Levant, Venice supplied paper which was already burnished. Notwithstanding, the Turks themselves acquired a great reputation for the burnishing of paper and elsewhere in the Levant it is recorded that imported European paper was reburnished before use.¹⁰¹

Decorated Papers

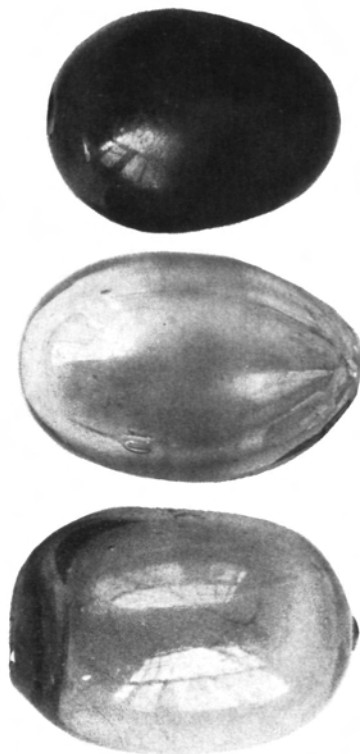


Fig. 2. Ottoman glass balls for burnishing paper. Topkapu Saray Museum, Istanbul.

Decorated papers became popular from the 16th. century A.D. onwards for the margins or leaves of books, particularly for calligraphy or painting albums. These might be individually painted or speckled with gold, silver and other colours or marbled. Such sprinkled or marbled papers became used for endleaves, pastedowns and doublures especially in Ottoman and Persian productions. Marbled papers were also used to cover the outside of bookbindings.

Marbled papers are known from Persian manuscripts of the early 16th. century A.D. and had been introduced into Europe by the end of that century.¹⁰² Turkey became famous for this art where it survives to the present day in its traditional forms. Sir Francis Bacon wrote of the process in his *Sylva Sylvarum*, London 1629

The Turks have a pretty art of chamoletting of paper which is not with us in use. They take divers oyled colors and put them severally in drops upon the water and stir the water lightly and then wet their paper (being of some thickness) with it and the paper will be waived and veined like chamolet or marble.

Paper was even sent from Europe to Istanbul to be marbled.

Skills in the gold sprinkling and marbling of paper were much praised. Qāḍī Aḥmad wrote of Maulānā Yaḥḥya, a native of Qazvin, *In the restoration of books, tinting of paper, and in abrī (marbling) he is very . . . with regard to the abrī he has good achievements . . .*¹⁰³

and of Abul-Ma'sūm-mīrzā,

*He has good taste in portraiture and artistic design. He spends all his time on art and work: not for a moment does he slacken in this. He is incomparable in painting, carving, restoration of books, gold sprinkling, bookbinding, making pasteboard, engraving seals, carving tables and spoons, dissolving lapis lazuli, and other small artistry. He spent a long time with beardless youths until his hair turned gray . . .*¹⁰⁴

Formation of Gatherings

It is usual, when producing books of codex format, for the sheet or skin of writing material to be larger than the final leaf size. The sheets are

folded in half on their long side, each successive fold being at right angles to the one preceding it.¹⁰⁵ This folding is done one, two, three or four times thus producing two, four, eight or sixteen leaves respectively. Some of the resulting folds in the smaller formats would be at the edges but these would ultimately be trimmed so that the leaves of the book could be opened. By this system of folding and trimming groups of bifolios were produced whose spine folds were inserted into one another. Each grouping of these bifolios is called a gathering, or quire, and can be sewn as a single unit. The gatherings which constitute a volume are sewn together to produce the codex form. The number of leaves in a gathering would usually be 2, 4, 8, 16 caused by the simple folding of the sheets or individual sheets might be added giving 10 or 12 leaves etc. Odd numbers might also occasionally be produced by the tipping on of an extra sheet. Sheets folded in four or eight might also be wrapped around one another to give gatherings of 8, 12 or 16 leaves.

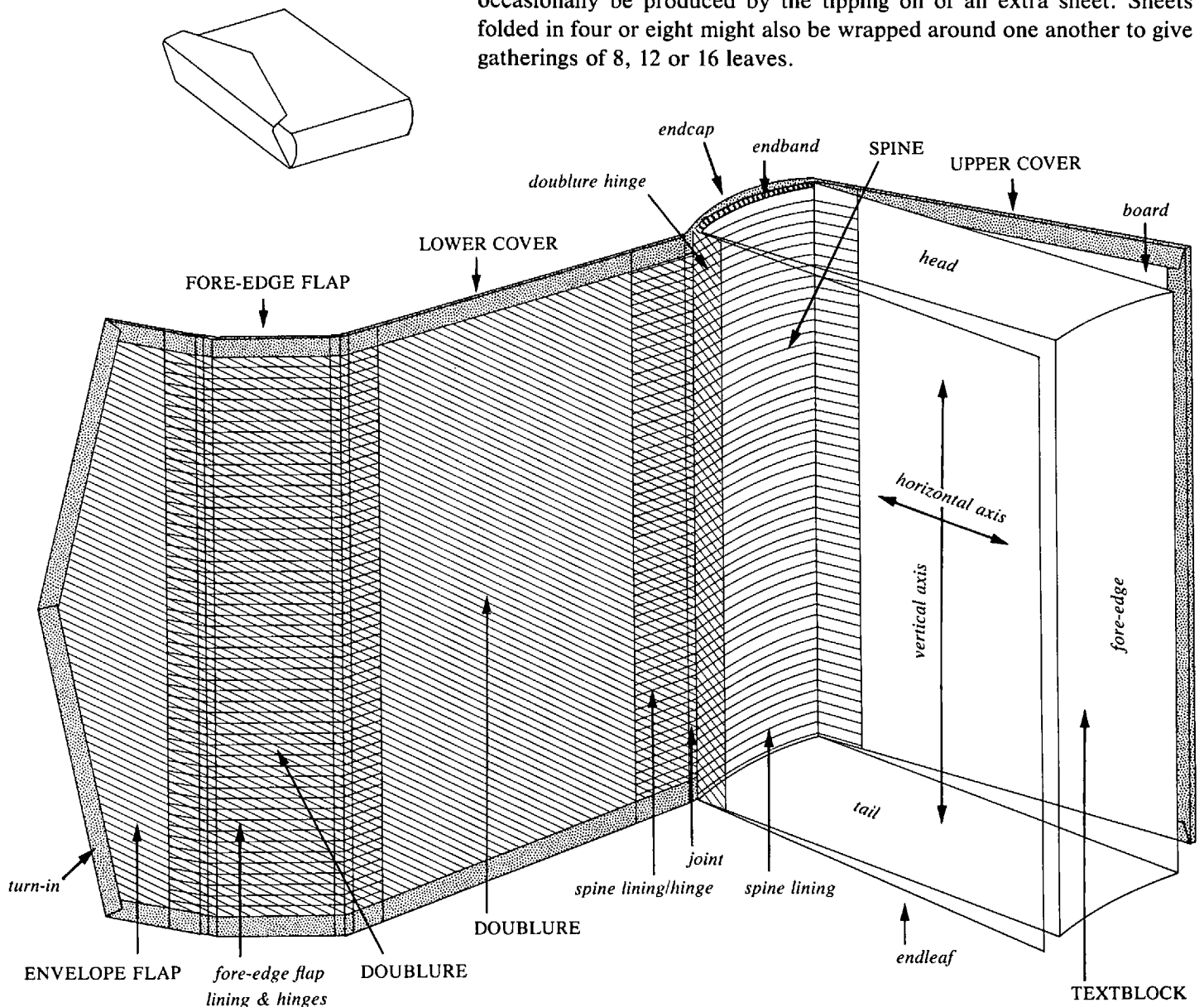


Fig. 3. Diagram giving the terminology for the constituent parts of Islamic books in codex form.



COLOUR PLATE C

The preparation of a red dye. A marginal painting from a leaf of an album made for Jahāngīr (ruled from 1605–1627 A.D.). Staatsbibliothek Preussischer Kulturbesitz, West Berlin, Abb. S.83.



COLOUR PLATE D

A craftsman dyeing a sheet of paper red. A marginal painting, adjacent to that shown in Fig. 3, from a leaf of an album made for Jahāngīr. Staatsbibliothek Preussischer Kulturbesitz, West Berlin, Abb. S.83



COLOUR PLATE E

Undyed and dyed paper gatherings from a Qur'an (folios 225mm × 155mm), Mamluk, 15th century A.D. Oriental Institute A12029D.



COLOUR PLATE F

A 17th/18th century A.D. depiction of a North Indian bookbinder and his tools. India Office Library and Records, London, Add. Or. 1111.

In the case of manuscripts of very large format, as well as in the case of smaller formats when only small sheets were available, which when folded would produce too small a leaf, each leaf may be made up of a full sheet of paper and these made up into bifolios by pasting them together with a strip of paper (or guard) along the spine edge. In the case of parchment manuscripts care might be taken to ensure that in each opening both pages showed either the hair or flesh side of the skin. In codicological studies of Latin, Greek and Hebrew manuscripts, and in bibliographical studies of early printed books, substantial progress has been made in studying these characteristics and in relating them to specific chronologies but much pioneering work still needs to be done in the field of the material and structural analysis of Islamic manuscripts.

Ruling

After the gatherings are formed, indented blind lines could be ruled on the leaves to guide the even spacing of the lines of written text and margins and to create a unity of layout throughout a book. The study of ruling patterns, the implements used both to site the lines (pricking) and to rule, and the sequence in which the ruling was carried out (whether each leaf was ruled separately, whether the ruling was done on the folded gathering, from which side the ruling was done, etc.), may enable their attribution to specific areas or workshops as is being done for Western manuscripts.¹⁰⁶ Whereas in the European and Greek traditions it was usual for points marking the basic layout to be pricked or stabbed in the leaves with a sharp implement and then for the ruling lines to be drawn between these prickings, in Islamic paper manuscripts (and in later Armenian ones) a ruling frame was often used, thus simplifying and speeding up the process. The leaves could be simply pressed over this frame whose wires or strings would leave their impression as guidelines. Qalqashandī mentions a ruling tool *miṣṭarah*.¹⁰⁷

Calligraphy and Inks

As stated at the beginning of this chapter, we will not discuss here the writing, illumination and painting of the Islamic codex textblock. Because of the particular religious significance of writing and the written word in Islam, there exist extensive indigenous commentaries and documentation of calligraphers, and their works as well as their materials, tools and techniques. Ibn Bādīs devotes a large section of his treatise to the manufacture of black and coloured inks.¹⁰⁸

Bookbinding *Bookbinding Tools*

The *bāb fī ṣināʿat al-tajlīd*, or chapter on the craft of bookbinding by Ibn Bādīs, opens with a list of tools necessary in bookbinding. With these as a basis we shall compare the tools mentioned in other sources, especially those of Sufyānī and Qalqashandī. It is a measure of the conservative nature of the Islamic bookbinding craft that most of the tools mentioned by these earlier authors can be seen in the later depictions of paintings in the Jahāngīr Album marginalia (Figs. 5 & 8), the 19th. century Kashmiri manuscript on crafts (India Office Library Add. Or. 1700) (Colour Plate B) and the 17th./18th. century watercolour of a North Indian bookbinder (India Office Library and Records Add. Or. 1111) (Colour Plate F). We have arranged the tools according to their uses. Those for general purposes are:

(1) The *balāṭah* بِلَاطَة or slab: As Islamic bookmaking craftsmen usually did not work at tables, this constitutes the most important working surface. Ibn Bādīs says it should be of good quality black, white, or other colored marble, unmarred of surface, and the width of a single ruler's length in order to be used for the paring and binding processes. Sufyānī designates this slab as *lauḥ al-rukhām* لَوْح الرُّخَام or board of marble.¹⁰⁹ In 20th. century Iran the marble slab is called *sang-e marmar*.¹¹⁰

(2) The two kinds of presses are, according to Ibn Bādīs: the *mīṣarah* مِغْصَرَة, or press tightened by a rope used by the people of Iraq, Egypt, and Khurasan; and the *mīṣarat al-maghāzil* مِغْصَرَة المَغَاذِل or screw-press, used also by the people of Iraq and called "Sulaimān's joiner" by the bookbinders and carpenters and "kuḥlibūn" or "kuḥliyūn" كُحْلِبُون, ¹¹¹ by the Byzantines. This type of press continued to be used in the Islamic world (Colour Plates B & F, Fig. 8) and is used even today in the European tradition. Ibn Bādīs states,

The length of the rope-press should be proportionate to the section of the book¹¹² to be fastened in it. If it were half-Manṣūrī size the press should be longer. The rope press should have fairly thick, perfectly-true boards so that when they are closed they would hold even a piece of paper firmly. The rope should be twisted of new black hair, finer than flax, and it should be sufficiently long to go four times around the press from every side. The stick necessary in tightening the rope should be about the length of a finger, thin, smooth, and tapered. The boards of the press should be grooved or beveled where the rope goes around the edges so the sword may be used along the press and not cut into the rope.

In his first listing of tools Ibn Bādīs follows the *mīṣarah* with the *malāzīm* مَلَاذِيم or presses, vices, but he omits them in his later description of the tools. Jauharī (d. c. 393/1002) describes the *milzamah* مِلْزَمَة, as consisting of two pieces of wood firmly held with iron.¹¹³ Qalqashandī describes the book being bound while the bookblock is in the *milzamah* and the spine projecting.¹¹⁴ Sufyānī employs *takht* فُخْت, as a general name for press.¹¹⁵ He also mentions, as does Ibn Bādīs, the use of simple wooden pressing boards which would be left under a weight.

(3) The *misann* مِسْنَن, or whetstone, according to Ibn Bādīs, *should be level, perfect of surface, neither too soft so that the iron might dig into it, nor too hard so that the sharp iron is blunted by its hardness.*

He says that

the craftsman customarily prepares his own whetstone by aligning, perfecting, and leveling it for his own requirements.¹¹⁶ It should be kept overnight in a grease-pot to allow it to absorb the grease, which is the best thing for it.

Qalqashandī in speaking of the *misann* says, *It is of two kinds—dark grey known as the Rūmī, and green known as Ḥijāzī and Qūṣī. The Rūmī is the better (of the two types); but the Ḥijāzī is the best of the green varieties.*¹¹⁷

(4) The *miqaṣṣ* مِقْصَص, or scissors *should be well balanced and sharp in order to cut the leather and other materials,* according to Ibn Bādīs.

(5) The *saif* سَيْف, or the sword, of Ibn Bādīs' tool list is twenty (probably "finger width" is the measurement unit)¹¹⁸ or less in length, of medium width, and its blade should be well tempered. Its handle should fill the palm. This tool is clearly shown in the Kashmiri manuscript painting (Colour Plate B). Some craftsmen, he says, do not use the sword, because they cannot manipulate or work with it. They work instead with a long-bladed knife.¹¹⁹ This may be one of the tools surrounding the North Indian

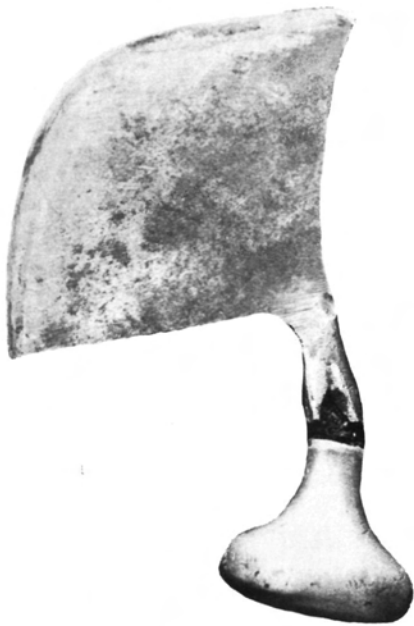


Fig. 4. A bookbinder's paring knife, Istanbul. This illustration shows the bevelled edge of the blade.

binder of the 17th./18th. centuries (Colour Plate F). One of the marginalia in the Freer Jahāngīr Album leaf, however, shows a large file being used instead of a sword or knife (Fig. 8).

(6) The *mīṣṭarat al-rīḥ* مِسْطَرَّة الرِّيح from Ibn Bādīs' descriptions, is the 'folder' with which leather is worked, forcing out the air, stretching, evening, and straightening it. This folder should be very thick, its length a span, and its material of *sindiyan* سِنْدِيَان, or oakwood. It should be a piece of wood with thin edges in comparison to its breadth and length,¹²⁰ so that when it passes over the leather it smooths it, and its handle (*niṣāb*) should also be of oakwood because ebony and boxwood dull their edges if they knock against the press.

The *niṣāb* نِصَاب, or handle of this folder is again mentioned in the process of preparing the quires for sewing, as an instrument which is passed over the center of the opened quires where the sewing of the thread will be done. Later it is used to hammer the sewn place. The folder in bookbinding is used for many purposes and is shaped like a letter opener with a rounded rather than pointed end. Sufyānī used *qalab* قَالَب, for folder, and describes it as useful in making the sections correspond with each other in aligning.¹²¹ These tools can be seen in both a marginal painting of a bookbinder working on a cover in the Freer Jahāngīr Album leaf (Fig. 5) and in the India Office Library painting of the North Indian binder (Colour Plate F).

Other tools used in the preparation and binding of the text block are:

(1) The *kāzan* كَازَن, or mallet, is used in pasting operations by Ibn Bādīs;¹²² while *mījamah* مِجْمَة, is the usual term for a wooden mallet which Sufyānī describes as heavy weighing four to six *raṭls*.¹²³

(2) The *shafā* شَفَا, or awl, Ibn Bādīs writes, should be very fine. Qalqashandī notes that "the *minfadh*" مَنْفَذ as a tool resembles the *mikhraz* مِخْرَز, or awl, and that it is used to pierce paper.¹²⁴ Sufyānī uses *ishfah* إِشْفَة,¹²⁵ derived from the same root as *shafā* used by Ibn Bādīs. Under *kharāz* خَرَز, Sufyānī explains that this means to sew with the help of an awl.¹²⁶

(3) The *ibar*, plural of *ibrah* اِبْرَة, or needles, Ibn Bādīs says, are of two varieties: those suitable for sewing the pages together and those that are used for the headband or *habak*.¹²⁷ The first kind of needles should be thin, short, and perfect; the second should be shorter and heavier.¹²⁸ Sufyānī adds the *mikhyat* مِخْيَط, or large needle, like those used to make pack-saddles.

The tools used in the preparation and ornamentation (finishing) of the leather are:

(1) The *shifrah* شِفْرَة,¹²⁹ or paring knife which Ibn Bādīs says, should be of good iron, neither too hard nor too soft, and its weight should be in proportion to the size of the artisan's hand.

Sufyānī also uses this term for a "paring knife."¹³⁰ Such a knife is depicted in the Kashmiri manuscript (Colour Plate B). For the knife used by traditional binders today in Istanbul, see Fig. 4.

(2) The *masāṭir*, singular *mīṣṭarah* مِسْطَرَة, or rulers, treated by Ibn Bādīs, are of varied woods: ebony, willow, boxwood, and oak. We have already discussed the *mīṣṭarat al-rīḥ*, or folder, under the tools used generally in bookbinding. Ibn Bādīs states,

The work ruler, *mīṣṭarat al-shugal* should be of *ṣafṣaf* صَفْصَف, or willowwood, because its edges might be scorched; and if that should happen to the ebony ruler, it would leave nicks which would show as imperfections when lines are ruled.¹³¹

He considers *abnūs* أَبْنُوس , or ebony, and *baqs* بَقْس , or box-wood, the best for designing, inking, and coloring.

The ruler for designing should be long, firm-bodied, and neither thick nor thin; while that for inking should be very thin-bodied because it is manipulated by two fingers.

The colouring ruler (perhaps for rubrication) should also be thin-bodied and light in weight.¹³² A large ruler is depicted in the mid-19th.-century Kashmiri manuscript painting of a bookbinder and his tools.

Qalqashandī only mentions a *mīṣṭarah* used to rule paper.¹³³ Sufyānī says the *mīṣṭarah* is to cut against,¹³⁴ which would not fit the definition given for “ruler” in Ricard’s index to the work which is like the *mīṣṭarah* of Qalqashandī, a ruling frame or mechanical device for ruling paper.¹³⁵ The instrument, which Sufyānī mentions for ruling, trueing, and as an aid in designing, is the *qartabun* قَرْطَبُون , or square.

(3) The *bikār* بِيكَار , or compasses, Ibn Bādīs feels, *should be light, have two thin legs in order to make fine lines, and should be firmly riveted at the joint so that it opens and closes gradually.*

*Even if it is hard to open, it must be so for the compass is for the drawing of the “suns,” which are the tooled circles in the center of the book cover.*¹³⁶

Sufyānī calls the compass *dābit* ضَابِط , and uses it to make the design;¹³⁷ but, he includes a second tool of this type—the *tahnīsh* تَحْنِيش , or divider, used to make the circle of the central pattern of the cover.¹³⁸

(4) The *ḥadīd alladhī lil-naqsh* الْحَدِيدُ الَّذِي لِنَقْش , or irons for tooling, may be divided into two groups: those of Ibn Bādīs which seem to be individual elements to be combined in many varied patterns; and those of Sufyānī which are panel stamps of composite patterns. The first group, *ḥadīd alladhī lil-naqsh*, includes (1) the *lauzah* لَوْزَة , or almond, (2) the *ṣadr* called *ṣadr al-bāz* صَدْرُ الْبَاز ,¹³⁹ or breast of the falcon, (3) the *khalidī* خَالِدِي ,¹⁴⁰ or ornament, (4) the *nuqtah* نُقْطَة , or dot, and (5) the *mudāwwarah* مَدَوَّرَة ,¹⁴¹ or roundel.¹⁴² In the second group are the *turunjah* تُرُنْجَة , or single panel stamps cut with an entire design for the center of the cover,¹⁴³ and one for the flap which should be one-fourth the size of that on the cover.¹⁴⁴ Sufyānī uses the term *turunjah* as a panel stamp for the center of the cover, *rukṇ* رُكْن , for a corner stamp, and *nuwārah* نُورَة , for the panel stamp of the flap.¹⁴⁵

(5) The *minqāsh*, plural *manāqīsh* مَنَاقِيش , or burins, cutters, tweezers and points for decorating are mentioned as a group by Ibn Bādīs. Sufyānī specifies, among this group, the *mifrat* مِفْرَط , or engraving point, and both the *ḥadīdat qāṭa‘ah* حَدِيدَة قَاطِعَة and the *miqrād* مِقْرَاض , or sharp cutting points.¹⁴⁶ For engraving or tracing the design, he utilizes the *mibzaq* مِبْزَق (sic), or a knife resembling a blood lancet;¹⁴⁷ and for putting lines on leather, the *miḥatt* مِحْط , or tracer.¹⁴⁸

(6) Among miscellaneous items used in connection with the application of gold, silver, ink, and paint, are the *ṣaqqāl* صَقَّال , or polisher called the *dast* رَسْت , and the *ṣaqqāl raqīq* صَقَّال رَقِيق , or finer polisher, of Ibn Bādīs. Qalqashandī uses *miṣqalah* مِصْقَلَة , as the name of the instrument used to polish gold writing,¹⁴⁹ and also uses *ṣaqalah*

صَقْلَة for polisher and suggests that it be of copper.¹⁵⁰ Sufyānī employs a *maḥārah* مَحَارَة , or shell, for this purpose.¹⁵¹ Other items are: the *miswāk* مِسْوَاك , or brush, and *lif* لَيْف , or sponge,

which is of two kinds—one of *Raqqah*,¹⁵² clear of colour and delicate of fibre, the other, of Antioch, thick of fibre and brown of colour,

from our early source;¹⁵³ and the *milwāq* مِلْوَاق, or conical stirrer,¹⁵⁴ from Qalqashandī, who warns the reader that the best *milwāq* is that of ebony lest the color of the ink alter it and that its upper end should be double the width of the rest of it.¹⁵⁵

Ibn Bādīs concludes his account of the tools with this fitting comment: *This is the complete list of instruments, and success is with the help of Allāh. He who seeks (to acquire) this craft, requires: (first) quick understanding, a good eye, a sweet (dextrous) hand, and the avoidance of haste; (secondly) to be sociable, winning, and of good character.*

Sewing

Islamic books were most frequently written on the loose leaves or sheets of the gatherings before binding. Even quite lengthy manuscripts, however, were not necessarily sewn and bound, but after writing might be simply collated in the correct order of pages,¹⁵⁶ the edges trimmed to produce an even volume, and a portfolio constructed to house the whole unit. Such portfolios are often depicted in manuscript paintings where people are consulting or associated with books. They are usually modifications of the case bindings in which Islamic codices from the 11th. century A.D. were covered,¹⁵⁷ i.e., they consist of an upper and lower cover joined by a spine and with a fore-edge flap and pointed pentagonal



Fig. 5. A Mughal bookbinder working on a cover. Note the awl, leather knife and folders on his bench. Marginal painting from a leaf of the *Jahāngīr Album*, c. 1600–1610 A.D. Freer Gallery of Art, Smithsonian Institution, Washington, D.C., 54.116.

envelope flap as an extension of the lower cover—the portfolios have additional flaps which fold around the head and tail edge of the textblock. This structure might further be housed in a sleeve case open at head and tail, through which openings the portfolio-housed book can be inserted.

The gatherings making up the textblock were, however, normally sewn. The early Islamic bookbinders adopted the link-stitch sewing techniques used in the early Coptic and related binding traditions of the Middle East and Ethiopia and this basic form of sewing has been continued to the present day. Grohmann has observed that a small Arabic volume of the 3rd.–4th. century A.H. in the Rainier collection (Inv. Ar. Pap. 10130) has a sewing system identical to that of the Coptic binding from al-Ushmūnayn in the Staatliche Museen, Berlin (P. Berol. 14018).¹⁵⁸ We have further evidence in the form of sewing holes left in the spine folds of leaves of early Islamic codices and in the reference to sewing in the 11th. century A.D. text of Ibn Bādīs.

The principle of link-stitch (sometimes termed “Coptic” or “chain stitch”) sewing is that, in order to connect the gatherings, at each sewing station the needle and thread are passed from the inside of the spine fold through to the outside and down so as to loop around the thread protruding from the corresponding sewing station of the gathering immediately below it, or penultimate to it in the sewing sequence. The rows of stitches connecting the gatherings on the spine of the book resemble the links of a chain after the sewing is completed. Although in Near and Middle Eastern codices of interrelated traditions (Coptic, Greek, Syriac, Armenian, Ethiopian) a number of different link-stitch sewing styles have been recorded,¹⁵⁹ in Islamic manuscripts from the mediaeval period to the 20th. century A.D. the sewing structure most frequently found has two sewing stations with a simple form of link stitch which picks up the adjacent preceding gathering (Figs. 6 & 7). Noteworthy in Islamic manuscripts is the frequent use of a sewing thread, of linen or often silk (frequently coloured), which is much too thin for the binding function it should perform, and which characteristically breaks down. Also usually only two sewing stations are used, unrelated to whether the format or weight of the book requires sewing support at more points.¹⁶⁰

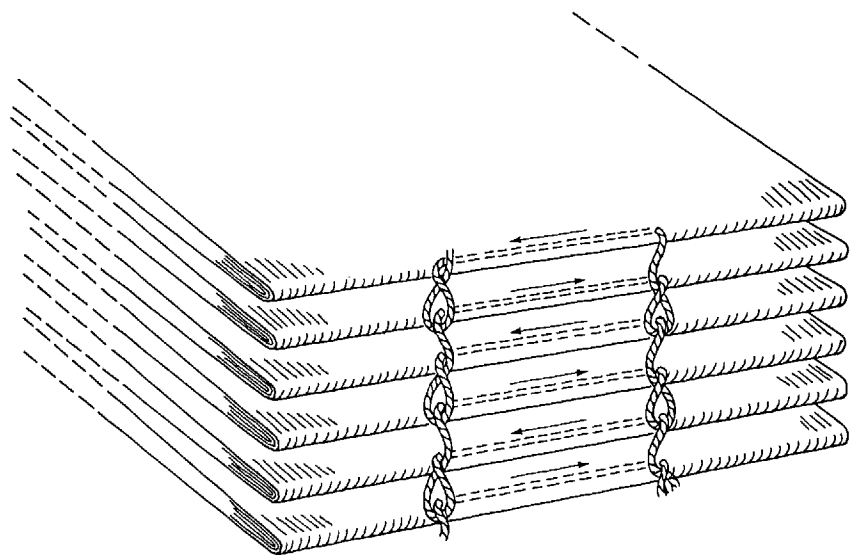


Fig. 6. Basic Islamic link-stitch sewing at two sewing stations.

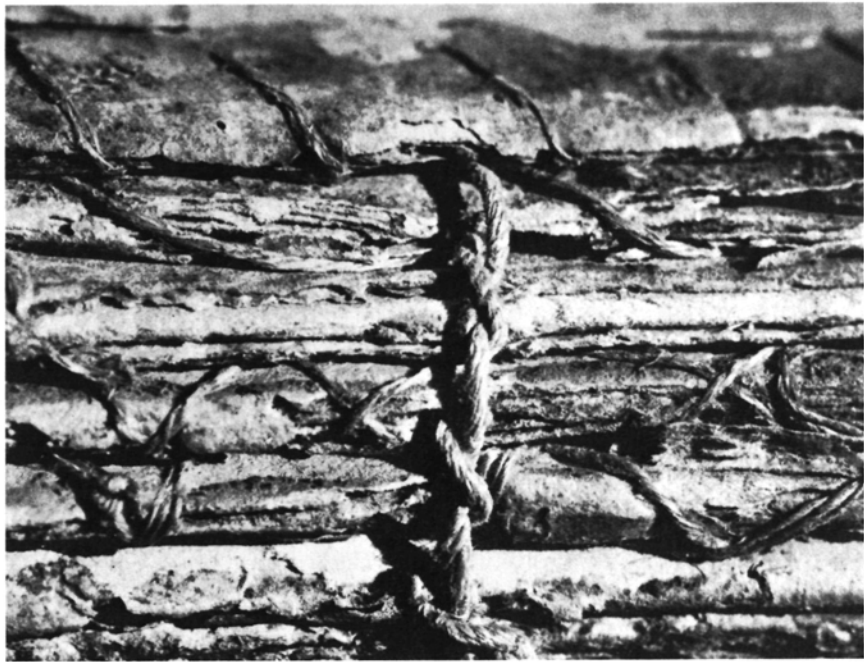


Fig. 7. A detail of link-stitch sewing from a 18th century A.D. rebinding of Oriental Institute A12063. Note that during this rebinding the spinefolds of the gatherings were repaired by oversewing.

The gatherings are collated before sewing and the position of the sewing stations may be marked.

The stages of preparation and the sewing itself are described by Ibn Bādīs,

You first begin in this craft by putting the portion, juz' (to be sewn) on a slab to the left: taking a gathering, kurrāsah (plural kurārīs, kurrās), at a time in the left hand and opening it with fingers of the right hand, place it open on the slab and pass over its centre with the niṣāb or folder, where the sewing of the thread will be done. Then you close it and cut the batā'in, or endleaves, consisting of a double sheet, one page to be pasted against the leather and the other remaining upon the quires to protect the book from harm and dirt. Then do the same with the rest of the quires [opening and going over the spinefolds] until you come to the last. When you have finished that you prepare the thread for sewing. It should be fine and well-twisted,¹⁶¹ of about three strands depending on the gauge, since, if it is coarse thread, the sewed part becomes bulky and when the book is tightened in the press, the string bears the weight and a ridged impression is left; it is as if you took a string and wrapped it tightly around your finger to the end.

Sewing may be done by several methods: one which the artisan employs for swiftness and speed, in which the needle pierces the quire in only two places, and another done with two or three stitches. Still another type is current with the Byzantines, but I am unable to describe it.

After the section is sewn, the thread is pulled and the sewn place pressed with the folder, niṣāb.

Then says the author may God have mercy on him. First, that which begins the binding, after making the boards, is that he collates [from] the book, one after the other, and observes at the end of the paper and the beginning of the following one whether this consists of complete sections or was bound to begin with. When he finishes the collating and verifies the correctness and completion of the book let him then commence to gather the sections the one to the other and bundle it in parchment like what is found with the bundles, the old bundles and gather the parchment upon the book place it up on a smooth stone that is solid for beating.

He then describes the knocking down of the spine folds of the gatherings to minimize swelling:

And beat on the parchment with a heavy mallet weighing six pounds, or five, or four. In result of this beating is what befits the condition.

And the hammering must be equally distributed for each portion until it fits the book and its paper softens, and gathers to each other from the strength of beating because the hammering will affect it as the press will not do by pressure. And the press after that hammering will adjust it delicately. Should you press it in the press without beating the press will not benefit it at all, neither will the paper adjust itself, some upon the other, at all. No matter what type of press it is. And should you place the book in the press after the hammering, no matter what press, you gather it in, its paper will obey you and it would spread and soften even in the weakest of presses and in the hammering is a great secret. So should you become initiated upon this benefit, oh binder, ask Allāh for me for mercy. Perhaps Allāh will favor me with his mercy.

Sufyānī gives instructions for adjusting the gatherings so that, when bound, the written areas of text will be aligned. This is followed by a description of the marking of the position of the sewing stations, of the sewing thread, and of the final knocking down of any swelling caused by the sewing:

After that mark the central paper of the gatherings with the five marks. After that gather the gatherings all of them by their headings to the edges of its upper part. If it was collated in the preparation and the regulating of the format, and should it show variation in the writing the one overlapping the other—you push the papers some according to the other, adjusting the leaves higher or lower and collate the work by what is necessary at the time. After that you run two lines of ink upon the spine of the gatherings in the place where you sew the book and introduce the needle with the thread in the base of the gatherings in the point that you traced by ink and the thread with which you bind it must be delicate and strong.

Draw it, twist it, of three or four (strands) and the profit of the command that you should collate will (readily) appear to the binder in gathering the sections of the book by sewing one to the other. Should the sections be many and a mistake appear in the position of the sewing let him hammer at this place of the string with a hammer upon a slab of marble until he correct the thread mistake and finish the work according to this method.

Lining of Spine & Attachment of Hinges

After the sewing is completed there may be some swelling of the textblock in the spine area, caused by the form of the folds of the gatherings and by the sewing threads and stitches. This swelling is beaten or pressed out with a hammer or heavy folder on the slab, an operation described by both Ibn Bādīs and Sufyānī (see above). The spine is then lined, most commonly with a medium (or medium-light) weight, unbleached or semi-bleached linen tabby of rather open weave. This lining helps to consolidate the spine, allowing uniform flexing and distribution of stresses as well as providing an even basis on which to paste the leather covering. The lining operation is carried out with the book held firmly between boards in the press so that the gatherings are evenly aligned. The lining is attached with a controlled amount of paste. It is usually cut so as to allow hinges, or flanges, about 20–25 mm, to project on either side of the spine to which ultimately will be attached the boards of the cover. The hinges may be of paper or leather and both Ibn Bādīs and Sufyānī describe their preparation and pasting to the spine (and to the bookcover) at some length.

Ibn Bādīs describes the steps of first placing the sewn book in a rope press so that it is firmly held with the spine projecting (onto which the spine lining/hinge is pasted), the mixing of the paste and the making and application of the spine lining/hinges.

Then hold it [the book] between your knees. Take one side of the press resting it against your left knee and the other side against your right knee with the book in the middle. Take the end of the rope in your left hand and bind it about the press until it ends, and tie the ends. Take the book (now in the press) from between

your knees. The projecting sewn spine protrudes. Place the spine upon the slab and beat the edges of the (spine folds of the gatherings) paper sections with the niṣāb, folder, until it is equal in thickness to the rest of the book. The press is then gently tightened by the two sticks called marāwīn. Too much pressure would turn the back of the book and spoil it.

In preparation for the next step ashrās, asphodel paste, is melted by taking a small pot, placing a little water in it and bits of ashrās. Mix it by stirring with the middle finger of the right hand. The paste should be runny, not too thick if it is summer time, while in winter it should be thicker in order to dry quickly. Then take a thin paper (for the hinges), fold it, and cut it in half. Each half should be two fingers wide—wider than the spine. Taking the paste with your middle finger, suspending the other fingers, smear the spine of the volume lightly with paste, being careful that none runs between the gatherings. One paper is placed and pasted on top of the other so that the excess width projects on either side of the spine. Another sheet of paper is placed on top before pressing the two strips down with the folder because the folder would pull up the paper damp with paste and spoil it. This is one of the secrets of the craft. Then the papers are left to dry in the air either in the sun or near a low fire. Do not take it away until it dries evenly, otherwise it will warp—so be careful of that!

You must previously have taken the measurements of the book before you left it in the press. Smear a piece of paper with paste and cover it with another. Then, protected by another paper, press smooth and rub them with a rag, then even them with the folder. The Iraqis paste the (cover) to its pages without these linings, baṭā'in, or endpapers. They are called 'strengthenings,' taqāwwī, and people think that by using them they strengthen (protect) the book. Their strength is like that of cloth, thaub, or board, takht. Thus as the volume dries the strengthening dries also. Then the volume is taken out of the press carefully. Place it upon the slab, then fold over the excess of the two papers (hinges). Press it (the excess) to the strengthening and smooth it well. Place a ruler along its side and make a mark. Paste along the mark in order to stick the hinge which you have pasted on the volume. Now place the strengthening on the book, mounting it between the hinge and the core. Thereupon you paste it (the strengthening). When you paste it, put paste on both sides, and take a long, narrow strip of paper about two fingers wide, and paste it upon the other (of the strengthening) to prevent it from opening wide. When you reach this point the leather is put on it.

Sufyānī similarly gives instructions for knocking down the spine folds of the sewn textblock to reduce any swelling caused by the sewing and on how to adjust the book in the press prior to pasting on the spine lining/hinges (in this case the hinges are made of leather):

Then you hold the book in the press completely leaving out a little of the book the width of two fingers and equalize the gatherings together completely. But beware not to hold back or restrict anything of the gatherings and you should have an iron blade like the blade of a shoe-maker and count by it the number of gatherings from one side and check their number and count again from the other side. Should you find the number equivalent there is no doubt that none of the gatherings have been imprisoned. Should you find an increase or diminution of number look to the side where it is missing and search for what is minus according to the complete side until you find it. Should you find it move the press a little bit and enter the awl in the middle of the minus section and raise it delicately until it equals its companions. When they are all aligned tighten the press and put the wheat paste at the base and apply it with your finger until it is applied between the sheaves and take the applicator in your hand and enter a bit of its edge between the section and apply with it the paste between the gatherings delicately, and deepen not; and also do likewise between the gatherings, and that which follows them, until you finally reach the last of them. After that run the index finger over it until you are sure that the paste has entered between them all of it. At that time loosen the press and push the whole book in the heart of the press until the gatherings are aligned while the press is open. And tighten the press with the leverage from both sides in order that the superfluous paste between the gatherings will come out except that which is correct for the condition and wipe the back of the gatherings with the applicator until you dispose of what was

superfluous of the paste and should any thing appear high, hammer it lightly until it evens and smooths.

And after that stand the press along the wall and prepare for the book two sides of soft leather in which there is no hardness and the measure of each hinge according to the size of the side of the book and that which you fold upon the back of the sections I mean the back of the book. Should the book have along its margins papers written with gold or in color thickened by gum arabic and you are afraid that when you work upon them, the two hinges, while they are damp from the traces of water, the colors will absorb of the moisture and will stick one to the other. So put what you have folded of the two hinges beside the book so that the hinge does not reach the book and injure it by dampness. Then you, when you make the two broad wings (hinges), glue them to the book whenever they both are dry, without moisture or dampness. And when you wish to glue it loosen the press and ease it delicately from the book and pull out by both edges of the hinges of the book. After you take out the book from the press the measurement of عُرْفَة (a string?) and tighten the press well and evenly. And smooth by the wood at the edges of the book until it produces between the hinge and the book a straight passage for the paste. After that do so from the back of the book and the two hinges and turn the hinges upon it the one over the other through pressure and equalization and take after that three papers and paste them with paste and place them on the back of the book and paste above them with paste and pass over it with the applicator until you fasten them from both directions and the middle and the edges of the book. And stand the press in the temperate air a day and a night.

When it dries and solidifies run a cutting iron over the two edges of the book and cut what was in excess of the paper which was gathered by the paste and glued on the spine of the book; loosen the press and enter the instrument between the book and the press to separate it.

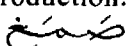
As well as the hinges which are an extension of the spine lining or are applied to it, there may be other systems of reinforcing the joints. The simplest form is to paste a strip of paper as a hinge along each inside joint (before or after the doublure has been attached). The doublures themselves may have a projecting hinge which is pasted down onto the adjacent first and last leaves of the volume. In a number of 14th.-16th. century A.D. bindings from Syria or Egypt the doublure hinges of leather or paper are decoratively trimmed giving a wavy outline which suggests central or east Asian influence.¹⁶²

Although Ibn Bādīs does describe how upper and lower endleaves may be pasted down onto the inside of the covers as an extra means of securing the textblock to the bookcover and we do have some early evidence of this practice, for instance in two 2nd. or 3rd. century A.H./8th.-9th. century A.D. *Qurʾān* bindings in the Egyptian National Library, Cairo, which have parchment pastedowns which are contiguous with the adjacent endleaf,¹⁶³ the evidence of Islamic bookbindings from the 14th.-17th. centuries A.D. suggests that the use of pastedowns rather than doublures was uncommon during this period. Its reintroduction is a relatively recent phenomenon, possibly under the influence of European bookbinding techniques.

Bookbinding Adhesives

Two main plant extracts used as pastes in the making of book boards and the attachment of paper, leather and textiles are illustrated in an incident mentioned by Muqaddasī (fl. 375 A.H./A.D. 985). He wrote that in the Yemen they used *nashāʾ* نَشَاء , or wheat starch, for those purposes and that, when the governor of Aden sent him a *muṣḥaf* to bind, and he asked at the pharmacist's for *ashrās* أَشْرَس , or asphodel paste, they had not heard of it, and sent him to the *muḥtasib*, or public welfare officer, who knew better.¹⁶⁴

Ibn Bādīs, the Maghribī, in the next century says that *ashrās* may be dissolved by putting a little water and bits of broken *ashrās* in a small pot, stirring it as it melts. The *ashrās* should be fluid, but not too thick in summer; in winter, however, it should be thicker in order to dry quickly. In Egypt, *nashāʾ* was the subject of a royal proclamation in 791 A.H./1387 A.D.¹⁶⁵ Qalqashandī discussed its preparation both in an uncooked and cooked form at about that time—the heated *nashāʾ* is put in a container and its colour on paper is pure white, while the other type is formed by only adding water and letting it stand until it becomes paste.¹⁶⁶ Later, Sufyānī also chose *nashāʾ* instead of *ashrās*, to prepare the paste boards, to paste up the spine prior to lining and attaching the hinges, and to apply the leather to the boards.¹⁶⁷

The use of both pastes appears to have been widespread in the Islamic world, both *nashāʾ* and *ashrās* being known by the 10th. century A.D.; a wheat-starch paste had been used from the beginning of Islamic paper production. Sufyānī applied a third vegetable product, *ṣamagh*¹⁶⁸  or gum arabic, the consistency of thin honey, as an adhesive, to both the leather covering of the spine and the leather core over which the endband is sewn. Allowing the two to dry, one is then moistened with saliva and they are then pressed together. He assures us that they will adhere tenaciously.¹⁶⁹ Both Ibn Bādīs and Sufyānī recommend *ṣamagh* as a binding medium for ink.

Vegetable paste rather than animal glue was predominantly used in the construction of the traditional Islamic binding, but in 20th. century Iran Wulff observes that the spine lining is glued with a leather glue (*serīšom*), boiled from leather scraps, or fish glue (*serīš-e māhī*), made from boiling the swimming bladder of the sturgeon. However, he records that vegetable paste (*serīš*, *sereš*) is also used for attaching the textblock to the case and is prepared from the bulbs of *Asphodelus ramosus* or *Eremurus aucherianus*.¹⁷⁰

Both Ibn Bādīs and Sufyānī give details of other adhesives used as binding media for inks and paints. Those that have applicability as media used to decorate book covers will be discussed in the relevant section below.

Trimming of the Textblock Edges

After the attachment of the lining/hinges to spine and the trimming of any excess material at head and tail, a board is placed on each side of the book, which is then carefully aligned and placed in the press so that the edges thus compacted can be evenly trimmed. The rope press described by Ibn Bādīs (see *Tools*, above) had its boards

grooved or bevelled where the rope goes around the edges so that the sword may be used along the press and not cut into the rope.

Head, tail and fore-edge are cut in turn. The book is repositioned each time so that the appropriate edges of the boards are lined up level with the cheeks of the press with only the edges of the parchment or paper leaves projecting. The trimming is done, according to Ibn Bādīs, with a sword or large knife. He says that,

It is necessary that the sword's length be twenty or less, of medium width, and its blade should be well tempered. Its hilt should fill the palm. And I am told that some craftsmen do not know how to use the sword at all. That is because they have a long sharp blade with which they cut according to their system.

Such a tool and the action of trimming are graphically represented in

the 19th. century Kashmiri manuscript painting with the bookbinder standing up to do the work (Colour Plate B).

In 20th. century Iran after drying (*ḥoškīdan*), following the gluing of the spine, the book is trimmed (*boreš dādan*) with a bookbinder's knife (*kārd, šefteh*). During trimming, the edge to be trimmed is held in a trimming press (*qaid, gīreh*).¹⁷¹ A different tool, a large file, is illustrated in a marginal painting of the Freer Gallery Jahāngīr Album leaf showing a craftsman trimming the fore-edge of a book (Fig. 8).¹⁷² Ibn Bādīs describes how to measure the cover for trimming operations,

When the leather is dry, it is necessary that the book be trimmed equally with the cutter which is called the trimmer. The book is put between the hands to do this. Only some craftsmen do as I am describing. A straightedge is put diagonally on the book. Its middle is marked. Then the straightedge is turned back to the



Fig. 8. A Mughal bookbinder trimming the fore-edge of a book with a large file. Jahāngīr Album, c. 1600–1610 A.D. Freer Gallery of Art, Smithsonian Institution, Washington, D.C., 54.116.

other sides and the same is done. Thus, in the middle of the book, a cross is formed. One leg of the divider is put down on the intersection of the cross. Its other leg is opened to the side of the book.

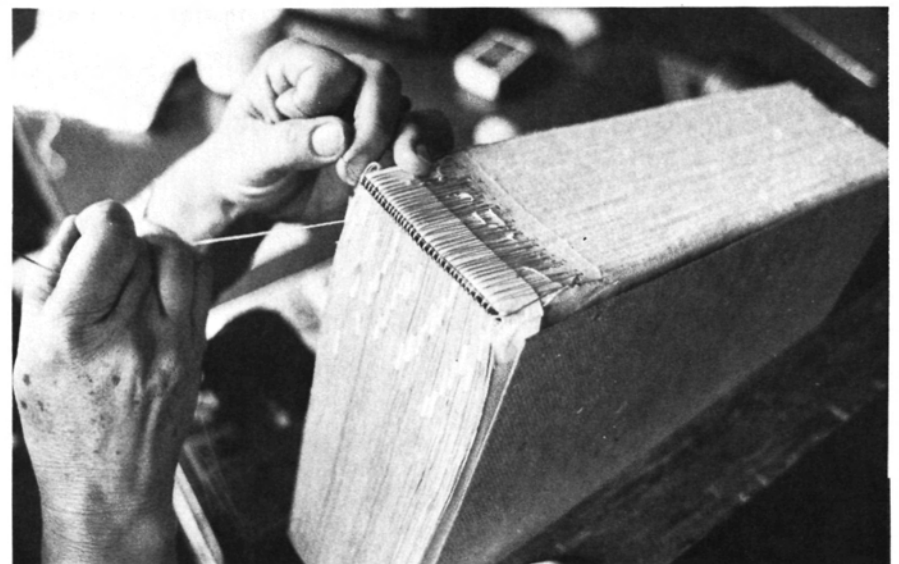
Endbands

After the spine has been lined and the edges of the textblock have been trimmed, endbands are sewn at the head and the tail of the spine of the textblock.

We have little evidence of endband types from the first centuries of Islam, although some Coptic endbands have survived,¹⁷³ but by the 14th. century A.D. a type of endband is found which, with subtle variations in decorative sewing, continues to be used by traditional Islamic bookbinders (Fig. 10). For the endbanding operation the book is held in the press with the head or tail end to be sewn tilting upwards towards the craftsman. The endband is constructed in two main stages. A thin strip of leather thong is placed or adhered along the spinemost edge of the end being sewn (this step is described below by Sufyānī). This acts as an endband core, both to give a rounded bulk to the finished decorative sewing and to prevent tension on the primary endband threads from cutting them down into the spine folds of the gatherings. Then a primary endband thread, often of silk and the same colour and material as the principle textblock sewing thread, is sewn, starting at one side of the spine, through the inside fold of each gathering 30–40mm down and out through the back of the gathering. It is then brought over the endband core into the inner spine fold of the same gathering and out again and over into the inside fold of the next gathering and so on until a continuous row of parallel vertical primary endbanding threads is created which forms, as it were, the double warp threads of a miniature loom through which the weft threads of the decorative sewing will be woven.

The decorative or secondary endband sewing most frequently uses two threads, which may themselves be double, usually of silk and of different colours; red and white, red and yellow, green and pink etc. To sew, the bookbinder holds one of the threads in the left hand. The other which is threaded to a needle, is held in the right hand (i.e., if the craftsman is right-handed) and, starting at one side of the spine, is passed alternately under and over the double primary endband threads (each group corresponding to one gathering) in turn, twisting around the thread held in the left hand each time so as to produce a pattern of small bi-coloured chevrons. When the end of each row is reached sewing proceeds back in the other direction until the desired number of chevron rows is reached (Figs. 9a–c). Slight changes in the manipulation of the threads can produce varying chevron patterns. The chevrons will vary in size depending on the thickness of the threads and the interval between the primary anchorage threads.

Just as the chevron endband is such a characteristic feature of Islamic bookbindings, so is the damage it causes to paper bookblocks. More often than not the protective endband core is omitted with the result that the primary endband threads (not being anchored around the sewing stations of the gatherings) cut into the spine folds of the paper gatherings and eventually tear out. Thus it is almost inevitable that Islamic rebindings will have repairs to most, if not all, the spine folds, made of small square or triangular patches of paper during each rebinding phase. These are,



Figs. 9a, b, & c. A craftswoman at the Topkapu Saray, Istanbul, sewing a traditional Islamic chevron endband using a red and a white silk thread. Note that a strip of paper (which will be removed when the endband is completed) is placed along the end of the spine to protect it during sewing and that small pieces of paper are folded over to mark the centre folds of the gatherings at the head (or tail) edge.



Fig. 10. A traditional Islamic endband with red and white silk decorative sewing over blue silk primary anchorage threads. 18th century A.D. Oriental Institute A11982.

however, useful in helping to determine the chronology of the present binding of a book and its earlier history.

The only mention Ibn Bādīs makes of endbanding is of the needle suited for the purpose, called *hazam* which should be shorter and heavier than the one used for sewing the textblock gatherings together. Sufyānī provides further details:¹⁷⁴

The method of weaving the endband. You should have in your possession gum arabic dissolved in water the consistency of thick honey. Then place some of it at the tops of the gatherings at the edges of the cuttings under the little band of leather on which you weave the endband, in order to place upon it the band. And the band itself should be of tanned leather covered by gum arabic beforehand so that it dries. And you begin by taking from it the band which you will need for the endband. Then when the gum which you have placed at the top of the book dries, you moisten it with your saliva and moisten the band and place it upon the part containing the gum arabic. Then both will stick together tenaciously. And the threaded needle enters the center of the gatherings along the right side after you have fastened the end of the thread in the back of the book at its back edge in the place where the point, of the needle started from, then you entered it in the midst of the last folded paper and follow along with the sewing of the gatherings until you finish to the end section and tie the thread in the last stitch very meticulously. In order that the sewing holds tightly and correctly and finish what remains of the weaving with colored silk so that the endband is perfectly worked from both sides.

The Islamic Bookcover

John Bagford's notes on bookbinding, written about 1700, record the immediate distinguishing characteristics of the Islamic bookbindings which he knew,¹⁷⁵

The Turks and the Persians have a peculiar manner in binding their books, and they are for the most part covered in leather of a sad red or buld [sic] colour leather, which they say is the skin of goats: others are of the opinion that it is the skin of wild Asses. Their binding is very neat, and the covers stamped in the middle of the cover with a brass stamp cut very fine, in an oval for the most part, and they have their sizes for their books as we have, as folios, quartos, and octavos, 12, 24, etc., but they set not their books on shelves as we in Europe do, but are kept in apartments in their mosques and put into drawers, as most travellers that have been in those parts relate. Their books are not bound as the Europeans', theirs are set together with a sort of paste on the back of books, and over that they cover it with a piece of linen cloth, and with the headband the book is fastened to the cover, and all their books have flaps that cover the fore-edge of the book, not unlike our vellum pocket book and almanacs, but they have no clasps to them.

Although his intelligence of the sewing techniques used is imprecise and the decorative panel stamping he describes only flourished from the 16th. century A.D., this is a faithful summation of the major features of most Islamic bookbindings we see today. Above all, the fore-edge and pentagonal envelope flap has become the feature which characterises the Islamic binding. Although it seems to have been customary for the envelope flap to have been tucked under the upper cover so that it was hidden when the book was closed, depictions of the book in Islamic painting almost invariably show the flap exposed, so important a sign had it become. This flap seems to have survived as a vestige of wrap-around flap systems found in early Christian oriental (Coptic) bookbindings. Up until the 18th. century, traditional Armenian bindings retained a characteristic fore-edge flap.¹⁷⁶

A number of the early Islamic bindings from Kairouan, studied by Marçais and Poinssot,¹⁷⁷ have fragments of leather flaps, usually of double

thickness, at head, tail and fore-edge of the lower board. Three of these bookcovers were considered to offer sufficient proof that the flaps formed a continuous rigid wall which, together with the flexible spine, made a protective box for the manuscript with the upper cover serving as a lid. It was thus inferred that some 125 of the other Kairouan bindings whose flaps were in a more fragmentary state were similarly constructed. The evidence for this rigid box flap form is not completely conclusive.¹⁷⁸ The edge pin catches projecting from the edge of the upper boards of many of these bindings and the associated loops connected to the lower boards may indicate the use of folding flaps.

The earliest recorded example of an Islamic bookcover of the classic fore-edge and envelope flap type may be a fragment of a lower cover and flap, probably belonging to the 4th. century A.H./11th. century A.D. in the Rainier collection, Vienna (inv. Chart. Ar. 14 100 b,c).¹⁷⁹ By the 12th. and 13th. centuries A.D., the flaps at head and tail had been discarded in favour of the form which remained an intrinsic feature of Islamic binding until the fore-edge and associated envelope flap started slowly to be omitted under the influence of European bookbinding forms in the 18th. century A.D.

Regardless of the sequence of operations used to construct it, the Islamic book cover (a complex of upper and lower boards; fore-edge and envelope flap boards and the hinges joining them to one another and to the lower boards; the leather or paper exterior covering; and doublures) can be considered as a separate structural unit—as the fact that so many covers have survived intact, but separated from their original textblock, abundantly witnesses.¹⁸⁰ The bookcover is only attached to the latter by a thin layer of adhesive to the spine lining and the hinges. As these are precisely the areas that undergo the most flexing and mechanical movement it is here that they tend to break or detach and the cover may come away. However, the portfolio nature of the cover with its wrap around flap holds the parts of the codex together and the textblock is easily reattached to the cover with new hinges, which are usually of paper. Such repairs, more often than not quite crudely executed, are commonly found in Islamic codices of any age. The bookcover itself, because of the thin paring of the leather characteristic of Islamic bookbindings, tends to wear and split along the joints between the more rigid board elements and repairs, often in many layers and once again crudely executed, are very often found in these places on Islamic manuscript bindings. Another common practice in the mediaeval period was for cover elements from different original bindings to be reincorporated into new bookcovers.

Boards

The first copy of the *Qurʾān* was said to have been placed in between wooden boards during the Prophet Muhammed's own lifetime.¹⁸¹ Most of the early Islamic bindings from Kairouan used wooden boards¹⁸² and three early *Qurʾāns* (of the 2nd.–3rd. centuries A.H./8th.–9th. centuries A.D.) in the Egyptian National Library, Cairo, are bound in wooden (cedar) boards which Grohmann considers to be contemporaneous with the manuscripts.¹⁸³

Although the majority of surviving early Coptic bookbindings (i.e., of the first millenium A.D.) have boards of papyrus sheets pasted together, a small number dating from the 4th.–7th. centuries A.D. have wooden

boards. Boards of wood were undoubtedly more suitable for the housing of parchment leaves, as their weight, rigidity and thickness (together with the restraining action of straps, ties or clasps) helped to shield the susceptible skins from the cockling caused by changes in relative humidity. However, with the eventual dominance of paper as the writing material for Islamic books, the use of boards made from pasted-together sheets of papyrus or paper became perfectly suitable. In the Near and Middle East, with the tremendous increase in Islamic book production which may have influenced the introduction of a number of materials and book production methods whose principle virtues were economy and speed (e.g., simplified sewing styles, uses of cased-in bookcovers etc.), paper may have become a more available material than the type of wooden boards needed for bookbindings. This material also reduced the overall weight of a bound volume.

Sufyānī devotes considerable space to the description of the preparation of paper pasteboards:

Chapter on the manner of making the cover boards:

Meaning the cover boards of paper which they cover with the leather over the book. And that is you take the paper¹⁸⁴ and smear a leaf of it with starch and leave it to your right and smear another paper I mean which faces it and place down the pasted page of one paper upon the pasted face of the second and press upon it with both your palms and turn it over, the lower page upon the higher one. And see if there is in it anything of slackness. If so you stretch and smooth it with your palms until it spreads to the limit of its stretching leaving no wrinkles nor flaccidity, then you lay down the two papers which are both pasted one to the other. And take up two other papers, and treat them, as you did in the case of the two papers which preceded them. Until you join the papers all two by two and spread them in a warm place upon the earth which does not contain (dirt) that might stick to the pasted leaves.

For it (the dirt) will roughen your dressing of the tablets. When they dry, then take them and divide them according to the number of the tablets which you will use. And see how many are fit of the number of leaves from which you will make the cover and if you wish to make it thin, subtract what you wish of the number of leaves and if you wish to thicken it, add what you want according to your objective. After that take what you have gathered of the leaves for every cover separately. For instance you may take as an example 5, 6, or 7 portions according to the quantity desired and place them around you. Take the first paper and stretch it upon a wooden or marble board and paste it with paste and lay it to your right and paste the second and place it in front of it and paste the third and the fourth to the end. And each that you paste you leave in front of the one before it. After that you take the first and spread it upon the above-mentioned board of marble upon which you pasted the papers and when you have spread it upon the board, take the paper in front of it I mean which was previously pasted. Place the one upon the other I mean the pasted one upon the pasted face. You press upon it with your palms. After that you paste the upper dry face with paste also and take up the third previously pasted paper, and place the pasted face upon the pasted one and smooth them. Again you paste the dry face and place upon it the fourth paper.

After pasting it thus to the last paper. Then when you smooth it, take a sheet of dry paper, and place it upon the last sheet's dry face (to protect the surface). And massage the dry paper pressing firmly with a thick board like the qālub and which should be void of splinters (literal meaning, broken of horns), you press with its edge until the superfluous starch comes out from between the pasted papers. Then you will take it up and place it upon the place leveled as for a tablet or paper and like materials. And you make another cover and place it upon it until you finish what you wished in the making of the cover then you take what you have manufactured of the covers and place them between two thick boards of clear wood, the press for pressing. After that you put between each two covers two leaves of paper whose dimension should project over the covers with the

press tightly until you note the moisture come forth from the paste with which you have pasted the paper. Leave them in the press about half a day or a complete day. Separate them from between the boards and take away the paper which you placed between them, you will find them as you wished and hoped and ask mercy for he who taught you. Then you will spread them in a place of warm air without sun because the sun spoils the work and leave them overnight until the morning comes. And in the morning you stand them upon their edge near the wall. When they dry they become extremely beautiful and especially if the paper was good, and perfect, free of water stains, coolness, or mold.

Sufyānī further describes the steps to be taken in preparing the cover boards to the desired sizes:

When you loosen the book, measure upon it two covers after you go around its two ends with the tracer. And press down upon the edge of the cover the ruler and press them with a cutting blade until you cut it evenly. Glue it upon both hinges and after that, place three drops of starch upon each hinge (or four), or five according to the largeness of the book or its littleness. And you place upon it the cover board and likewise you do it with the second side and you make the book with its two covers between two very thick and hard boards to add pressure from the press and leave the book between them until the paste dries with which you have glued the boards upon the two hinges. When it dries, loosen the book from the press. You will find it straight. Then measure with the compass, inclined to one side, or a square—until you have it correctly on three sides and reduce it from each side and smooth the cut part with the fuller's pumice until the effect of the cutting of the iron disappears and smooth it with your palm. From what had adhered to it from the stone and smooth it with stones because that polishes it very much. When you are through with its cutting, take the equivalent of half of the right cover of the book which is the beginning of the book from a third board and fashion from it a flap to the cover. This is what is called the tongue. And take also what is left of the remaining half of the board from which you took the tongue and design from it the little fore-edge flap¹⁸⁵ and it is the connection between the left cover which is over the end of the book and between the tongue pad (envelope flap) which extends to the opening cover.

Covering Materials: Leather

A vigorous leather trade was well established in Central and Southern Arabia in pre-Islamic times. Knowledge of tanned and dyed leather is reflected in 6th. and 7th. century A.D. Arabic poetry¹⁸⁶ and in the traditions about the 7th. century.¹⁸⁷ At the dawn of Islam in the 7th. century, Mecca's caravans reserved the main place for skins and leather, sometimes also carrying the *zabīb* زَبِيب, or currants, used for tanning in the town of Ṭā'if,¹⁸⁸ which exported leather, prepared by a special method,¹⁸⁹ to all points of Arabia, Iraq, and Syria.¹⁹⁰ Ṭā'if's fame in the 10th. century A.D. as a centre for bookbinding is illustrated by the praise of Ibn Sarrāj (b. 347 A.H./958 A.D., d. 421 A.H./1030 A.D.) for a costly contemporary manuscript, written in Kūfa and bound in Ṭā'if.¹⁹¹ Other centres of tanning and the leather industry in 10th. century Arabia were Sa'ada, Ṣan'ā', Harrān, Jurash, Najrān and Zabid.¹⁹² To the east of Arabia, the unknown author of *Ḥudūd al-alam* wrote, in 372 A.H./982 A.D., about the towns of Sind producing *pūst*, and *charm*, or leather.¹⁹³ In the same period Sijistān and Bukhārā were productive leather centers,¹⁹⁴ as was Turkestan in later times.¹⁹⁵ To the west of Arabia, Egypt relied on her own supply of leather, importing only the hides of rare animals.¹⁹⁶ Farther west in North Africa (Maghrib), the reputation of the tanneries was so great from the tenth to the twelfth centuries that its products were exported to Baghdad.¹⁹⁷ Across the straits in Spain another leather producing¹⁹⁸ and exporting center¹⁹⁹ was already well established in the tenth century. Europe

as an importer encouraged great production not only of leather but also of the alum used in the tanning process.²⁰⁰ There was then, in Islamic times, an extensive leather industry.

Ibn Bādīs differentiates between Egyptian leather, tanned in the Yemenite fashion with gall-nuts and sweet water, which should be washed in sweet water, and leather from the manufacture of Ṭāʾif,

which should be washed in salt water because it is tanned in salt water. Touched by sweet water, the Ṭāʾif leather discolours and fades, but washing it in warm salt water brings out the oil and beautifies it.

If the water separates into drops on the surface of the leather, it is a sign that the leather has a surplus of oil, which impairs the brilliance and the luster of the finished product. To remove this oil, two ounces of powdered gall-nuts should be spread on each layer of leather which is laid out flat, and the gall-nuts should be sprinkled over every section while it is still wet. Then the leather should be folded over, tied together and put into a vessel, containing enough water to cover it. The leather should be left to soak for a night or a day, weighted with something so it will remain covered by the water. It should be well scraped when it is removed from the water. The addition of bran in the tanning paste is helpful. Should the leather still be imperfectly tanned, that is too dark in color and too soft to the touch (because of too much oil), the process is repeated.

The effect of the ‘afs or gall-nuts on leather is stated by Ibn Bādīs as follows:

If the leather is too pliant they harden it, if too hard they soften it, if too oily they remove the oil, and if the leather lacks fat they supply the fatty substance. Understand this (point) well,

he insists.

These directions of Ibn Bādīs which deal with the improvement of insufficiently processed leather are further clarified by some details of basic tanning processes discussed by Ibn al-Ukhuwwa (d. 772 A.H./1370 A.D.), in his rules for the tanning industry over which he as *muḥtasib* had jurisdiction. He disapproves of the use of wheaten flour or bran in tanning and recommends instead the *qaraḥ* قرط, or fruit of the mimosa (*Acacia pycnantha Benth*).²⁰¹ He considers the use of oak-galls, in the last soaking of the skins otherwise tanned with *qaraḥ*,²⁰² a deceptive practice because it harms the skins and causes them to turn black in the sun. He cites the *qaraḥ* method as one of Yemenite origin and used for goat-skins and he considers summer tanning preferable to that of winter because warm water is best for softening the skins.²⁰³ Bark tannin must have been much used in tanning and the Bedouins’ traditional method is to obtain it by boiling green oakwood.²⁰⁴

It is of interest to note, by way of comparison and contrast, the modern methods for the preparation of vellum and leather in use at Constantine, Rabat, Fèz and Marrakesh in North Africa. The modern tanners have introduced a coating of pigeon excrement for goatskins²⁰⁵ between the lime²⁰⁶ and bran baths,²⁰⁷ and a fig coating²⁰⁸ (although it is expensive) in place of the date dressing that Nadīm spoke of in the *Fihrist*.²⁰⁹ Traditional practices still used are: the rubbing of hides with an earthenware tile for suppleness;²¹⁰ tan baths made from the tannin of gall-nuts, or, of cork, acorn-oak bark, and sumac;²¹¹ and the use of a brine rinse (at Rabat).²¹²

Covering Materials: Leather Dyeing

Jābir ibn Ḥaiyān al-Ṭūsī (d. c. 200 A.H./815 A.D.), known as Geber to the alchemists of the mediaeval world, wrote a *Book of Dyes* and a *Book of Red Dye*²¹³ which do not seem to have survived. In his *Kitāb al-*

Rahmah, or *Book of Mercy*, there is a section dealing generally with tinctorial methods, such as: mixing the dyes with something to aid their retention by the material, using stronger dyes for greater penetration, and dealing particularly with the yellow dye *ʿusfur* عَضْفَر, or *Carthamus tinctorius*.²¹⁴ Aṣmaʿī (d. 216 A.H./831 A.D.) touched on the subject of dyes when he said, *Four things have filled the world which can only be found in the Yemen*, among which two he mentioned were the *wars* وَزَس, or *Memecylon tinctorium*, the berries of which give red and yellow dyes, *khiṭr* خَيْطَر, or *Isatis tinctoria*, whose leaves are used for blue dye.²¹⁵ Dabas, a pupil of Kindi (c. 257 A.H./870 A.D.) the philosopher, wrote a book on dyes of which only the title remains.²¹⁶ Iṣṭakhrī (d. 340 A.H./951 A.D.) tells us that Dārābjird in Persia was noted for black ink and *ṣibgh* صِبْغ, or dye, which were preferred to all others.²¹⁷ ʿIdhārī (fl. 13th. century), describing a Greek embassy of 338 A.H./949 A.D. to ʿAbd al-Raḥman III, says that, *They had covered the message of their king in parchment dyed the blue of heaven*, *maṣbūgh sāmāʾī* مَصْبُوغ سَمَائِي.²¹⁸

A finer differentiation between dye substances is found in the story of Abū ʿAlī al-Tanūkhī (b. 329 A.H./940 A.D.–384 A.H./994 A.D.), who relates the episode of a drinking party given by Mutawakkil (reigned 232 A.H./847 A.D.–247 A.H./861 A.D.), who desired to be surrounded by yellow, even with yellow water flowing through the channels and fountains. In order to do this *zaʿfarān* زَعْفَرَان, or saffron (*Crocus sativus*), was used until the supply was exhausted; then *ʿusfur*, or safflower (*Carthamus tinctorius*), was substituted. When Mutawakkil was informed that there was no more of either dye, he commanded his servants to take fabrics dyed yellow with *qaṣab* قَصَب, *calamus aromaticus* which yields a resin for dyeing, and soak them in order to dye the water in the channels yellow. The yellow dyes in this tale are graded according to their cost at that time. It is to be noted that *qaṣab* was evidently not a fast dye.²¹⁹ The dyes were primarily those used for fabrics.

The North African, Ibn Bādīs, delights us with his exact and practical directions for obtaining dyes suitable for leather. He begins with a *Description for dyeing leather and paper red* (see above p. 34).

In connection with the use of *baqqam* for dyeing it is interesting to find that Saqaṭī's 6th. A.H./9th. century A.D. rules on the *ḥisbah* demand that the dyers be prevented from using the *baqqam* in dyeing cloth as it is not permanent when washed.²²⁰ When it is used on leather or paper it is not washing which would have to be considered but rather the effect of light on the dyed material. In a later and anonymous addition to the *Ṣināʿat al-tasfīr* of Sufyānī, there is a chapter on *The Craft of Dyeing Leather Violet*. *Baqqam* and alum are used in the application of dye. Instead of the careful application with a brush or felt tied on a stick, the washed and kneaded leather is soaked in an alum solution and then in a liquid in which good dark *baqqam* has been cooked.²²¹ It was probably a red-violet dye.

We continue with Ibn Bādīs' account of the yellow dyes. Again there are two: *aṣfar* أَصْفَر, or yellow, and *nāranjī* نَارَنْجِي, or orange. The yellow dye is made of *zaʿfarān*,²²² while *zaʿfarān* and *ʿakkar* together make the reddish-yellow dye. To dye leather with the *nāranjī* dye, it should be completely wet or completely dry otherwise it will be streaked. Both the yellow dyes are dissolved in yellow myrobolan juice and applied with a brush if the leather is to be tooled or a sponge if it is to be plain.

Ibn Bādīs' green dye is made of *ḥurrāq* حُرَّاق,²²³ or *parietaria*, the

flower of which is to be found among the cucumber plants,²²⁴ its blossom green like the plants. The method of preparation is simple. The flowers are rubbed on pine needles, which are hung on a rack over old urine. When dye is needed the needles are dipped into the urine which turns a beautiful blue. If the color is too pale more *ḥurrāq* is added, and if too deep more water. It should be applied to leather, like yellow dye is applied, and it yields a “wonderful” blue.

The mention of the yellow dye, and Ibn Bādīs’ use of *za‘farān* and *‘akkar* to make *nāranjī* would make it seem logical to couple *za‘farān* with the *ḥurrāq* to make a green dye from the “wonderful” blue.

We have now the possibility of dyeing leather all the primary and secondary colors except purple and even that gap is partially filled by Sufyānī’s *baqqam* which he calls “violet” and a darker color, “raisin” color. He warns us that for dyeing the leather “raisin” color, it should be well-washed to force out the oil of tanning, since the oil will prevent the color from taking effect evenly. After washing the leather, wringing it, and spreading it out carefully Sufyānī applies a solution of *zāj* زاج, or sulphate of iron, in water. He cautions against using too little water because this dye is deceptive and if the color of the leather becomes too dark in the first application it could not be remedied but if it is too light succeeding applications could easily darken it.²²⁵

Black dye in Ibn Bādīs’ recipe is made in a baked clay vessel glazed inside and out, which is filled with vinegar into which nail-heads cleansed from rust are thrown and left for two or three days until ready. When it is ready, the dye is applied with a stick to which a piece of wool or felt has been tied. Care should be taken in application for if the black dye touches the hand it will stain it. If this occurs, lemon juice will remove the black stain, as it does the red stain of the *baqqam* dye. When the leather is to be dyed black, it should be wet, not dry. The leather is dyed in two applications, then rubbed and washed immediately so that the dye will not eat into the body of the leather and spoil it. To intensify the blackness of the dye, either yellow myrobolan juice or juice of a pomegranate, macerated in water until the water absorbs the color of the pomegranate, may be used. The leather should be dipped in that solution and left to dry.²²⁶

This, then, according to our main sources, was the general range of colors for dyeing mediaeval Islamic bookbindings. Other colors were probably in use, for Ibn Kḥallikān tells us that Abū Bakr al-Ṣūlī (d. 335 A.H./946–947 A.D.) had a room filled with works composed by himself and all bound in different colors, which Ṣūlī used to call “*the fruits of his studies*.”²²⁷

Another source of information on leather and which contains information on tanning as well as dressing and dyeing is *The Plictho* of Gioanventura Rosetti, first printed in Venice in 1548.²²⁸ It was the first printed book to reveal, in detail, technical information on the art of dyeing textiles as well as leather. The chapter which is of interest to us here is headed,²²⁹ *This book teaches the art of dressing leathers: to tan them and dye them colour by colour, as seeks out the whole art according to the manner of Damascus, Syria, Skopia, Turkey, Italy, and Venice, as here below you will understand.*

Contrary to the evidence of most surviving historical Islamic leathers, particularly those on bookbindings, as well as the other historical sources and the modern studies of Maghribi leather manufacture, of the nine

studies in the *Plictho* (out of a total of 50 recipes) devoted solely to the preparation of skins none uses true tannins but describe instead alum tawing. Most of the recipes indicate a final treatment of softening agents such as egg yolk and oil (sometimes also involving flour) to reduce the harsh effect given by the alum treatment and to make the skin more pliable, thus producing a soft leather like chamois.

However, there are a further nine recipes for the production of black and grey leathers and two for brown leathers. All of these make use of tannin obtained from gall nuts and in one instance from gall nuts and sumac. The tannin is reacted with iron salts to produce a black or brown. In some of the recipes there is actually a separate treatment of the skin or hide in the tannin solution followed by further treatment with iron salts. In other cases the iron salts and the tannins are mixed together and the skins soaked in these. To give two examples:

To make black tanned skins: Take four ounces of gallnuts pestled and make it boil in three small mezette of water of leaf of that for dyeing leathers. Let it boil so much that it drops by one third. Then pull it away from the fire and let it air well. When it is a little cool take of that water and put some in a small basin. Have the skin spread on a table and give it the colour of the gall or the water of the gall with the brush or bristles. Give as much to the skins as they can receive, or absorb, and then set them to dry. When well dry, rub them. Have the remainder of the said water boiled so that it is hot, and throw into it two ounces of Roman vitriol. Stir well together and then give one hand (coat) to the skin. Set them to dry and when dry rub them. Then give one other hand (coat) of dye to advantage and thus for three or four times return to dye. Each time you must dry it, rub it and when you see that it gets harsh or that it is dry, rub it. Have a bristle with a little oil of olive and common lye and beat up together that it becomes to the manner of white broth. Smear your skins with this mixture and they will be bright black. When you get it to your liking, put it to dry and as it is dry, rub it and pull it and it will be a beautiful black. Really this is the manner of Skopia with which one dyes the fine cordovans.²³⁰

To make tanned skins brown on the back: Take your dressed skins, and rasp with the pumice stone on the reverse. Then take that quantity of water that would be a measure of three flasks of river water. For each skin put four ounces of gallnuts and boil in said water until it drops by a third and then take it from the fire and strain it. Take as much also of Roman vitriol and one ounce of gum arabic and you will take oil for burning six ounces and four ounces of lye for washing the head. Mix well together, and skim it, and warm all these things. Use two yolks of eggs, and ink and this will be good dressing. If you want to add a little oil of flax, and water for dressing skins, or filings, all these things help to make good colour. Give them one hand (coat) on the side of the skin and then give them one the side of the reverse, as much as you like. This will be notable brown. If you want it to have odor, throw in some powder of ireos (a hedge mustard) or powder of carnations. Make them dry in the shade so that they remain soggy and comely to the eye. This is a true recipe.²³¹

Nine leather recipes are devoted to blacks and greys, eight to various red colours (vermilion, crimson, morello, brazil, lac, sienna red, red), nine to blues (azure, blue, light-blue, woad, peacock), one to yellow and two to gold.

Leather Preparation and Covering

The seriousness with which the mediaeval leatherworker in general, and the Islamic bookbinder in particular, considered this material is clearly indicated in the historical sources and is reflected in the quality of the Islamic bookbinding leathers which have come down to us, as well as in the actual workmanship of their tooling and other ornamentation.

It is of interest that the binder was not necessarily expected to use the

leather he was provided, without further modification before paring and cutting, and that he was expected to take on some of the roles one might consider to be the province of the tanner. That this continued to be so until a late date in the Islamic tradition is indicated by the representation in the mid-19th. century Kashmiri manuscript painting of a bookbinder and his tools of a large scraping tool with a half-moon-shaped blade and a crescent-shaped support held against the chest—a tanners' tool still used today by Moroccan tanners (called *sedriya* in Marrakesh) to make the tanned skin more supple.²³² (Colour Plate B)

In selecting skins as material for book covers, Ibn Bādīs recommends that they be clear, beautiful of colour, and well-tanned. The tanning is tested by kneading the leather with the hand, the softer leather being preferred. He advises that the leather should be washed in warm water to open and soften it.

Further considerations in selecting leather depend on whether it is to be *manqūsh* مَنقُوش, or tooled, in which case it should be smooth, lightweight, that is weighing less than a *mann* مَن, ²³³ or about two pounds, and it should be well-tanned; or whether it is to be plain,²³⁴ in which case it should weigh a *mann* and have a grained surface. In washing the leather in sweet or salt water, according to the tanning, care should be taken that nothing like a nail or piece of iron touches it as it would blacken it. While washing leather tanned with 'afṣ عَفْص, or gall nuts, the back should be thoroughly rubbed with a piece of earthenware to remove the gall and other acids which, if allowed to remain, would eat into the material. The leather should then be squeezed well folded face to face, and then opened until it dries.

Ibn Bādīs advises that the best time to pare leather is when it is nearly dry, because then the paring knife will not tear it. The legs should be cut away and the remainder of the skin spread upon a slab should be massaged with a heavy work ruler, and then pared, care being taken not to cut through the skin. Again the leather should be washed until the water remains clean and pure.

Sufyānī also stresses the washing of leather before covering:

If you wish to cover the book with the leather which you worked upon it, beware doubly and I forbid you that you take the piece of leather to clothe with it before washing it with water because the tanners when they dye the hide it is affected by the alum, so the color of the dye comes out bright and they grease the leather with oil which accentuates its color. Oh my brother I advise you earnestly and by my best advice that you place the leather, which you had cut according to the measurement for clothing the book, in water, and let it run over it between your hands, and rub it, in order that the oil will come out on the surface of the water. Then pour out the water and repeat the washing and rubbing between the hands it will let out oil on top of the water. Then you continue it until the oil disappears. because if you clothe the book before washing it and applied the gold over it the oil will prevent the leather from absorbing the glue. From absorbing it I mean here by glue, the fish glue.

In one of the very few areas of the Islamic world where traditional bookmaking crafts have survived, the city of Istanbul, it is customary for the leather to be washed and then pared on a marble slab while the leather is still slightly damp.

A broad curved-bladed paring knife is used (Fig. 4). Its short handle fits in against the palm of the hand and paring is done in even strokes working with the hand held tight to the body and pressure coming from the chest. The bevel of the blade is on the side in contact with the leather

rather than the uppermost side as in the traditional European paring knives. These techniques permit fine even paring of the skin which is a characteristic of Islamic bookbindings from mediaeval times onward. The fine leather with the pasteboard substrate holds the impression of the tools well but is prone to wear and splitting along the flexing zones of the joints.

Examination of Islamic bindings with fore-edge and envelope flap indicates that usually the bookcover was prepared as a unit separate from the textblock right up to the completion of the tooling and other decoration, somewhat like the case bookbindings developed for the mass production of books in Europe in the 19th. century. In the case of the mediaeval Islamic bindings with block-pressed leather doublures (see *Doublures* below) it appears that the whole inside of the cover may have been lined with a single piece of doublure leather which was pasted in place after the covering of the exterior. The piece crossing the spine may not have been pasted down but cut to form a hinge on either side which would eventually be attached to the textblock. Alternatively the inside of the upper cover could be lined separately leaving a hinge and the inside of the lower cover, fore-ledge flap and envelope flap lined with a single piece of doublure leather, also leaving a hinge. In later manuscripts with paper doublures the area on the inside of the bookcover where the lower board was attached to the fore-ledge flap board and the envelope flap board was provided with a textile or plain leather hinge. The textile was of a type similar to that used in the lining of the spine and was sometimes blue-dyed linen. Paper doublures were usually applied after the covering of the exterior with leather and so cover the leather turn-ins (as did later leather doublures).

The leather covering was applied with paste, probably with the leather first slightly dampened, and smoothed into place with the hands and the help of a folder. No systematic procedure seems to have been followed for the corners of the turn-ins which are left lap-mitred or occasionally roughly butt-mitred.

After covering with leather the covers would be left to dry. Sufyānī indicates that in his method of bookbinding the finishing (the tooling of the leather) is done at the same time as the covering with leather (see below). After the covers are dry, the turn-ins are trimmed fairly close to the edges of the boards with a knife.

Other Covering Materials

Although leather was the most commonly used material for the covering of the traditional Islamic manuscript book throughout its history, other materials were used. Textiles were applied to precious manuscripts but few examples of the earlier periods have survived. Saladin in 1174 A.D. sent to Sultan Nūr ad-Din Mahmūd valuable gifts including two sets of *Qurʾāns* bound in silk, one in 30 volumes bound in blue silk enclosed in sheets of gold and closed by gold clasps and another in 10 volumes bound in pistachio-coloured silk. It is recorded that the jurist Abū Ṭāhid (d. 1335 A.D.) commissioned an embroidered satin covering costing 4500 dirhams made for a copy of a *Qurʾān*, believed to date back to the time of the Caliph ʿUthmān.²³⁵ Textiles were also utilized for less special books. An interesting group of bindings, whose outer and inner cover surfaces are covered with simple striped and chequered textiles and the cover edges bordered by strips of defining leather, was produced for the court of Mehmed II Fatih in Istanbul.

As well as leather or leather covered portfolios to protect bound or unbound codices, simply constructed satchels with a triangular flap and carrying straps were made of textiles, often very beautiful and expensive ones, for the carrying of manuscripts.

Paper was also used, particularly in the 18th. and 19th. centuries in the Ottoman and Persian domains, as a covering material for more modest books or as an element in cover decoration.

Doublures

After applying the leather exterior covering Sufyānī says, *you line it* (the bookcover) *with leather or cloth*. Ornamented endleaves or pastedowns are known from Coptic bookbindings. Grohmann has recorded a number of examples of the 10th.–11th. century A.D. in the Rainier collection, on both vellum and paper.²³⁶ Decorative techniques include painting, block-printing, punch work and filigree.

Doublures, or linings to the inner face of the boards (rather than paste-downs, or pasted-down endleaves), are found in the earliest surviving Islamic bookbindings from Kairouan, in these instances of parchment (often re-used manuscript leaves). The use of skin for doublures continues in Islamic bookbindings on through the 14th., 15th. and 16th. century A.D. and later. In these examples tanned leather is used. Sometimes these doublures were tooled and painted using the same techniques as those for the exterior leather covering (although in these cases the leather is characteristically of a lighter tone) but of particular interest are doublures of thin leather with a block-pressed pattern. For these the leather used is more open and supple than those used for the exterior covering (it may take the blockprinting better) and somewhat resembles chamois. There seems to be a preference for sheepskin rather than the almost ubiquitous goatskin of the external covers.

The patterns on the doublures have been noticed and described by several Western authorities and the techniques employed, the types of ornamental patterns, and their distribution have been investigated by Bosch.²³⁷

Textiles printed from wooden blocks were fabricated in Egypt since late classical times and then imported in quantities all over the Mediterranean area.²³⁸ This early printing on textiles continued into Islamic times and is attested by a 9th. century papyrus which gives a list of materials which includes printed fabrics.²³⁹ Wooden blocks, belonging to Mamlūk times or somewhat earlier, used for textile printing have been found in Egypt, and such printing has been continuous to modern times there and in Syria.²⁴⁰ Thévenot²⁴¹ and Chardin²⁴² both remark the use of blocks for printing textiles in Persia also.

Since we do have early Islamic examples of block-printing on paper,²⁴³ including designs for end-papers²⁴⁴ the idea of patterning the more durable and stronger leather for doublures logically follows. Block-printed papers, and eventually machine-printed patterned papers, were used for doublures in later Islamic bookmaking.

Two Christian Oriental bookbinding traditions of the Middle East which have many features relating them to the Islamic, the Syriac and the Armenian, used textile doublures. The former preferred monochrome, usually blue, linen and the latter block-printed textiles, often of Indian production (the Armenians of Western India playing an important part in their

trade) though woven silks were also used, of which some early mediaeval examples have survived.

The blocks used for printing the Islamic doublures were cut so that the positive elements of the design were in intaglio rather than the other common method of producing textile printing blocks in which the background surface is cut away leaving the design outstanding which would then produce the printed line. Two examples, in the Oriental Institute collection, A12143 (Catalogue No. 61) and A12111 (74), are printed from a block cut in the latter way. It seems that, before printing the leather, the printing block was wiped with a stain, perhaps of some tanning agent, which left the background to the pattern a darker brown colour. Although the preference was for brown doublure leathers, one example in the Oriental Institute collection, A12108 (Catalogue No. 55) is coloured green.

In the 15th. century A.D. under the stimulus of the Herati workshops, filigree cutout doublures developed in combination with multicoloured painting and the use of coloured paper backgrounds.²⁴⁵ For less elaborate productions unpatterned paper (often of European manufacture), sometimes dyed yellow, was increasingly used to line the insides of the covers. Decorative papers, gold sprinkled and marbled were also in vogue in the 17th.–19th. centuries A.D., even for the most modest volumes, for endpapers, pastedowns and doublures.

Finishing: Covering

The instructions of Sufyānī seem to indicate that the finishing, or tooling of the leather with the decorative stamps, was carried out during the covering operation itself. Tooling at this stage could not have been done on the complex Mamluk or Herati style bindings, but would have been possible with the panel stamping techniques and simple vocabulary of tools used in the Islamic world for most bookbindings of Sufyānī's time:

Then after that divide the first cover with the line of the folding knife into two halves and place the panel stamp in the middle of the cover if the manner of binding is eastern and circle about it by the curved line with the folding knife. After that follow the line with the cutter and the point and measure the panel stamp upon the cut out and remove what was excessive until you see that when you lower the design in the cut out you see it lowered with ease and is not tight in its placing in order that the work will be perfect. Then when you clothed the first board with the leather and smoothed it right and left, take away the panel stamp from the book and spread it upon the marble slab in front of you and place the panel stamp upon the cavity from above the leather and hammer upon the design with a small mallet beating gently, which should not be very strong for fear you might cut the leather. And repeat the tapping by the mallet upon the stamp for this will extract the unnecessary starch from below it and the leather will swell by it from the edge of the stamp. So press with your left thumb upon the stamp and smooth with your right hand leaving what is useful of starch at the edges of the design and what is useless massage out to the right and left until it is gone and hold the edges of the leather near the stamp suddenly so that when you take the design from its place the impression of the edges will remain with a clear trace as though you have taken it off the wax and by repeated tapping on the stamp the design is raised in it and will leave an excellent impression.

Then when you have finished making the stamp fold the edges of the leather upon the edges of the pasteboard—so when you finish the work of the first cover lay it upon the marble slab before you and lay the book upon it in the same manner in which it was laid before the covering.

Attach the cover board temporarily. The leather may contract after drying and after the endband is sewn so that the thread of the endband adds bulk to the spine of the book. If you wish, fix the unbound book in the cover after you mark it, dry

it, and line it inside. Then if you find that the binding is small on the book because of the sewn endband, let out the amount of that excess tightening from the binding. And the binder should be capable and intelligent knowing what increases and diminishes and what harmonizes and what does not harmonize.

While the book rests on the first cover, the second board is pasted and covered with leather. Then the narrow fore-edge board is placed on the leather beside the second cover with the width of an 'azfah عَزْفَة, or leaf of the dactylus palm,²⁴⁶ between them. Two or three 'azfahs' width are left between the fore-edge board and the tongue board which is then glued into place. The edges of the leather cover are folded over the two flap boards and the second cover and some thinly pared leather is pasted over the points between the second cover and the flap.

We have said when you put down the book upon the first pasteboards spread the wheat paste upon the second board and cover it with the leather and finish the work upon it as you did on the first, place beside it (the second board) the small board, over the fore-edge, after you smear it with wheat paste, and massage it and put it in place and there should be between it and the cover board the width of a palm leaf or less and place after that the tongue or large flap glueing it and massaging it. Upon it the stamp is placed and there should be between it and the small board the width of two or three palm leaves and the matrix of the tongue should be a fourth of the large stamp which is in the center of the first cover and the second (cover) and you fold the edges of the leather upon the two bands upon the second cover. After that you place some thin leather upon the edge of the back cover and upon the edge of the tongue cover and the small band should be in the center under the thin leather and you massage the work and you decorate it.

The whole leather cover should be smoothed and Sufyānī offers a trade secret in describing this operation. He says that, should there be soft spots in the leather this smoothing would help correct them, especially if the

softness can be adjusted (that is, the leather be pushed together at such a place) near the decorated section, because in using the panel stamp the soft spots would not be as apparent as on the plain surface. And beware, lest you be deceived in the leather. If there was in it any wrinkles or softness then press anything wrong out of it by massaging. When you clothe the second board, continue massaging it towards the vicinity of the panel stamp cavity for if you gather what is loose in the cavity and tap upon it, this looseness will go away by the tapping, by the rubbing, and massaging, and artfulness, so that nothing of the softness appears in that.

Sufyānī now removes from the book the boards decorated with leather and hangs the cover on a reed or cord in the warm air, but not in the sun because that would spoil it, leaving it overnight to dry. In the morning it is inspected and polished if it needs it; otherwise it is left to dry for a day or two. If the leather needs more polishing it should be dampened, firmly held on a marble slab and polished with a smooth shell or well polished piece of wood. If any of the decoration should be spoiled by the polishing it should be retooled:

If some of the decoration is spoiled by the vigor of the rubbing, then restore it by tapping the decorating tool with a mallet. It is thus returned to its old form as you want it.

The next stage is to,

Leave it to dry and work on the sewing of the endbands.

The preparation of the hinges and their attachment to the spine and then to the cover has been touched on above. The final steps in the binding of the Islamic codex are concisely summarised by Sufyānī,



Fix the cover boards on the book after you have pasted it (the hinges and spine). Tie on the spine side with strong thread. Put the book between two heavy tablets

(boards) as was done previously. Press on them both with the board. Leave it between two tablets, holding together and drying. Then you will find that it comes out straight as desired. Then exalted Allah leads you to success in the right way. May He be praised.

Material evidence of books contemporary to Sufyānī's time verifies his careful descriptions of processes. Ibn Bādīs gives us no instruction of the mounting of the leather and so deprives us of a comparison of methods.

Finishing: Cover Ornamentation

Islamic bookbinders are indebted to their Coptic and other Eastern Christian predecessors and neighbours also in matters of ornamentation. The arrangement of the field of the upper and lower covers in longish rectangles set within each other parallel to the sides and the practice of choosing different decorative patterns for the adornment of the front and back cover are some familiar survivals. Blind tooling, coloured inpainting, incising and leather cutting are among those Coptic ornamental techniques which, in addition to certain stamp motifs and the use of geometric diaper patterns, were adopted by the Islamic bookbinders.

Tools employed in these techniques are included in Ibn Bādīs' list (see above, p. 44). For the layout of the design, of importance are the compass used for the drawing of the suns or circles to be tooled in the center of the covers, and the two rulers, one for designing and the other for *takhīl* , perhaps for heavy outlining (as eyes are outlined with *kuhl* , or antimony, which has a dark brown color), or for rubrication. *Takhīl* may refer to the blind-tooling of leather, when the pressure leaves a darker brown or darker colored effect when the tool has been applied.

Blind tooling was executed with simple tools, some with names descriptive of their designs, and others unspecified. The simple tools which are not specified by Ibn Bādīs are probably the common stamps of straight and arciform shapes combined in early bookbinding with ingenuity, skill, and patience. Their arrangement results in an amazing variety of patterns. Further information is lacking because although Ibn Bādīs promises a chapter on tooling either he does not fulfill his promise or this section has not survived.

In blind tooling the tools appear to have been applied cold on slightly damp leather, although there is a suggestion in Ibn Bādīs' section on tools that a heated tool may have been used (he advises that a willowwood ruler be used to avoid scorching). The simpler tools producing lines and dots left simple impressions in the leather but those with more complex motifs were designed so that the positive parts of the design would stand out in relief against a sunken background.

Tools which produced a complete design were at first small in scale and used as a frieze or as a repeat to form frames and borders or to fill a larger decorative form. Large scale or complex decorative areas were built up and drawn with simple tools creating fillets, bars, arcs and dots. It was not until the late 14th. or early 15th. century A.D. that panel stamps were used which could create the whole design or an important design element with one impression. This innovation appears to be a Persian one although germinal forms appear in Mamluk bindings used as corner-pieces or as finials or pendants to the large mandorlas of the inner panels. Panel stamps of ovoid shape became very commonly used in Islamic bindings of the 16th.-20th. centuries for the central cover motif, in association with flattened ovoids or circles for the envelope flap, as well as corner piece finial

and epigraphical panel stamps. The 15th. century Herati workshops also developed large scale panel stamps which could emboss half of a cover at a time. This technique long continued in the Eastern Islamic world.

In the above description of tooling with panel stamps Sufyānī uses the word, *turunjah* تَرْنَجَة,²⁴⁷ or citrus-shaped, for both the panel stamps and the impression left by it on the leather.²⁴⁸ The change from “suns,” or circular central medallions, for the decoration of covers in the 14th. century A.D., to this *turunjah* shape is one of the more obvious alterations in decorative style.²⁴⁹ In Sufyānī’s method of using such stamps, the board is shaved away in the center to accommodate the form of the panel stamp so that there will be a depression when the leather is pasted onto the board. The stamp is placed in this depression and hammered gently, forcing out the surplus paste under the leather toward the edge of the panel stamp. From this edge the paste is taken away, leaving “what is needed.” Then the leather is held firmly while the panel stamp is suddenly removed, so that the impression will remain as clearly as if pressed in wax. The operation is repeated for the second cover and for the flap, the panel stamps for the flap being also of a citrus-shape but only one-fourth the size of the panel stamp used on the covers.²⁵⁰ In 18th. and 19th. century bindings we sometimes find the tooling done over paper.²⁵¹

The scissors and some of the burins, engraving points, and tweezers,²⁵² which Ibn Bādīs lists, would be utilized in decoration by incising, leather cutting, and mosaic leather techniques. The technique of incising or scoring leather was not limited to the decoration of bookbindings but was also used in other leather working traditions. Adam considers this technique a common one²⁵³ and it was probably familiar to both Ibn Bādīs and Sufyānī. Particularly fine examples were produced in the Herati workshops of the 15th. century A.D.

The latter author also deals with the making of such an incised and inlaid design of an oval shape from leather. He takes pared leather, applies strong glue on both sides, and pastes upon it two pieces of unpared leather, which have been spread with glue on their rough sides. He prepares a design for it by taking thin paper, wetting it with saliva, leaving it until the saliva has been absorbed a little, and pressing it with the thumb and fingers over the designs of some other bookbinding. The design may be a *turunjah*, or citrus-shape, a *rukn*²⁵⁴ رُكْن , or corner (for the rectangular panel), in either *nawārah*²⁵⁵ نَوَارَة , floral, or *tawriq*²⁵⁶ تَوْرِيق , curvilinear arabesques. The paper is lifted from the design and left to dry, then the design is traced with pen and ink.²⁵⁷ (For such a tracing of a bookbinding panel stamp by an Islamic craftsman, see Figs. 12 & 14). This paper with the ink design is pasted to the leather of three layers. The design is traced on the leather with a sharp tool, like the lancet for blood-letting. After it is traced, further work may be done on the leather until it pleases the craftsman. Sufyānī suggests that if it is faulty it should be tried again on another piece of leather.

A number of Coptic bindings exploit the filigree technique. The idea of fine leather cut-work or filigree, which is ornamental openwork of a delicate or intricate design often backed with coloured skin, paper or textile, seems to connect with the “durchbrucharbeit” tendencies of late Classical and Byzantine work in stucco, wood, and metal.²⁵⁸ An early example of leather cut-work is on a binding from Chotscho, dated the eighth to ninth centuries.²⁵⁹ The theory advanced by Gottlieb²⁶⁰ of producing filigree work

by stamping has been refuted by Karabacek who showed that the sources use only *qaṭa* قَطَعَ, or "to cut" in discussing the process.²⁶¹ Although there were Coptic precedents for this technique it was not until the 15th. century in the Mamluk and Herat workshops that it was exploited creatively. The process is mentioned by Dūst Muḥammad (writing in 951/1544) as *munabbat-kārī* مُنَبَّتْ كَارِي,²⁶² literally "made to grow by digging." ²⁶³ Muṣṭafa 'Alī (writing in 966/1557) lauds the skill of the Persian bookbinders, "in point of the *maqṭa* مَقْطَع, or cutting, of the adorned parts . . .," when comparing them with the contemporary bookbinders of Asia Minor in his time.²⁶⁴

The third type of decoration associated with the use of cutting tools and tweezers was the mosaic leather technique which combined variegated leathers. It was a specialty of Spain²⁶⁵ and has been discussed by Adam as the forerunner of the famous Maioli-Grolier bookbindings of Europe.²⁶⁶

Lacquer painting on bookbindings was first introduced by craftsmen from Herat in the early 15th. century as the result of close ties from China. Baysunghur had two representatives in the embassy of Shah Rukh to China (1419–1422). We find lacquer used by the second quarter, and polychromed painting by the end of the 15th. century on bookbindings. The

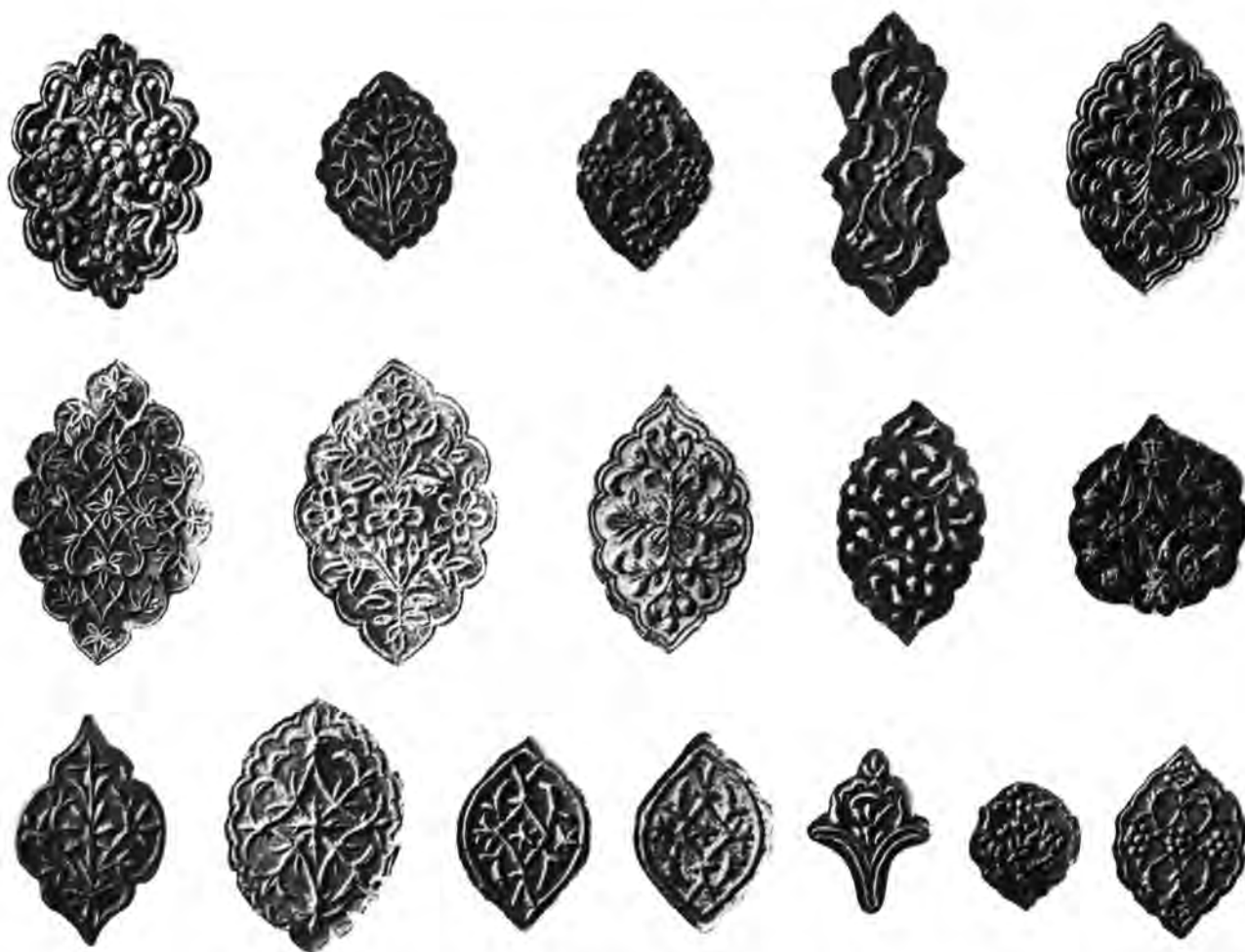


Fig. 11. Metal panel stamps for the tooling of cover centre-piece motifs and their pendants and envelope flap motifs. 18th–19th centuries A.D. Chester Beatty Library, Dublin.

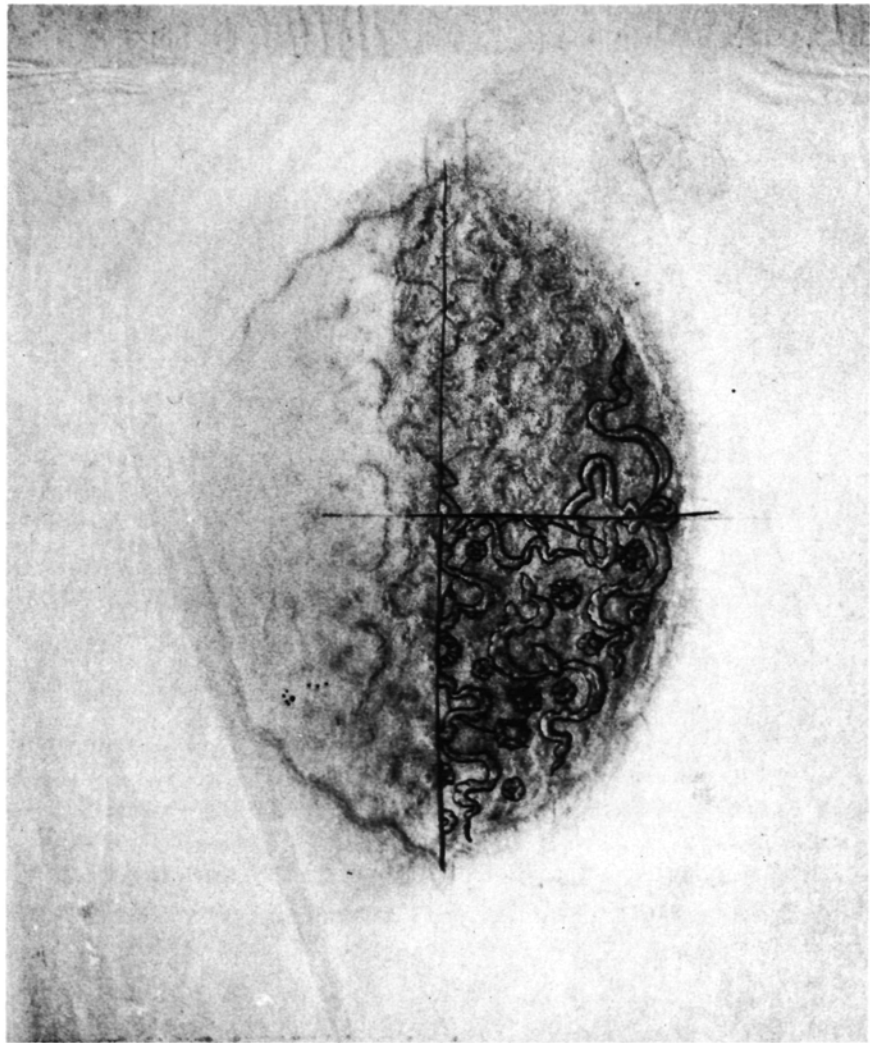


Fig. 12. An Ottoman craftsman's rubbing and tracing on paper of the centre panel stamp of a bookcover. 19th century A.D., Istanbul. Chester Beatty Library, Dublin. From an album of calligraphers' and bookbinders' stencils presented by F. R. Martin.

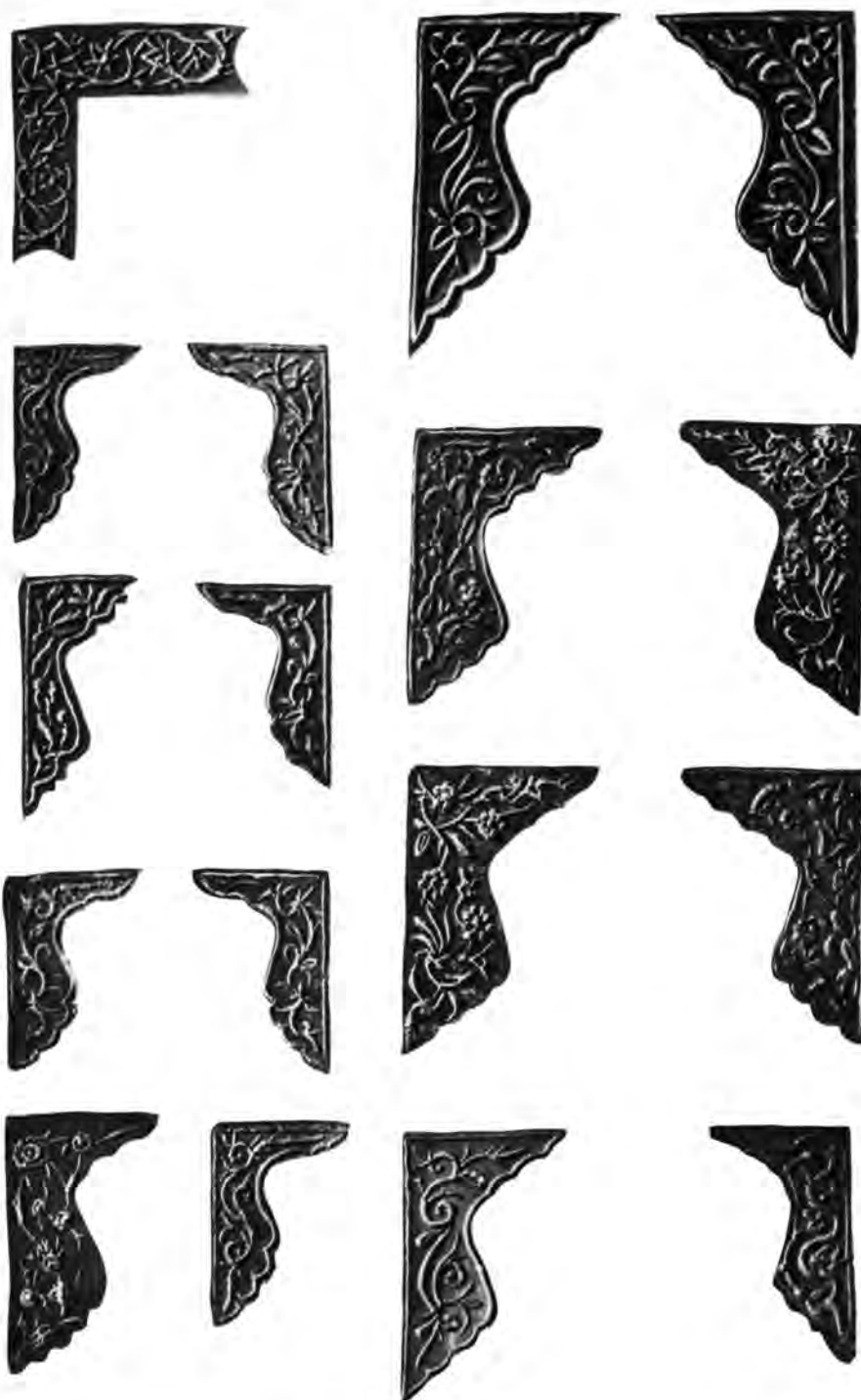
highest achievements in this art were those of the 16th. century where the work was closely related to that of the miniature painter, and this relationship continued in fine productions up to the early 19th. century in the Ottoman, Persian and Islamic Indian domains.²⁶⁷

At first the lacquer was painted on leather but the painting had a tendency to crack. Soon painted covers, made of layers of pasted papers, become more common. A thick coating of gesso or chalk was first laid on. Then several coats of colourless lacquer served as a base for the drawing and painting of the composition in water colour. Finally, to protect the water colour, several coats of colourless, transparent lacquer were applied to which could be added embellishments of gold, silver, and shimmering mother of pearl.

Finishing: Binding Media for Inks and Paints

As well as using *ṣamagh* as a vehicle for ink (see p. 51, above), Ibn Bādīs specifies *ʿasal raqīq* عَسَل رَقِيق, or thin honey, and *dubs sā'il* دُبْس سَائِل, or flowing molasses, as ingredients for dissolving lamp black, mentioning *kandar Maṣhūq* كَنْدَر مَصْحُوق, or powdered mastic, *sukkar abyad* سَكَّر أَبْيَض, or white sugar, and *sukkar nabāt* سَكَّر نَبَات, or rock sugar, as thickening agents for inks. He speaks of

Fig. 13. Metal panel stamps for the tooling of corner-pieces. 18th–19th centuries A.D. Chester Beatty Library, Dublin.



dibq دِبْق , or birdlime glue, from the viscum of mistletoe and berries, the best of which is white and resilient; but he does not give us its specific function.

We have mentioned wheat-starch paste as an adhesive. It is used, as are rice paste and gum tragacanth, as a size to obtain the glossy surfaces of paper²⁶⁸ by filling the pores. These sizes added to the rag-paper's strength.²⁶⁹

Glutinous substances were extracted from animal materials, by a variety of methods, to be used as vehicles for gold, silver, and paints. Ibn Bādīs gives direction for extracting animal glue from cut pieces of any animal skin. In order to obtain the *ghirā'* غِرَاء , or glue, the skin is shaved, then

soaked in a vessel or trough covered with water two spans deep, until it decomposes and rots. Then glue is left over a fire so that it cooks slowly. After that, the glue is filtered through a woolen strainer, is poured on a tray to cool, and is cut into strips.

The animal glue Sufyānī mentions is extracted from the *‘arāqīb*²⁷⁰ عَرَاقِيب, or hocks of cattle. This glue is yellow verging on red in colour, and is melted in water over a very low fire. Originally it was extracted by cooking the hocks as the skins were cooked: in fact the author learned to make glue from hocks by watching the skin process. This glue serves as a vehicle for gold.

The *ghirā’ al-ḥalazūn* غِرَاءُ الْحَلَزُون, or snails’ glue, says Ibn Bādīs, *will never cease adhering*, and he prepares it by taking about five handfuls of desert snails, which have been well-pounded in an iron mortar and putting them in a kettle to boil for a day until nightfall. A little water is added at a time to keep them from scorching until the glue becomes thick and strong. He considers it the best glue for writing or painting with gold or silver since it will never flake off but remains cohesive.

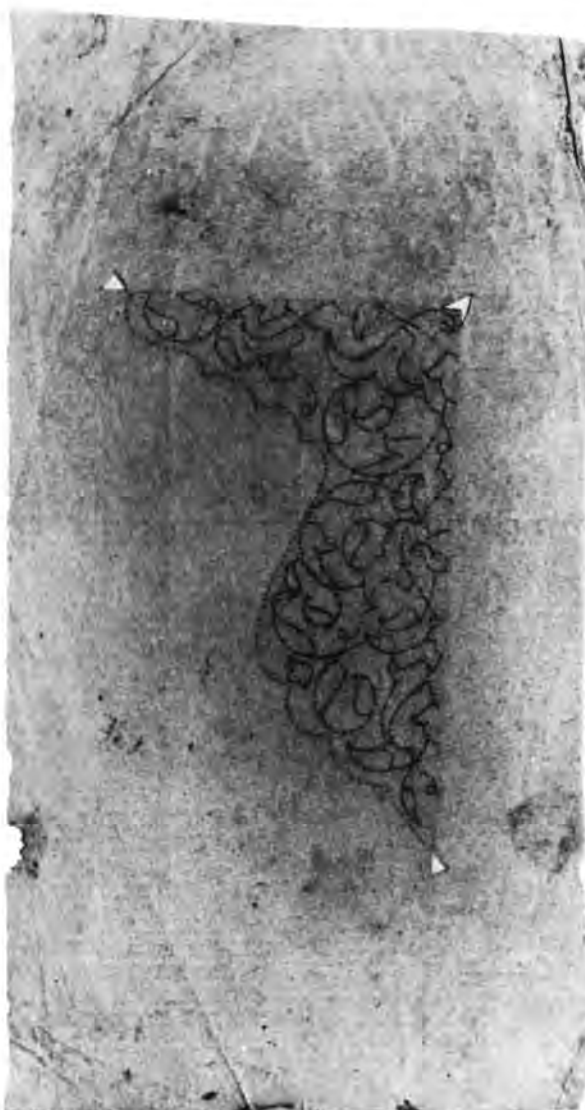


Fig. 14. A stencil for a corner-piece on paper. Note the guide-holes cut at the corners and the pin pricks along the lines of the design. Chester Beatty Library, Dublin.

A glue which does not permit the colour to flake is very important, some such ingredient being responsible for the durability and tenacity of the colours painted on the Egyptian-Syrian leather bindings.

The *ghirāʾ al-samak* غِرَاءُ السَّمَكِ, or fish glue, is more summarily treated by Ibn Bādīs, who describes it as pure white glue which is crumbled and soaked in water overnight. In the morning, the excess water is poured off and the softened glue is kneaded until it becomes white and waxy. In a special copper vessel it is melted over a light fire, then filtered through a piece of cloth and used. Sufyānī discusses two types of fish glue: whitefish glue and a Syrian variety.

The *ghirāʾ al-ḥūt* غِرَاءُ الْحُوتِ, or whitefish glue, is uncooked and in its original state looks like dried old bread. It comes folded in layers. Sufyānī takes the amount needed, softens it in water, then takes it out and hammers it considerably on a marble slab. It is carefully folded and the hammering is repeated until it stretches. It is cut in small pieces which are placed, with sufficient water to dissolve them, over a low fire. The glue is removed from the fire after the pieces dissolve and rubbed with the fingers. More water is added and the glue is returned to the fire until it becomes like old olive oil, then left to cool.

Sufyānī says,

I swear by it and distinguish myself over other masters of the craft (of book-binding), and they know not by what means I excel them. . . . He who is satisfied with the Syrian glue—let it suffice him.

Finishing: Gold, Silver, Inks, and Paints

Not only dyes but other materials helped to make Islamic bookbindings beautiful by enhancing their ornamentation. Gold and silver were treated in the same manner; therefore the following remarks could be applied in most instances to both although there is a decided preference for gold.

Leaf gold was applied as a background for some of the Coptic book-binding designs.²⁷¹ In Muslim leather bindings both “brush-gold” and gold-tooling techniques are found in the decoration of the covers.²⁷²

In bookbinding, applying “brush-gold” (powdered gold suspended in some vehicle) with a pen or brush is not difficult. Ibn Bādīs gives us several preparations, like those we have from antiquity, made both with gold as an ingredient or with yellow-coloured substances as substitutes for gold.²⁷³ Both Ibn Bādīs and Sufyānī call for fish glue in their mixtures (see *Finishing: Binding Media for Inks and Paints*, above): while Qalqashandī prefers the juice of a lemon and gum arabic to suspend the gold. Sufyānī is careful to discriminate between the use of fish glue and gum arabic as a vehicle, the former being employed on leather, the latter on paper. He warns the bookbinder to beware of using the leather without washing it, if the gold is to be used with whitefish glue, because the tanners rub the leather with oil in order to accentuate the lustre of the hide. Washing the leather will bring the oil out and the process should be continued until no oil can be seen in the water. If the book is covered with unwashed leather and the gold with the whitefish glue is applied over it, the oil will prevent the leather from absorbing the glue. Then when the leather written with gold-whitefish glue mixture is rubbed or polished the gold will peel off.

To prepare the Syrian glue it is only necessary to melt it in a vessel and then let it coagulate. Whenever it is to be used, a few drops of water, in



Fig. 15. A bookbinder decorating a bookcover. From the procession of bookbinders and metalworkers. Surname, c. 1730 A.D., Topkapu Saray Museum Library, Istanbul, A.3594.

proportion to the amount needed to suspend the gold, are kneaded with the glue for an hour and the gold is suspended in it. If the leather written with this gold-Syrian glue mixture is polished, the gold will not peel off whether the leather is washed or not. This polishing of the leather is one of the last processes in covering the book.

Sufyānī warns us against leaving the gold with the glue in it, *for it will rot and maggots will appear in it, and flies will be attracted to it on account of the smell of the remaining glue*. If the gold is not used the same day or week he suggests that water be added and the mixture strained repeatedly until it contains no glue.

Not only primary colours but many intermediate hues of paint were used in the ornamentation of the bookbinding. Blue was particularly favoured by the Mamluks but the Persians and Ottoman Turks exploited a wide range of colours. Ibn Bādīs devoted a chapter to the mixing of paints and described the effects achieved by them. The main colours were white, black (the colour of heaven), sky blue, red, and yellow: the white being *barūq* بَرُوق, white lead; the black being *madād* مَدَاد, ink; the colour of the heavens over the Nile being *lāzuward* لَازُورْد, lapis luzuli; red being *zinhjār* زِنْجَار which was compounded of *zinjafar* زِنْجَفَر, cinnabar red, and *isrinj* إِسْرِنْج, red lead;²⁷⁴ bright yellow being from yellow *zarnīkh* زَرْنِیْخ, arsenic trisulphide, to which red arsenic was added when an orange colour was desired. The paints would not mix with each other unless in powder form, and they were more easily ground when moist. Ibn Bādīs considered arsenic and lapis luzuli pure colours. He added *barūq* or white lead to most of the colours.

There are more recipes for shades and intermediate colours designated as colour of blood, rose colour, orange, ruby of the East, blood of the gazelle, brown of dates beginning to ripen, white and marble, colour of the wastes of the desert, falcon colour, blossom of the pomegranate, and many more, showing a fine discrimination of hues. These colours certainly were used in addition to dyes mentioned in the chapter on bookbinding, which were necessary to the preparation of the leather background. These paint colours are opaque especially with white lead added, and were used with gold and silver in the decoration of the manuscripts and of the covers of the book.

Conclusion

The craft of Islamic bookmaking was a conservative one, many of the categories of tools, materials, techniques and structures evidenced from the early centuries of Islam being retained right through to the present day in the those workshops carrying on the tradition. Basic structural changes were introduced slowly, those that did being in response to the introduction of new materials, such as paper, or in favour of a single form out of a number of variations offered by the cultures by which Islamic bookmaking was tutored, such as the case binding with wrap-around fore-edge and envelope flap. The desire for an efficiently executed assemblage of techniques can be seen in this classic form of the Islamic book, sometimes at the expense of durability. However, in the realm of decoration there were few concessions to expediency and continuing exertions were made to achieve quality and variety of invention. It is in this area that we see the most signs of change and evolution, though the most popular forms survived for centuries before being superseded. The workmanship

of the master binder was much lauded. Qāḍī Aḥmad wrote of Maulānā Qāsim-Beg Tabrīzī,

(he) was an incomparable bookbinder, a peerless master of leather binding. He was so unique and skillful that he would have sewed the pages of Fate in the back of the binding, and with the binding knife would have levelled the days of Destiny; his work in the corner pieces (kunj) was similar to stars, and that in medallions (turunj) like the sun.

It was through such respect for the craftsman from the bookreading public together with the strength of the craft tradition in the passing on of techniques from master to apprentice (in spite of the pessimistic response of Sufyānī) that Islamic bookbindings of such competence, from the most luxurious court productions to the most modest manual, were produced for such an extraordinarily long time.

1. For an account of the early development of the codex form of book see C. H. Roberts, "The Codex," *Proceedings of the British Academy*, 40, 1954, pp. 169–204.

2. T. W. Arnold & A. Grohmann, *The Islamic Book: A Contribution to its Art and History from the VII–XVII Century*, 1929, pp. 30–58; D. Cockerell, "The development of bookbinding methods—Coptic influence," *The Library*, Fourth Series, Vol. XIII, No. 1, June 1932, pp. 1–19; H. Ibscher, "Ägyptische Abteilung (Papyrus Sammlung) Bucheinbände aus Ägypten," *Ämtliche Berichte aus den Königl. Kunstsammlung*, XXXIII, November 1911, pp. 46–51; H. Ibscher, "Koptischer Bucheinbände aus Ägypten," *Berliner Museen*, XLIX, 1928, pp. 86–90; C. T. Lamacraft, "Early bookbindings from a Coptic monastery," *The Library*, Transactions of the Bibliographical Society, 4th Series, Vol. 20, 1939, pp. 214–233. P. Adam, "Die griechische Einbandkunst und das frühchristliche Buch," *Archiv für Buchbinderei*, XXIII, December 1923, pp. 89–91; XXIV, March 1924, pp. 21–27; April 1924, pp. 31–33; May 1924, pp. 41–43; June 1924, pp. 51–53; T. C. Petersen, "Early Islamic bookbindings and their Coptic relations," *Ars Orientalis*, I, 1954, pp. 41–64; B. van Regemorter, "La reliure des manuscrits Gnostiques découverts à Nag Hamadi," *Scriptorium*, XIV, 2, 1960, pp. 225–233; B. van Regemorter, *Some Early Bindings from Egypt in the Chester Beatty Library*, Dublin 1958.

3. E. S. Pankhurst, *Ethiopia: A Cultural History*, Woodford Green 1955, pp. 120–124.

4. B. Doe, *Southern Arabia*, London 1971, pp. 27, 28, 30.

5. *Ibid.* p. 29.

6. T. W. Arnold & A. Grohmann (1929), p. 30.

7. J. Černý, *Paper and Books in Ancient Egypt*, London 1947; N. Lewis, *Papyrus in Classical Antiquity*, London 1974.

8. N. Abbott, "A ninth-century fragment

of the 'Thousand Nights': new light on the early history of the Arabian Nights," *Journal of Near Eastern Studies*, Vol. VIII, July 1949, No. 3, pp. 148–149.

9. J. Irigoin, "Les débuts de l'emploi du papier à Byzance," *Byzantinische Zeitschrift*, 46, 1953, p. 317.

10. H. Bockwitz, "Papyrus und Papier auf Sizilien im Mittelalter," *Archiv für Geschichte des Buchwesens*, LXXIX, 1942, pp. 148–150; B. Imme, "Il papiro e la fabbricazione della carta-papiro a Siracusa," *Boll. R. Istituto Patologia del Libro*, 2, 1940, pp. 13–22.

11. J. Irigoin, "Les premiers manuscrits grecs écrits sur papier et le problème du bombycin," *Scriptorium*, 4, 1950, pp. 194–204;

12. T. H. Arnold & A. Grohmann (1929), pp. 50–56.

13. R. Ettinghausen, "Near Eastern bookcovers and their influence on European bindings," *Ars Orientalis*, III, 1959, p. 121, Fig. 5; "The covers of the Morgan *Manāfi* manuscript and other early Persian bookbindings," *Studies in Art and Literature for Belle da Costa Greene* (ed. D. Miner), Princeton 1954, p. 472.

14. T. H. Arnold & A. Grohmann (1929), pp. 56–57. This format is found in the copy of the Arabic *Kitāb al-Jamīʿ fi 'l-Hadīth* of Abū Muḥammad 'Abd Allāh ibn Wahb ibn Muslim al-Qurashī al-Misrī, dated 276 A.H./889 A.D. in the Egyptian National Library, Cairo and continued to be used for literary texts until the manufacture of papyrus ceased c. 950 A.D. One of the two oldest known *Qurʾāns*, British Library Or. 2165 (on parchment) also has the vertical format, as does Chester Beatty Library MS 1615.

15. *Ibid.*, p. 57; T. C. Petersen (1954), p. 61.

16. R. Ettinghausen, *A Survey of Persian Art*, Vol. III, p. 1942.

17. M. Lings & Y. H. Safadi, *The Qurʾān*, London 1976, p. 32.

18. G. Marçais & L. Poinssot, *Objets Kairouanais IX^e au XIII^e siècle: Reliures, verreries, cuivres et bronzes, bijoux*, Notes & Documents XI, Fasc. 1, Direction des Antiquités et Arts, Tunis & Paris 1948; T. C. Petersen (1954), p. 61.
19. Nadīm, *al-Fihrist*, ed. G. Flügel (1871–1872), p. 21.
20. Qalqashandī explains the Arabic "raqq" as thin skins pared for writing purposes instead of for the covering of the book. Qalqashandī, *Ṣubḥ al-a'shā*, II, Cairo 1913–19, p. 474. Vellum and parchment are made by liming and scraping skins to remove the hairs, rubbing them with pumice, and dressing them with chalk for a smooth surface. F. G. Kenyon, *Ancient Books and Modern Discoveries*, Chicago 1927, pp. 53–54. Documents written on parchment of the years 117 and 123 of the Seleucid Era have been found at Dura; this would be equivalent to 196–195 and 190–189 B.C., which establishes a dating for use of vellum or parchment as distinct from that of leather. *Ibid.*, pp. 55 f.
21. Saqatī, *Un Manuel Hispanique de Hisba*, Paris, 1931, pp. 81, 84; Dozy, *Supplément*, II, p. 735, col. 2.
22. Nadīm, *Fihrist*, p. 21; N. Abbott (1949), p. 52; A. Grohmann, *Allgemeine Einführung in die arabischen Papyri*, Corpus Papyrorum Rainieri III Series Arabica, Vol. I, Part 1, Vienna 1924, p. 53; J. Karabacek, "Zur orientalischen Altertumskunde IV Muhammedanische Kunststudien," *Vienna-Kais. Akademie der Wissenschaften Philosophisch-historische Klasse, Sitzungsberichte*, CLXXII, 1913, pp. 1–109.
23. Gioaventura Rosetti, *Pliotho, Instructions in the Art of the Dyers Which Teaches the Dyeing of Woolen Cloths, Linens, Cottons, And Silk by the Great Art As Well as by the Common*, translation of the first edition of 1548, S. M. Edelstein & H. C. Borghetty trans., 1969, p. 178.
24. See R. Reed, *Ancient Skins, Parchments and Leathers*, London & New York 1972, pp. 133–134 for a translation of a recipe for parchment making in the 8th century A.D. Lucca manuscript and of one in the early 12th century A.D. *Schedula diversarum artium* of Theophilus Presbyter.
25. M. Lings & Y. H. Safadi (1976), p. 30, ill. 25.
26. *Ibid.*, ill. 11.
27. C.-M. Briquet, "Recherches sur les premiers papiers employés en Occident et en Orient du Xe au XI^e siècle," *Memoires de la Société nationale des Antiquaires de France*, XLVI, Paris 1886, p. 137. Reprinted in *Briquet's Opuscula*, Labarre, E. J. (ed.), Hilversum 1955; O. Valls i Subirà, *Paper and Watermarks in Catalonia*, Monumenta Chartae Papyracea Historiam Illustrantia, The Paper Publications Society, Hilversum 1970, p. 3.
28. J. Karabacek, *Das Arabische Papier*, Mitteilungen aus der Sammlung der Papyrus Erherzog Rainier II/III, Vienna 1887, p. 114; H. H. Bockwitz, "Die früheste Verwendung von Papier in den altislamischen Kanzleien," *Papiergeschichte*, 1, No. 3, October 1951, p. 40; C.-M. Briquet, "Le papier arabe au moyen âge et sa fabrication," *L'Union de la Papeterie*, April & September 1888. Reprinted in *Briquet's Opuscula*, Labarre, E. J. (ed.), Hilversum 1955, p. 164.
29. C.-M. Briquet (1888), p. 163.
30. C.-M. Briquet (1886), p. 137.
31. D. S. Rice, *The Unique Ibn al-Bawwāb Manuscript in the Chester Beatty Library*, Dublin, Dublin 1955, p. 8; Yāqūt, *Irshād al-arib ilā ma'rifat al-adīb*, ed. D. S. Margdiouth, London 1929, V, pp. 446 f.
32. *Calligraphers and Painters: A Treatise by Qādī Aḥmad, Son of Mīr-Munshī*, trans. V. Minorsky, Freer Gallery of Art Occasional Papers, Vol. 3, No. 2, Washington, D.C. 1959, p. 113. However, in another poem devoted to the varieties of paper, the same poet assigns first place to paper from Damascus, India and Baghdad, while paper from Samarkand rates fourth place. The Englishman Alan Denton, reporting to the East India Company from Patani in 1614, does not reflect the esteem in which Chinese paper seems generally to have been held by Islamic scribes, "For want of paper all our books are kept in China paper, having not so much other as to write a letter to your worships; I therefore entreat your worships to remember us with books, paper and ink of which we have great need, the cockroaches eating the China paper and so dangerous and naught. . . ." *Letters Received by the East India Company from Their Servants in the East, 1613–1615, Volume II*, Danvers, F. C. (Ed.), pp. 129, 130. In this case the difference in writing implements used by the Europeans may have also contributed to the problem. Adam Olearius, in his account, *The Voyages and Travels of the Ambassadors from the Duke of Holstein to the Great Duke of Muscovy and the King of Persia*, 1662, p. 332 states, ". . . the best (ink) comes from the Indies, which though it be not all equally good and fine, is yet very fit for their pens, which are not made of Goose-quills, as ours in Europe are, in regard they would be too hard for their Paper, which being of Silk or Cotton, is very tender, but they make them of Canes or Reeds, and a little bigger than our Pens."
33. N. Abbot (1949), p. 147; Tha'libī, *Khaṣṣ al-Khaṣṣ*, Cairo 1236 A.H., p. 71; Ṭabarī, III, pp. 1506, 1510–11.
34. J. Karabacek (1887), pp. 117–121. Names of famous men connected with the establishment of paper manufactories in the 9th century such as the above-mentioned Ja'far ibn Faḍl and Ṭalḥah ibn Ṭāhir, governor of Khorasan, still survive in the common designations of types of paper in the 10th century. Nadīm (c. 377 A.H./987–988 A.D.) distinguishes the *Sulaimānī*, the *Ṭalḥī*, the *Nūhī*, the *Fiṣṣunī*, the *Ja'fari* and the *Ṭāhiri* varieties.
35. Qalqashandī, *Ṣubḥ al-a'shā*, Vol. II, p. 475.
36. A. Basanoff, *Itinerario della Carta dall'Oriente all'Occidente e sua diffusione in Europa*, Milan 1965, p. 20.
37. Naṣīr-i-Khusrau (b. 394 A.H./1003 A.D.–d. 452 or 453 A.H./1060–1061 A.D.; *Sefer Nameh* (Relation du Voyage de Nassiri Khosrau), publ. & trans. C. Schefer, Paris 1881, p. 553, trans. p. 153. Uses for paper the word *Kāghidh*.
38. C.-M. Briquet (1888), p. 164.
39. A. Basanoff (1965), pp. 19, 20.
40. N. Abbott (1949), pp. 129–164.
41. O. Valls i Subirà (1970), p. 5. See also: O. Valls i Subirà, "Característiques del paper de procedència o escola àrab en els documents del Reial Arxiu de la Corona d'Aragó: Pacte de Cazola, Repartiment del Regne de València i Cartes Diplomàtiques àrabs," Communication presented to the VII Congreso de Historia de la Corona de Aragón, Barcelona 1962, pp. 319–329; O. Valls i Subirà, "Arabian paper in Catalonia," *The Paper Maker*, XXXII, 1, 1963, 21–30; G. G. Carreira, "Apuntes para la historia papelera de Andalucía," *Investigación y Técnica del Papel*, No. 30, October 1971, Vol. 8.
42. O. Valls i Subirà (1970), p. 6.
43. *Ibid.*, p. 7.
44. *Ibid.*, p. 4; G. G. Carreira, "Breviario Mozárabe en papel pergamino de Santo Domingo de Silos," Communication presented to the 6th International Congress of Paper Historians, Barcelona 1965; G. G. Carreira, "Características del papel del Breviario Mozárabe de Silos," (n.d.), pp. 1–12.
45. M. Levey, "Mediaeval Arabic book-making and its relation to early chemistry and pharmacology," *Transactions of the American Philosophical Society*, New Series, Vol. 52, Part 4, Philadelphia 1962, p. 39.
46. C.-M. Briquet (1886), p. 137.
47. This whole question is surveyed in C.-M. Briquet (1886), pp. 130–158.
48. For descriptions of traditional techniques and equipment for the maceration of papermaking fibres in the Indian sub-continent and East and South East Asia see D. Hunter, *Papermaking: The History and Technique of an Ancient Craft*, New York 1943, pp. 139–153.
49. Cf. W. Raitt, *Kashmiri Papermaking in Photographs*, 1910, and "The Childhood of Papermaking (Kashmir, India)," *The Papermaker and British Paper Trade Journal*, February 1930.
50. For further details of papermaking in India see D. Hunter, *Papermaking by Hand in India*, New York 1939.
51. D. Hunter, "The papermaking moulds of Asia," *Gutenberg Jahrbuch*, Mainz 1940, pp. 9–24.
52. D. Hunter (1943), pp. 103–109, 188–193.
53. J. Irigoin, "Les types de formes utilisés dans l'orient Méditerranéen (Syrie,

Égypte) du XI^e au XIV^e siècle," *Papiergeschichte*, 13, 1/2, April 1963, p. 20.

54. O. Valls i Subirà, "Estudio sobre los principios del empleo de la forma con la tela fija, seguido de unas notas sobre los primeros intercambios papeleros entre Italia y Cataluña," Communication presented to the 9th International Congress of Paper Historians, Amalfi 1969, pp. 1-18.

55. D. Hunter (1943), pp. 98-99.

56. However, there is in the Dard Hunter Paper Museum at Appleton, Wisconsin, a Chinese mould cover, produced in the past century, of the oriental flexible laid mould type with three watermarks of Chinese characters. These are made of ramie and are said to be sufficiently flexible to assume any contour taken by the mould cover during the couching operation. D. Hunter (1943), p. 260, Fig. 215.

57. R. B. Serjeant, *Islamic Textiles: Material for a History of Islamic Textiles up to the Mongol Conquest*, Beirut 1972, pp. 12-13.

58. O. Valls i Subirà (1970), p. 5.

59. D. Jemma, *Les Tanneurs de Marra-kech*, Mémoires du centre de recherches anthropologiques, préhistoriques et ethnographiques, 21, Algiers 1971, illustrates the individual marks used by the tanners of this city.

60. O. Valls i Subirà (1970), p. 36.

61. Ibid., pp. 10-11.

62. Ibn Abī Uṣāibī'ah (1203-12 A.D.), *Uyūn al-anbā' fī Ṭabaqāt al-Aṭṭibbā*, ed. A. Miller, Cairo & Königsberg 1882-1884, Vol. I, p. 197, pp. 184-200 deals with Ḥunain ibn Ishāq.

63. Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 476. Cf. W. Bjorkman, *Beiträge zur Geschichte der Staatskanzlei im Islamischen Ägypten*, Hamburg 1928, pp. 80.

64. Qalqashandī, *Ṣubḥ al-a'shā*, II, pp. 476 f.

65. Ibid., VI, pp. 189-191.

66. Ibid., p. 190. Bjorkman gives the cut of the half-*Manṣūrī* as equal to one-half an ell; W. Bjorkman (1928), p. 114, n. 4. Karabacek explains the name, *Manṣūrī*, as honoring the Fatimid Caliph, Abū Alī al-Manṣūr (reigned 495/1101-524/1130), and gives us the size of the half-*Manṣūrī* as 24.443 cm. in width by 36.6645 cm. in length with an area of 893 square cm. J. Karabacek (1887), pp. 68, 69, 71.

67. Qalqashandī, *Ṣubḥ al-a'shā*, VI, 190; cf. W. Bjorkman (1928), p. 114, n. 4. Karabacek does not give the size of this variety either; J. Karabacek (1887) p. 67.

68. Qalqashandī, *Ṣubḥ al-a'shā*, VI, 191, J. Karabacek (1887), pp. 68, 70, 71.

69. J. Irigoin (1953), pp. 314-319.

70. O. Valls i Subirà (1970), p. 34.

71. Ibid., p. 8.

72. Ibid., p. 7.

73. Ibid., pp. 34, 35.

74. F. R. Martin, *The Miniature Painting and Painters of Persia, India and Turkey*,

Vol. 1, London, 1912, p. 105.

75. For notes on Italian papers used in Greek manuscripts in the 14th century see J. Irigoin, "Les filigranes de Fabriano (noms de papetiers) dans les manuscrits grecs du début du XIV^e siècle," *Scriptorium*, 12, 1958, pp. 44-50.

76. O. Valls i Subirà (1970), p. 11.

77. Ibid., p. 12.

78. F. Babinger, "Appunti sulle cartiere e sull'importazione di carta nell'impero ottomano specialmente da Venezia," *Oriente Moderno*, Anno XI, No. 8, August 1931, p. 406; G. Weil, *Geschichte der Chalifen*, Vol. V, Stuttgart 1862, p. 334.

79. F. Babinger (1931), p. 410.

80. Ibid., pp. 410, 412; Figs. XLVI-LXXXIII; See also V. Nikolaev, *Watermarks of the Mediaeval Ottoman Documents in Bulgarian Libraries* (Ottoman documents of the XVth and XVIth to the XIXth and the first quarter of the XXth century), Sofia 1954 (1956).

81. S. Digby, "A Qur'an from the East African Coast," *AARP (Art and Archaeology Research Papers)*, 7, June 1975, pp. 53-55.

82. F. Babinger (1931), p. 412.

83. A. Basanoff (1965), pp. 19-20.

84. F. Babinger (1931), pp. 406-415. For further information on papers used or made in Ottoman Turkey see O. Ersoy, *XVIII, i.e. on sekizinci, ve XIX yüzyıllarda Türkiye de kâğıt*, Ankara 1963.

85. R. Walsh, *A Residence at Constantinople during a Period including the Commencement, Progress and Termination of the Greek and Turkish Revolutions*, Vol. 1, London 1838, p. 295.

86. F. Babinger (1931), p. 415; E. Morpurgo, *La Carta: Considerazioni sulla sua storia, la sua fabbricazione ed il suo commercio*, Venice 1874, p. 20.

87. Qādī Aḥmad, trans. V. Minorsky (1959), p. 113.

88. Ibn Bādīs, trans. M. Levey (1962), pp. 43-44. The text continues with the dyeing of leather with the same dye. The principle source for this translation by Levey, excerpts from which also appear on pp. 28 & 34, and the source of the following excerpts translated by Bosch, is a manuscript in the Oriental Institute, A12060, by Tamīm al-Mu'izz ibn Bādīs, *Umdat al-kutub wa'uddat dhawī al-albāb* (Book of the Staff of the Scribes and Implements of the Discerning of the Line, the Pens, Soot Inks, Liq, Gall Inks, Dyeing, and Details of Bookbinding). For a translation of the section on bookbinding only, see G. K. Bosch, "The Staff of the Scribes and the Instruments of the Discerning," *Ars Orientalis*, IV, pp. 1-13. A variant manuscript by Ibn Bādīs is also held by the Oriental Institute, A28909. The excerpts from Sufyānī which appear in the present chapter in translation are based on the published Arabic text by P. Ricard, *Art de la reliure et de la dorure* (by Abou El-

Abbas Ahmed Ben Mohamed Es-Sofiani), Fez 1919.

89. E. Kühnel & H. Goetz, *Indische Buchmalerei aus dem Jahāngir-album der Staatsbibliothek zu Berlin*, Berlin 1924, fol. 18a; D. George, *Islamische Buchkunst aus 1000 Jahren*, Prussian State Library, Berlin 1980, p. 82, No. 102. (libri pict. A.117, B1. 176-18 Kraemer Nr. 71; Abb. S83).

90. A *raṭl* is used both as a liquid and dry measure. Here as a liquid measure it is equal to twelve ounces.

91. Ibn Bādīs, trans. M. Levey (1962), pp. 43-44.

92. O. Valls i Subirà (1970), pp. 12-13.

93. F. R. Martin (1912), p. 106.

94. Qādī Aḥmad, trans. V. Minorsky (1959), p. 114.

95. Ibn Bādīs, trans. M. Levey (1962), pp. 39-40.

96. Qādī Aḥmad, trans. V. Minorsky (1959), p. 114.

97. E. Atil, *The Brush of the Masters: Drawings from Iran and India*, The Freer Gallery of Art, Washington, D.C., 1978, pp. 106-107, No. 63.

98. M. Uğur Derman, *Türk Sanatında Ebrâ*, Istanbul, 1977, p. 21.

99. A. Olearius, *The Voyages and Travels of the Ambassadors from the Duke of Holstein to the Great Duke of Muscovy and the King of Persia*, rendered into English by John Davies of Kidwelly, 1662, p. 332.

100. J. F. v. Hammer-Purgstall, *Narrative of Travels of Evliya Effendi*, Vol. 1, Part II, London 1845, p. 218.

101. F. Babinger (1931), p. 412; M. A. Kâğıtci, *Historical Study of Paper Industry in Turkey*, Istanbul 1976, p. 18. Kâğıtci states that burnishing was facilitated by passing over the surface of the paper a rag impregnated with dry soap and says that, "In the chemical composition of the aher (aherlemek), adhesive substances were added of which some were of animal origin such as albumen (egg-white), isinglass size and other glues, and others of vegetable origin such as starch, flour, gum tragacanth, gum arabic, mixed with other products such as the sap of fig trees, alum, ashes of holy (?), white lead (ceruse), infusion of marsh-mallow sugar candy etc. The method used with animal aher included the following phases: —take some albumen, the white of egg from hens or even better ducks (as they are whiter). Liquify it with the sap of a fig tree or with an equivalent solution of alum. —sift the obtained liquid and mix it with two parts of isinglass. Sponge the solution on the surface of the paper, which should be spread onto a smooth board made of lime tree.

—dry the papers thus handled in the shade on a drier.

—before drying completely lay the sheets on the lime wood board. Polish the sheets with a stone until a firm and smooth surface is obtained.

For the vegetable after the procedure is similar, with the adhesive substance being boiled to make starch.

The after papers were stored in a warehouse for several years before being used."

102. M. Uğur Derman (1977); M. A. Kâğıtçı, "Papiers marbrés Turcs," *Palette*, 30, 1969, pp. 15–20; R. B. Loring, *Decorated Book Papers*, Cambridge, Mass., 1973, pp. 11–19.

103. Qādī Aḥmad, trans. V. Minorsky (1959), p. 194.

104. *Ibid.*, p. 147.

105. G. Gilissen, "La composition des cahiers, le pliage du parchemin et l'imposition," *Scriptorium*, XXVI, 1972, pp. 3–33.

106. J. Leroy, *Les types de reglure des manuscrits grecs*, Paris 1976; Malachi Beit-Arié, "Some technical practices in Hebrew dated medieval manuscripts," *Codicologica*, 2, 1978, pp. 85–90. L. W. Jones, "Pricking manuscripts: the instruments and their significance," *Speculum*, XXI, October 1946, pp. 389–403. L. W. Jones, "Where are the prickings?" *Transactions of the American Philological Society*, 75, 1944, pp. 71–86. E. K. Rand, "How many leaves at a time?," *Pal. Lat. V.*, 1927, pp. 52 f. E. K. Rand, "Traces de piqures dans quelques manuscrits du haut moyen âge," *Academie des Inscriptions et Belles-Lettres, Comptes Rendus*, 1939, pp. 420–429.

107. Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 142.

108. Ibn Bādīs, trans. M. Levey (1962), pp. 15–36, 45–46.

109. L. M. Brunot, "Vocabulaire de la tannerie indigène à Rabat," *Hesperis*, III, 1923, p. 114. Illustration, p. 134, Figs. 8, 10; he says that for the larger skins in the tanneries, the scraping is done on a *furdah* or a plank of wood convex on one side, with a concave-shaped scraper.

110. H. E. Wulff, *The Traditional Crafts of Persia*, Cambridge, Mass. 1966, p. 238.

111. κοχλίας—anything twisted spirally. *Liddell-Scott Lexicon*, I, p. 988. Cochlea—vise of a press employed in the fabrication of oil, wine, and the pressing of materials. Daremberg and Saglio, *Dictionnaire des Antiquités Grecques*, I, 1265a; III, 1461a; IV, 644a.

112. Ibn Bādīs, 'Umdat-al-kuttab, p. 66, uses here the word *hazz*, which may be a scribal error in copying for *juz'*, that is, "section" or "quire" according to Ibn Bādīs' own use of the word, on p. 69, ll. 5 ff., where *juz'* and *kurrasah*, or "quire," "section," are used interchangeably. Or in place of *hazz*, it may be *hazm*. Cf. Sufyānī, *Ṣinā'at tasfir*, p. 8, ll. 11–12, for the use of the word *hazm* in connection with quires.

113. Jauharī, *Tāj al-lughah wa ṣaḥāḥ al-'arabiyyah* Cairo, 1282/1865–66, II, p. 333. Also cf. Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 469.

114. Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 470.

115. Sufyānī, *Ṣinā'at tasfir*, pp. 11–12; Index, p. 9, by Ricard says the modern term employed in Fez for the press is *ziyyār*. There are two varieties: the *ziyyār al-taqṣiṣ*, or press with the plough used for cutting; and the *ziyyār al-qarṣ*. A hand-press is illustrated in the Indian depictions of bookbinders (Colour Pls. B & F and Fig. 8) and may answer the description of Ibn Bādīs for the *maghāzil*, or screw press. It is composed of two heavy boards with two spindles of either wood or iron at the center of two sides. The pressure is exerted by a block turn-screw on both sides with handles to aid in manipulation. In Iran this press is called *tang, fešār*. H. E. Wulff (1966), p. 237.

116. The text adds "or it may be given to the *rawwās*." Lane, *Arabic-English Lexicon*, I, p. 996, col. 2, calls *rawwās* "a seller of heads." Also cf. I. Jauharī, *Tāj al-lughah*, I, p. 454. (Dr. Muḥammad Lotfi, a modern Egyptian, informs that the term is applied to "sharpener" or "grinder" in colloquial conversation.) Perhaps here the professional grinder and seller of stones is contrasted to the workman who makes and prepares his tools and materials.

117. Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 471, No. 17. Rūmī refers to a Byzantine origin. Hījāz refers to a west coast section of Arabia. Qūṣ refers to a town of Upper Egypt. Yāqūt, *Mu'jam al-buldān*, IV, p. 201.

118. The measurement to which the "twenty" refers is not stated. It seems that a word has been omitted in copying the manuscript. The "finger width" is frequently used as a measurement which is close to an inch, therefore approximately 20 inches.

119. The description of Ibn Bādīs corresponds with Brunot's *janwī daqlah*, or knife to remove hairs. It is a long straight blade with a hilt of two pieces of wood fixed at the end, having an overall length of thirty centimeters. L. M. Brunot (1923), pp. 98–99, Illustration on p. 124, Fig. 2. *Junwī* is known all over Morocco in the sense of knife. Dozy, *Supplément*, I, p. 228.

120. Lane, *Arabic-English Lexicon*, I, p. 1020, col. 2.

121. Sufyānī, *Ṣinā'at tasfir*, p. 9, Index, p. 19. It is a flattened heavy stick shaped at the point like a shoe-cast. Dozy, *Supplément*, II, p. 391.

122. *Kūzan*, a wooden mallet. Steingass, *Persian-English Dictionary*, London 1930, p. 1061.

123. In the text of Sufyānī it is written *minjam*. Sufyānī, *Ṣinā'at tasfir*, p. 8. In the Index, p. 21, Ricard says that present day workers call it "mijem," and that it is a wooden mallet made of a block of two boards and provided with a handle.

124. Qalqashandī, *Ṣubḥ al-a'shā*, II, 470.

125. Sufyānī, *Ṣinā'at tasfir*, p. 10, Index, p. 16. Saqāṭī, *Un Manuel Hispanique*, p. 64, says *kharaz* is sewing by overlapping.

126. Ricard says *Kharrāz* is the modern

term in Morocco to designate the makers of slippers. Sufyānī, *Ṣinā'at tasfir*, Index, p. 12.

127. The author uses the term *hazam* for "sewing the pages." Lane, *Arabic-English Lexicon*, defines the term *hazasm* as bound, tied, collected and the term *habak* for "binding." Cf. Dozy, *Supplément*, I, p. 246, gives *habak* as "to edge a robe," and *habbak*, as "to interlace, twist the thread of a cord."

128. Sufyānī, *Ṣinā'at tasfir*, p. 13. Index, p. 12.

129. It is given both as a scraper and paring knife by Dozy, *Supplément*, I, p. 769.

130. Sufyānī, *Ṣinā'at tasfir*, p. 10, Index, p. 16. Brunot calls *ḥadidah*, "a scraper," and illustrates it as a straight rectangular blade, fifteen centimeters in length, with wood set along one of its long sides. L. M. Brunot (1923), p. 98. Also cf. Brunot illustration, *ibid.*, p. 124, Fig. 4. At Fez, the *ḥadidah* has a convex-shaped blade with a projection in the center of the back. The blade is held in the palm with two fingers to either side of the projection. R. Le Tourneau and L. Paye, "La corporation des tanneurs et l'industrie de la tannerie à Fèz," *Hesperis*, XXI, 1933, pp. 187, 188, Fig. 4.

131. This may suggest the heating of tools and stamps.

132. Ibn Bādīs promises to discuss coloring in the chapter on tooling; but our manuscript does not include such a section.

133. Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 472.

134. Sufyānī, *Ṣinā'at al-tasfir*, p. 13.

135. Ricard defines the ruler as "a piece of wood supplied with strings, regular and parallel in placement, upon which one applies the leaves of the notebook to rule them, by placing one's fingers on the threads." Index, p. 15.

136. Ibn Bādīs, 'Umdat-al-kuttab, p. 68. *Bikār* is the same as *bikar*, Persian-*pirgar*. Dozy, *Supplément*, I, 136.

137. Sufyānī, *Ṣinā'at al-tasfir*, p. 13, Index, p. 16.

138. *Ibid.*, p. 14, Index, p. 11. Tracing the word in dictionaries to *Tāj-al-'Arūs* brought the meaning "Anything like the head of a snake."

139. Dozy gives *Ṣadr al-bāzī* as black wheat or saracen wheat following a description in Ibn Luyūn (cf. Brockleman, *Geschichte*, I, 495. *Supplément*, I, 598; II, 380) who died in 1346 A.D. Dozy continues: "On semble avoir donné le nom de 'poitrine du faucon' à cette polygonnée, parce que ces fleurs blanches faisaient penser à la poitrine blanche de l'oiseau de proie noble, et même, jusqu'à un certain point, à des plumes." Dozy, *Supplément*, I, p. 822. It is more likely since the buckwheat of the black variety (*Fagopyrum tataricum* Gartn.) has heart-like arrow-shaped leaves and small greenish flowers that it refers to the heart or palmette shape. Lévi-Provençal has another proposal under *ṣudūr al buzāh* translating it as gre-

netis or milling punch in his glossary to Himyārī, *La péninsule Ibérique au moyen-âge*, Leiden 1938, Vol. XII, p. 263. Although in the Arabic text proper of Himyārī the term does not occur on p. 155; but, rather is introduced by M. Lévi-Provençal in his translations as a clarification of the Arabic text which only mentions "various designs and well known motifs." Ibid., p. 155.

140. Lane defines the root, *kh-l-d*, in the second form *kh-l-l-d*, as adorning with bracelets, earrings, or ornaments. Lane, *Arabic-English Lexicon*, I, p. 784.

141. The second form of *d-w-r*, the root, means "to turn, to fashion round." Dozy, *Supplément*, I, p. 471.

142. Ibn Bādīs promises to discuss these tools in the section on tooling but does not do so as there is no such section, at least in our manuscript.

143. Sufyānī, *Ṣinā'at tasfīr*, pp. 14, 15.

144. Ibid., p. 15.

145. Ibid., p. 26, Index, pp. 9, 14, 22.

146. Sufyānī, pp. 12, 13, 14. Cf. Index, pp. 10, 18, 19.

147. *Mibzagh* is correct. Sufyānī, ibid., p. 26, Index, p. 8. Cf. Lane, *Arabic-English Lexicon*, I, p. 199.

148. An instrument with a pointed extremity used by binders of books. Lane, ibid., p. 593. Sufyānī, *Ṣinā'at tasfīr*, Index, p. 12, by Ricard, defines *mikhaṭṭ* as an iron instrument, in the shape of a gendarme's hat, for tracing lines, and he seems to think Sufyānī uses *miḥaṭṭ* and *mikhaṭṭ* interchangeably.

149. Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 471.

150. Ibid., p. 470.

151. Sufyānī, *Ṣinā'at tasfīr*, p. 19. Ricard says that the shell is used in place of iron to polish, giving brilliancy to liquid gold applied with the pen; but, that the bookbinders and illuminators of today replace it by the tooth of a bull mounted at one end in a holder of wood. Ibid., Index, p. 11.

152. A Syrian town on the left bank of the Euphrates.

153. Ibid., p. 76. *Lif* is the reticulated tissue which envelopes the foot of the branches of date trees to protect it against the action of the winds, it is used to make cords, and a tuft of it is used as a brush in the bath. Dozy, *Supplément*, II, p. 562.

154. Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 468.

155. Ibid.

156. Abū 'Alī al-Tanūkhī, *Nishwār al-muḥādara*, Oriental Translation Fund, New Series, Vol. XXVII, Royal Asiatic Society, London 1921, p. 65, mentions a book he had seen in the house of Abū Muḥammad al-Muhallabī (b. 291/903, d. 334/945), vizier of Mu'izz al-Dawla, and that several people took *karāris*, or sections of it to have them copied. This illustrates a point, that books were retained in the unbound form, and when it was considered desirable, then taken

to the bookbinder. The loaning out of sections to various people shows the wisdom of collation.

157. T. W. Arnold & A. Grohmann (1929), p. 47.

158. Ibid., p. 57.

159. D. Cockerell (1932), pp. 2–19; T. C. Petersen (1954), p. 43; B. van Regemorter, "Ethiopian Bookbindings," *The Library*, 5th Series, Vol. XVIII, 1, 1962, pp. 85–88; B. van Regemorter, "La reliure arménienne," *Pazmavep*, No. 8–10, August–October 1953, pp. 200–204; B. van Regemorter, "La reliure des manuscrits grecs," *Scriptorium*, VIII, 1954, pp. 3–23; B. van Regemorter, "La reliure byzantine," *Revue Belge d'Archéologie et d'Histoire de l'Art*, XXXVI, 1967, 1-2-3-4, pp. 99–162 & Pls. 10–13.

160. In this respect it is interesting to relate this structural feature to the form of the traditional Islamic manuscript stand, or *kursī*, which supports the volume without allowing it to completely open horizontally, thus imposing minimal strain on the weaker elements of the codex structure. For the method of construction of these stands see J. Carswell, "A carpentry note," *AARP (Art and Archaeology Research Papers)*, June 1975, p. 48.

161. An author of an article on the *ḥisba*, in connection with shoemakers, says: "For the thread none but the heart of the flax should be used, and to obviate fraying it should not be more than a cubit in length," they must not "sew with hog's hair which is unclean." Ibn al-Ukhuwwa, *Ma'alim al-qurba*, R. Levey (ed.), London 1938, pp. 184–185, trans. p. 48.

162. E.g., Oriental Institute A12056/57.

163. T. W. Arnold & A. Grohmann (1929).

164. Muqaddasī, *Aḥsan al-taqāsīm*, p. 100. Cf. also J. Karabacek (1887), p. 52. P. Adam, "Über türkisch-arabisch-persische Manuskripte," *Archiv für Buchbinderei*, V (1905), 3. Dozy, *Supplément*, I, p. 25, gives asphodel for *ashras*. "Asphodelus," *Pauly-Wissowa Real-Encyclopädie der Classischen Altertumswissenschaft*, IV, 1730–1734: describes *asphodelus* (Latin—*albutium*) bulbs as used in the Orient, when pulverized and mixed with water, as an extraordinarily strong, dextrin-rich paste. The powdered form was exported by the Orient as an article of trade even at the time the Encyclopaedia was being compiled.

165. "In this day (ninth of Jumādī al-awwal) the king, al-Zāhir, ordered the cessation of the market taxes on *nashā*, *nuḥās* or copper, and *jālūd* or leather, be announced"; Ibn al-Furat, *Tarikh al-duwāl wa al-mulūk*, Beirut, 1936, IX, Pt. I, p. 72, l. 18 ff. Cf. J. Karabacek (1887), p. 53.

166. Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 470.

167. Sufyānī, *Ṣinā'at tasfīr*, pp. 5, 10, 12. Adams writes, "the orientals used a paste of vegetable starch, called *sarras* as today, to mount their leather and as a ground for gold."

168. Gum arabic, pine resin—a fluid that exudes from trees called *ḥidāh* and concretes; the mucilage of a tree, the *mimosa nilotica*. Lane, *Arabic-English Lexicon*, I, p. 1729.

169. Sufyānī, *Ṣinā'at tasfīr*, p. 17.

170. H. F. Wulff (1966), p. 238.

171. Ibid., p. 238.

172. E. Atil (1978), p. 106, No. 63.

173. T. C. Petersen (1954), p. 55.

174. Sufyānī calls the endband *burshmān*; *Ṣinā'at tasfīr*, p. 17. Ricard, in the Index, gives "tranchefile, sorte de bourrelet consolidant entete et d'une les cahiers d'un ouvrage relié. Cet ornement tressé s'exécute d'une manière analogue à celle du 'borchmane' des burnous et djellabas." (V. Bel & P. Ricard, *Le Travail de la laine à Tlemcen*, pp. 194 ff., 285.) A. Biberstein-Kazimirski, *Dictionnaire arabe-français*, Paris, 1868, I, 111, gives *burshūm* as a head veil.

175. C. Davenport, "Bagford's notes on bookbindings," *Transactions of the Bibliographical Society*, vol. 7, 1904, p. 19.

176. T. C. Petersen (1954), pp. 42, 44–46.

177. G. Marçais & L. Poinssot (1948).

178. T. C. Petersen (1954), pp. 44, 45.

179. T. W. Arnold & A. Grohmann (1929), p. 47.

180. R. Ettinghausen, "The decorative arts and painting," *The Legacy of Islam*, Schacht and Bosworth (eds.), pp. 274–291, discusses the symbolic importance of the *Qur'ān* (its "sacred aura") and the binding which houses it, as a factor in the retention of the fore-edge and envelope flap which he considers, in the classical form with which we are familiar, to be non-functional. That the making of bookcovers may have been a separate division of the bookbinder's trade may be indicated by a reference by al-Maqrīzī, *Khiṭaṭ*, II, pp. 102, 122, that the makers of the cases for *Qur'āns* (*ṣandūq*), worked not far from the booksellers and papermakers. T. W. Arnold and A. Grohmann (1929), p. 108, note 141.

181. T. W. Arnold & A. Grohmann (1929), p. 30.

182. G. Marçais & L. Poinssot (1948).

183. T. W. Arnold & A. Grohmann (1929), pp. 44–47.

184. The text has *kāghīṭ* for "paper" instead of the usual spelling *kāghid*. Saqatī in a manual of the eleventh century uses *kaghid*; but, the editors note that *kaghīṭ* is the only form known in Morocco today. Saqatī, *Un Manuel Hispanique de Ḥisba*, p. 45, l. 4.

185. Sufyānī, *Ṣinā'at tasfīr*, p. 13; in his Index, Ricard says the tongue, or part over the recto of the book, is called "*marjī*" while the little band, in the current terminology, is called "*mistar*," or covering.

186. Munqidh ibn al-Tammāh called al-Jumiah of Asad says: "Then possess thyself with patience—it may be that yet shalt thou be happy and milk thy herds into a great milk-skin—the skin of a sheep tanned with acacia bark. . . ." Mufaḍḍal al-Ḍabbī, *Mu-*

faddaliyat, C. J. Lyall (ed.), Oxford 1918–1921, I, pp. 24, 43; II, p. 7. Hubairah ibn 'Abd-Manāf of 'Aun called al-Kalhabah says: "She is a bay of no doubtful hue, but the color of *ṣirf* into which the hide to be dyed has been plunged a second time." Ibid., I, p. 275; II, p. 94. *Ṣirf*, the name of a red dye is again mentioned in poems about "leather into which the shoemaker's knife cuts cleanly." Ibid., I, p. 29; II, p. 8.

187. Nadīm, *Fihrist*, p. 21. There are two traditions of the Prophet himself writing on tanned red leather. Aḥmad Ibn Ḥanbal, *Musnad*, Cairo 1895, V, pp. 77, 78, 285, 363. A third tradition is of the Prophet ordering 'Amr ibn Fāḥir to write on a piece of skin a letter of reconciliation for a man. Ibid., IV, p. 176. Qalqashandī, *Ṣubḥ al-a'shā*, II, p. 475.

188. Yāqūt, *Mu'jam al-buldān* (*Geographisches Wörterbuch*), ed. F. Wüstenfeld, Leipzig, 1866, III, p. 496. H. Lammens, "Mecca," *Encyclopaedia of Islam*, III, p. 440, col. 2.

189. M. Tabarī, *Ta'rikh al-rusul wa al-mulūk* (*Annales*), Leiden 1879–1901, I, p. 1274. H. Lammens, "Tā'if on the Eve of the Hijra," *Mélanges de l'Université Saint Joseph*, 1922, VIII, p. 226.

190. I. Iṣṭakhri, *Masālik al-mamālik*, Vol. I, *Bibliotheca Geographorum Arabicorum*, ed. M. J. de Goeje, Lugduni-Batavorum, 1927, p. 35. A. von Kremer, *Culturge-schichte des Orients unter den Chalifen II*, Vienna 1875, p. 309.

191. Rāghib al-Iṣbahānī, *Muḥāḍarāt al-udabā'*, I, p. 70.

192. J. Karabacek (1913), p. 39. A. Grohmann (1924), p. 51. Muqaddasī, *Aḥsan al-taqāsīm fī ma'rifat al-aqālīm*, Vol. III, *Bibliotheca Geographorum Arabicorum*, 2d ed., Lugduni-Batavorum, 1906, p. 97.

193. *Hudūd al-'alām*, trans. V. Minorsky, London, 1937.

194. Muqaddasī, *Aḥsan*, p. 324.

195. Ibn Miskawaih, *Eclipse of the Abbasid Caliphate*, Oxford, 1921, I, p. 223. *Turkestan Down to the Mongol Invasion*, trans. W. Barthold, London, 1928, pp. 235–236.

196. C. H. Becker, *Beiträge zur Geschichte Ägyptens unter den Islam*, Strassburg, 1902–1903, I, p. 182.

197. Yāqūt, *Mu'jam*, III, p. 776. *Istiḳsa*, trans. Fumey, *Archives Marocaines*, X, 59. R. Le Tourneau and L. Paye, (1933), pp. 167–168.

198. The pits and reservoirs or *bīlatān* built by 'Abd al-Raḥmān III (reigned 300/912–350/961) in the hollow bed of the great river at the place known as the "gate of the tanners" in Toledo and the tanning of Seville in the days of the Banu 'Abbād, especially Mu'tamid ibn 'Abbād (ruled 461/1068–484/1091), affirm this fame of Spanish centers of tanning. Aḥmad ibn Muḥammad al-Maqqarī, *Nafḥ al-ṭib min ghuṣn al-Andalus al-ratīb wa dhikr wa ziriha Lisān al-Din ibn al-Khaṭīb*

(*Analectes sur l'histoire et la littérature des Arabes d'Espagne*), eds. R. Dozy, G. Dugat, L. Krehl & W. Wright, Leiden 1855–1860, I, pp. 100, 126. An interesting bit of archeological evidence are the remains of a tannery, found in the Alhambra, which existed in the fourteenth century. Its small dimensions suggest that perhaps it was utilized for the needs of the Nasrid court only. L. Torrès Balbás, "Teneria en el-Secano de la Alhambra de Granada," *Al-Andalus*, III, 1935, 437, 442.

199. M. J. Müller, *Beiträge zur Geschichte der Westlichen Araber*, Munich 1866, p. 5. G. Depping, *Histoire du commerce entre le Levant et l'Europe depuis les Croissades*, Paris 1830, I, pp. 265, 274. S. P. Scott, *History of the Moorish Empire in Europe*, III, Philadelphia 1904, pp. 588, 624.

200. A. Schaube, *Handels-geschichte der Romanischen Völker des Mittelmeergebiets bis zum Ende der Kreuzzüge*, Munich 1906, pp. 78, 222, 285, 293, 301. J. Finot, *Étude historique sur les relations commerciales entre la Flandre et l'Espagne au moyen age*, Paris, 1889, pp. 302 f. G. Depping (1830), p. 261.

201. Mimosa has 38% to 49% tannin while oak-galls have 50% to 60% tannin. "Leather," *Encyclopaedia Britannica*, XIII, p. 847. The higher percentage of tannin in oak-galls is probably responsible for Ibn al-Ukhuwwa's objection. He prefers four separate soakings of the skins in *qaraz* solutions (the proportion of forty Egyptian *ratls* of *qaraz* for every 100 small skins, or sixty Egyptian *ratls* for every 100 large skins is required in tanning according to his directions but he does not state whether this proportion sufficed for the four *qaraz* solutions of equal strength). Each set of skins remained in a pit filled with this solution for three days and then was removed to another pit filled with a *qaraz* solution equal to the first. This was done four times to remove all the grease. Shortening the process to three soakings by the use of the stronger oak-gall solution the third time is the trade deception he objects to as harmful. Ibn al-Ukhuwwa, *Ma'ālim al-qurba*, p. 229.

202. Saqāṭī, *Un Manuel hispanique*, p. 42; by the end of the eleventh century notes this *qaraz*.

203. Ibn al-Ukhuwwa, *Ma'ālim al-qurba*, p. 229.

204. A. Jaussen, *Coutumes des Arabes au pays de Moab*, Paris 1908, p. 275. Sir John Chardin, *Travels in Persia*, London 1927, pp. 268 f., is therefore confusing when he cites "the hot dry air" of Persia (about 1666) as a reason for the Persians' use of salt and galls rather than bark tannin. There are some Medieval Western sources which offer some information on Muslim tanning methods as the description of famed cordovans and peaux d'Espagne which the Caliphate of Cordova supplied to France and Italy in the fourteenth and fifteenth centuries. The leather

used was *basane* or sheepskin. Leonardo Fioravanti of Bologna (c. 1439), *Miroir Universel des Arts et des Sciences*, trans. Gabriel Chappuys, 2d ed.; Paris, 1586, pp. 171–173. Fougeroux de Bondaroy, *L'art de travailler les cuirs dorés et argentés*, 1672. Also cf. H. Clouzot, *Cuirs Decorés. II Cuirs de Cordova*, Paris, 1924–1925, Preface.

205. R. Le Tourneau and L. Paye (1935), 185.

206. L. M. Brunot (1923), 81, 90, 93, 123. R. Le Tourneau and L. Paye (1935), 184, 186, 196. A. Joly, "La tannerie indigène a Constantine," *Revue du Monde Musulman*, VII, 1909, pp. 217 f., 223; the paste is of lime, ashes, and clay, and the skins are washed after each coating.

207. Ibid., p. 226; in Constantine, the bran coating is the third, two of lime being used. R. Le Tourneau and L. Paye (1935), p. 189. Brunot (1923), p. 91. Fèz and Rabat, after three of lime use a bran paste, carefully salted over each day for ten days, to purge the lime. Ibn Bādīs recommended the bran paste.

208. A. Joly (1909), p. 226; with sheep skins the coat of pigeon excrement is not used, only with goat skins. R. Le Tourneau and L. Paye (1935), p. 190. L. M. Brunot (1923), p. 91.

209. Cf. Footnote 22 above.

210. R. Le Tourneau and L. Paye (1935), p. 196.

211. L. M. Brunot (1923), p. 91; *afṣ* and *tākout* or galls of *tamarix articulata*.

212. Ibid., p. 88. R. Le Tourneau and L. Paye (1935), p. 184; Rabat and Fèz use the bark of cork oak, *quercus saber*, and of acorn oak, *quercus rober*, both containing 10–12 percent tanning. A. Joly, "La tannerie indigène a Constantine," *Revue du Monde Musulman*, VI, 1909, pp. 217 f. Constantine tanneries use sumac, *rhyscoriaria* with 26–30 percent tannin for this purpose.

213. Nadīm, *Fihrist*, pp. 354 f., 355, l. 29, 356, l. 12. Brockelmann, *Geschichte*, Suppl., I, p. 426. M. Berthélot, *La chimie au moyen age*, Paris, 1893, III, p. 33.

214. Jābir ibn Haiyān, *Kitāb al-Raḥmah*, p. 156, ll. 8–13, is published in Berthélot, III, p. 186.

215. Ibn al-Faqīh, *al-Buldān*, p. 36. For identification of the plants mentioned, Hava, *Arabic-English Dictionary*, pp. 175, 863.

216. Nadīm, *Fihrist*, p. 359.

217. Iṣṭakhri, *Masālik al-māmālik*, p. 155. Cf. R. B. Sergeant, "Material for a History of Islamic Textiles up to the Mongol Conquest," *Ars Islamica*, X, 1943, p. 89.

218. Ibn Idhārī al-Marrākushī, *Al-Bayān al-Maghrib*, ed. R. Dozy, Leiden 1848–1851, I, p. 231. J. Karabacek (1887), pp. 62–63, gives the Persian term as *asmanjuni*. Cf. 'Ishō Bar 'Alī, *Syrisch-arabische glossen: Lexicon von Alaf bis Mim*, ed. Hoffmann, Kiel, 1874, I, p. 87, No. 2451.

219. Abū 'Alī al-Tanūkhī, *Nishwār al-muḥāḍarāh*, p. 146. Saqāṭī complains that

they falsify *za'farān* with the *'usfur*.

220. Saqāṭī, *Fī adab al-hisbah*, p. 63.

221. Sufyānī, *Šinā'at tasfir*, p. 25: the later anonymous copyist of 1255/1839 has added two chapters, one on "The Craft of Dyeing Leather Violet" and the other on "The Making of the Design on the Leather for the Binding," which he probably found as supplementary notes on the original manuscript of Sufyānī. Ibid., Introduction, p. 6.

222. For this use of *za'farān* for yellow dye. In Persia they employ the pomegranate when green and full of sap for dyeing yellow. Chardin, *Travels in Persia*, p. 273. In Fez the rinds of pomegranates are brought in by the Senhaja and Banu Yazgha tribes. The rind of the green pomegranate with alum is used to dye goatskins yellow. The mature fruit, less esteemed, produces a more reddish, i.e., orange color. R. Le Tourneau and L. Paye (1935), pp. 190, 214; L. M. Brunot (1923), p. 89; A. Joly (1909), p. 221, say the unripened pomegranate rind is used for yellow dye in Rabat and Constantine.

223. *Hurrāq* is a variety of *hortiga yerva*, or *parietaria*. Dozy, *Supplément*, I, p. 274. *Parietaria* is a small genus of widely distributed stinging herbs of the nettle family with alternate entire leaves and small greenish flowers in the leaf axis. Webster's *International Dictionary*.

224. Dozy, *Supplément*, II, pp. 309, 273.

225. Sufyānī, *Šinā'at tasfir*, p. 24. At Rabat, they use sulphate of iron for a black dye. L. M. Brunot (1923), p. 89.

226. Joly says that *zāj* or *'afš* were occasionally used but that the general ingredient today for black dye is American or Brazil wood. A. Joly (1909), p. 221.

227. Ahmad ibn Muḥammad ibn Khalīkān, *Wafayat al-a'yān wa-anbā' abnā' al-zamān*, ed. & trans. W. M. de Slane, Paris 1843–1871.

228. Gioanventura Rosetti, *Plictho*, trans. S. M. Edelstein & H. C. Borghetty (1969). 229. Ibid., pp. 159–180.

230. Ibid., p. 177.

231. Ibid., p. 179.

232. D. Jemma (1971), pp. 46, 48.

233. *Mann* = two *raṭls*. *Raṭl* = approximately one pound or twelve *ūqiyah*, or ounces, 144 *dirhams*, or 249.28 grams. Ahmed Mousa, *Zur Geschichte des Islāmischen Buchmalerei in Aegypten*, Cairo 1931, p. 27.

234. *Sādhaj* is Arabicized from the Persian meaning "plain; i.e., without variegation, decoration, embellishment . . . or, without any hair upon it, or of one unmixed colour." E. W. Lane, *Arabic-English Lexicon*, I, p. 1282.

235. T. W. Arnold & A. Grohmann (1929), p. 32.

236. Ibid., pp. 50–56.

237. Adam, *Der Bucheinband: seine Technik und seine Geschichte*, Leipzig, 1890, p. 196, Figs. 138–141. J. Karabacek (1913), pp. 50–51, and Plate VII, 1. E. Gratzl, *Is-*

lamische Bucheinbände, pp. 13, 17, 18, 19, 20.

238. R. Forrer, *Die Kunst des Zeugdrucks vom Mittelalter bis zur Empirezeit*, Strassburg-i-Els, 1898, p. 8.

239. J. Karabacek (1887), pp. 228–229, gives the background of such textile printing from Classical times.

240. C. J. Lamm, *Cotton in Medieval Textiles of the Near East*, Paris, 1937, p. 174. La Jonquière, C. de *L'Expedition d'Egypte*, Paris, 1904, III, p. 691 (1789–1801), refers to the duty on printed stuffs.

241. J. de Thevenot, *Relation d'un Voyage au Levant (1633–1667)*, London 1687. Cf. *Brief Guide to the Oriental Painted, Dyed, and Printed Textiles*, Victoria and Albert Museum, London 1924.

242. "A work they understand very well is overlaying, with gold and silver, linen cloth, Taffeta, and Satin; they do it with moulds, and represent on them what they please, viz. Letters, Flowers, and Figures; and they Stamp them so neatly, that you would think 'tis Gold or Silver Embroidery then print with gumwater." Chardin, *Travels in Persia*, p. 279.

243. J. Karabacek (1894), pp. 247–248. No. 946 is a *Qur'ān* of the tenth century A.D.

244. A. Grohmann and T. W. Arnold (1929), p. 53. Grohmann gives material evidence in the ninth–tenth century examples of the Rainier Collection, Inv. Perg. Ar. 337, Inv. Chart. Ar. 5604, and Inv. Chart. Ar. 14100 which are block printed. Ibid., Fig. 18, Plate 29a and 29b.

245. O. Aslanapa, "The Art of Bookbinding," *The Arts of the Book in Central Asia, 14th–16th Centuries*, B. Gray (ed.), Paris & London 1979, pp. 58–91.

246. The author uses the word *'azfah*, which Dozy gives as "dactylus palme." Dozy, *Supplément*, II, p. 125. The ending is the singular form. This palm has very slender leaves, whose width may have been suggestive as a measurement to the author. Sufyānī, *Šinā'at tasfir*, p. 12.

247. Sufyānī, *Šinā'at tasfir*, p. 14, Index, p. 9; term is given as an orange-like ornamentation impressed on the binding of a book. Steingass, *Persian-English Dictionary*, p. 269. Scientific description of Post calls it the *C. Medica L.* (1753) Citron; of the reddish form. G. E. Post, *Flora of Syria, Palestine, and Sinai*, Beirut, 1932, p. 277.

248. Sufyānī, *Šinā'at tasfir*, p. 14.

249. E. Gratzl (1976).

250. Sufyānī, *Šinā'at tasfir*, p. 14. This method of impression was used by the Persian bookbinders in the sixteenth century as well as the Turkish. The Turkish Sulaimān Chelebī is praised for his *turunjalar latāfati*, or delicate citrus-shaped designs. Mustafa 'Alī, *Menāqib-i Hünerwerān*, Istanbul, 1926 p. 73.

251. H. E. Wulff (1966), p. 238, describes the techniques of tooling bookbindings in 20th century Iran (after casing-in) "The dry

decoration or tooling is applied to the case. In its simplest form it is blind tooling, i.e., pressing lines (*haṭṭ andāhtan*) into the cover material with a wooden lining tool but without the application of gold leaf. A considerable number of books are gold-tooled (*telā-kūbī*). Lettering (*hurūf*) and tooling brass (*gol-e kilīsh*) are placed in a form (*gīreh*) and are warmed over a charcoal brazier. Meanwhile a thin coat of shellac solution (*lāk-e alcol*) is applied to the cover. The form is taken from the brazier, pressed onto a sheet of gold leaf (*varaḡ-e telā'ī*), and the form is pressed onto the book case (*hurūfrā andāhtan*) and beaten mildly with a wooden mallet (*mošteḥ*). Ornamental corners and centre panels are applied in the same way."

252. *Minqāsh* is defined as an instrument with which variegated, or decorated, or embellished work is done, and an instrument with which engraving or any sculptured work is done, also a kind of tweezers. Lane, *Arabic-English Lexicon*, I, p. 2840, col. 3. Also defined as a chisel, burin, point of an engraver, point, tweezer. Dozy, *Supplément*, II, p. 712.

253. Adam, "Zur Entwicklungsgeschichte des Lederschnittes mit besonderem Bezug auf spanische Arbeiten," *Archiv für Buchbinderei*, III (Feb., 1904), pp. 176–178.

254. Ibid., p. 26, and Index, p. 14.

255. Ibid., p. 26, and Index, p. 22. Also cf. Dozy, *Supplément*, II, p. 736.

256. Dozy, *Supplément*, II, p. 797. Also cf. Ricard in his index who differentiates these arabesques as floral and curvilinear as opposed to *tasfir* or polygonal interlaces. Sufyānī, *Šinā'at tasfir*, p. 26 and Index, p. 22.

257. As well as the tracings and stencils in the Martin album (see Figs. 12 & 14), drawings for bookbinding decoration have been noted in the collection of the Topkapu Saray by E. Grube, "Herat, Tabriz, Istanbul—the development of a pictorial style," *Paintings from Islamic Lands*, Oriental Studies IV, R. Pinder-Wilson (ed.), Oxford 1969; and in the Diez Albums of the Berlin Staatsbibliothek by B. Gray, "Some Chinoiserie drawings and their origin," *Forschungen zur Kunst Asiens in Memoriam Kurt Erdmann*, O. Aslanapa and R. Neumann (eds.) Istanbul 1969. Examples from the Topkapu Saray are illustrated in O. Aslanapa (1979), pp. 89, 90.

258. A. Riegl, *Stilfragen: Grundlegungen zu einer Geschichte der Ornamentik*, Berlin, 1873, p. 294. A. Riegl, *Die Spätromische Kunstindustrie*, Vienna, 1901, pp. 390–391.

259. A. Le Coq, *Die Buddhistische Spätantike in Mittelasien, II, Die Manichaeischen Miniaturen*, Berlin, 1923, Plate 4e, p. 40. Le Coq, *Chotscho*, Berlin, 1913, p. 8. Cf. J. Loubier, "Orientalische Einbandkunst," *Archiv für Buchbinderei*, X, 1910, 33, Fig. 1. P. Kersten, "Die Durchbrucharbeit," *ibid.*, XIV, 1914, p. 9. T. W. Arnold and A. Grohmann (1929), p. 38.

260. Th. Gottlieb, *Bucheinbände: K. K. Hofbibliothek*, Vienna, 1910, col. 4.
261. J. Karabacek (1913), CLXXII, 40.
262. *Munabbat* is an Arabic word from the root *nabat*, and is a participle of the second form. Vegetation is inferred in this verb of growth and the fine connected vegetable growth of the filigree pattern is aptly described by this word. Lane, *Arabic-English Lexicon*, I, p. 2753. Cf. also Biberstein-Kazimirski, *Dictionnaire arabe-français*, II, p. 1179.
263. Dūst Muḥammad, *Ḥalāti-i-Hūnerwerān*, p. 185.
264. Muṣṭafa 'Alī, *Menāqib-i-Hūnerwerān*, p. 74, l. 1. Hobson feels the Persians outdid themselves in the virtuosity of the technique, but gives the Egyptians priority in the technique. G. D. Hobson, "Some Early Bindings and Binders' Tools," *The Library*, Transactions of the Bibliographical Society, XIX, 1938-1939, p. 211. Karabacek also demonstrates that although the cutting-out of leather and paper is not specifically Persian, it reached its highest point there. He discovered an early example of Persian filigree of 8290 H./1417 A.D. and was able to identify the craftsman as a certain Jelāl al-Quainī. J. Karabacek (1913), pp. 48, 59-60.
265. P. Scott (1904), III, p. 243.
266. P. Adam, "Über türkisch-arabisch-persische Manuskripte und deren Einbände," *Archiv für Buchbinderei*, IV, Feb., 1905, p. 163.
268. Starch size as a dressing for paper was in general use on Chinese papers shortly after the seventh century according to microscopic examination. J. W. Wiesner, "Über die ältesten bis jetzt aufgefundenen Hadern-papiere," *Vienna-kais. Akademie der Wissenschaften Philosophisch-historische Klasse. Sitzunberichte*, CLXVIII, 1913, Abhandlung 5, 13. *Nashā'*, or wheat-starch, was used as a size on a paper, dated 428/1036, which is still preserved. J. Karabacek (1887), Plate III, Fig. 5, p. 52. The Arabs also early used coloring matter in the filling of starch paste. J. Karabacek (1894), p. xxii.
267. B. W. Robinson, "A Pair of Royal Book Covers," *Oriental Art* X, 1, 1964, pp. 32-36. O. Wächter, "The restoration of Persian lacquer bindings," *Allgemeiner Anzeiger für Buchbindereien*, 72. 7. 1959.
269. The paper was strong enough to be split where a border of one type and an inner field of another is desired. A modern Persian craftsman says great skill is required for this operation, and the work is entrusted to the bookbinders. T. Behzad, "Book Painting: Miniaturist's Materials," in A. U. Pope (ed.), *Survey of Persian Art from Prehistoric Times to the Present*, London & New York, 1939, III, p. 1926.
270. Sufyānī spells it 'arāqib. Sufyānī, *Šinā'at tasfīr*, p. 20.
271. P. Adam, "Beiträge zur Entwicklung der frühislamischen Einbände," *Archiv für Buchbinderei*, XIV, Oct., 1914, p. 93.
272. An early binding described as gold-tooled (ca. 654/1256) has been published. P. Ricard, "Reliures marocaines du XIII^e siècle: Notes sur des spécimens d'époque et de tradition almohades," *Hespéris*, Vol. XVI, 1933, Plate I. Some early Islamic manuscripts had ornaments of gold leaf pasted on the paper. T. W. Arnold and A. Grohmann (1929), pp. 12 f. Gold and silver writing had been adopted from previous cultures.
273. There are four preparations for the solution of gold in the *Compositiones ad Tingenda*, while the earlier Greek papyrus of Leyden had no less than sixteen, and one recipe is identical in both manuscripts being used not only for writing on parchment but also on glass and marble. It calls for celandine, fresh clear resin, gum the color of gold, brilliant orpiment, bile of turtle, white of egg and saffron of Sicily. M. Berthélot (1893), I, p. 17. For gold in suspension the *Mappae Clavicula*, of the 10th century, used powdered gold with bile of bull, etc. It also contains a recipe substituting other ingredients for gold in "gold" ink. *Ibid.*, pp. 48-49. Nadīm, *Fihrist*, pp. 6, 40. N. Abbott (1949), p. 54, for use of gold in writing.
274. *Isrinj* is the Persian word for cinnabar, vermilion, red lead, sandyx and burnt ceruse. Steingass, *Persian-English Dictionary*, p. 57.
275. Qādī Aḥmad, trans. V. Minorsky (1959), pp. 193-194.

The Catalogue

The catalogue entries have been arranged, not according to strict geographical groupings or chronological evolution, but in a sequence relating to their place in the four major design schemes used in Islamic leather bookcovers as proposed by Bosch (1952), pp. 160–169:

1) A centred pattern fills the entire inner panel. The central element of the design does not really repeat itself, although quarter portions of it may be suggested in the corners of the panel. The inner panel is contained by one or more frames. (1–23)

2) An overall pattern with repeats fills the inner panel. This is surrounded with single or multiple frames, one of which may also contain overall filling. (24, 25)

3) A medallion or other centre-piece motif is placed at the centre of an untooled inner panel field, defined by one or more frames. The corners of the inner panel may be decorated, as may be other areas, particularly above and below the central motif in the vertical axis. (26–68, 72–91)

4) As for design scheme (3), but the field of the inner panel around the central motif and other decorated areas is filled with an overall pattern. (69–71)

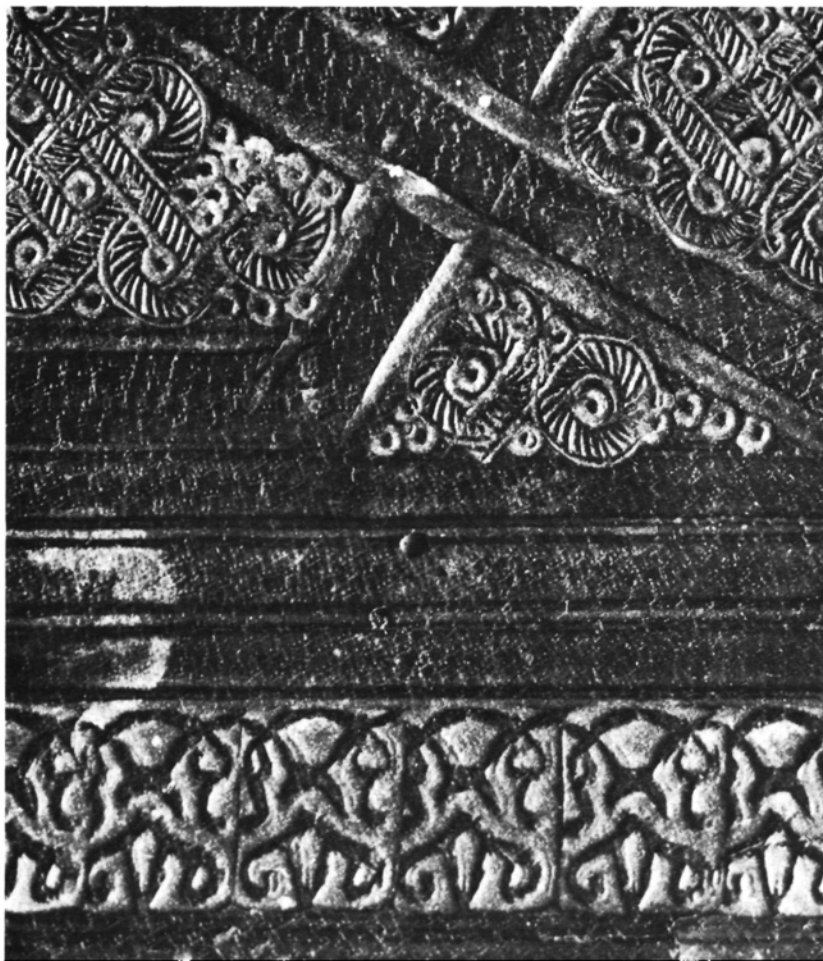
Catalogue entries 92–94 are manuscripts whose exterior coverings are of materials other than leather. Entries 95–100 are items of particular codicological interest.

A small number of bookbindings in this catalogue were not collected by Moritz but have been included to provide examples of styles of Islamic bookbindings which have either been neglected in the published literature or inadequately presented. No attempt has been made to include examples of extensively published styles not represented in the Moritz collection.

In describing the tooling, the calyx terminology is taken from Farīd Shāfi‘ī, “Simple Calyx Ornament in Islamic Art: A Study in Arabesque,” Cairo, 1956. Tooling is in blind unless otherwise indicated. The term ‘vertical axis’ refers to decorative elements which run in the direction parallel to the fore-edge and spine of the bookcover, and the term ‘horizontal axis’ to those which run parallel to its head and tail. The dimensions given are those of the upper/lower covers which are related to the paper format and thus may be more useful than the overall measurements of each complete object. The heights only are given of separate fore-edge and envelope flaps. The authors were unable to note the leather types, dimensions and some particulars of tooling of those bookbindings in the Islamic Museum, East Berlin. All Chester Beatty bookcovers and fragments from which the pasteboards and doublures have been removed have had their edges trimmed before they were mounted and it is these dimensions which are given. In 1979/80 the Milanese antiquarian bookseller, C. A. Chiesa offered for sale a collection of Islamic bookcovers of a provenance closely related to those of the Moritz collection now dispersed between Berlin, Dublin and Chicago. Some of these covers are referred to in the appropriate catalogue entries by the number given in the Chiesa catalogue.



1. upper cover



- 1 THE UPPER AND LOWER COVERS of a book-binding; exterior covering brown leather (goat) over paper pasteboards; blind tooling with gold paint; doublure light brown leather (sheep).

282mm × 197mm

Oriental Institute A12130 & A12131

Dr. B. Moritz

Maghrib, 13th–15th century A.D.

Upper and Lower Covers The upper and lower covers of this binding are similarly decorated. A burnished band edges a frame with a running pattern of impressions of a rectangular single axis stamp depicting schematic lotus blossoms linked by scrolls. The cup-like base of each blossom is embraced by a symmetrical curved stem with bifurcated leaves at each end. The inside edge of this border is defined by multiple fillets with adjacent tripartite fillets bordering the inner panel. An extra tripartite fillet edges the fore-edge and spine sides of the panel.

The inner panel is occupied by a geometric strapwork interlace. The straps are of untooled leather defined by single fillets and form a large central star linked to quadrant stars in the corners of the panel. Each compartment is filled with knotwork, that of the central star having at its core a small square area left untooled except for a central centred annular gold painted dot with smaller annular dots at its corners. The corner quarter-star compartments are centred by single large centred annular gold painted dots. This tool is also used to pick out the very small triangular compartments in the zone linking the star systems. The knotwork is constructed of hatched bars, arcs and dots.

G. Bosch, (1952), pp. 136, 149.

- 2 A COVER of a bookbinding; exterior covering brown leather; blind tooling.

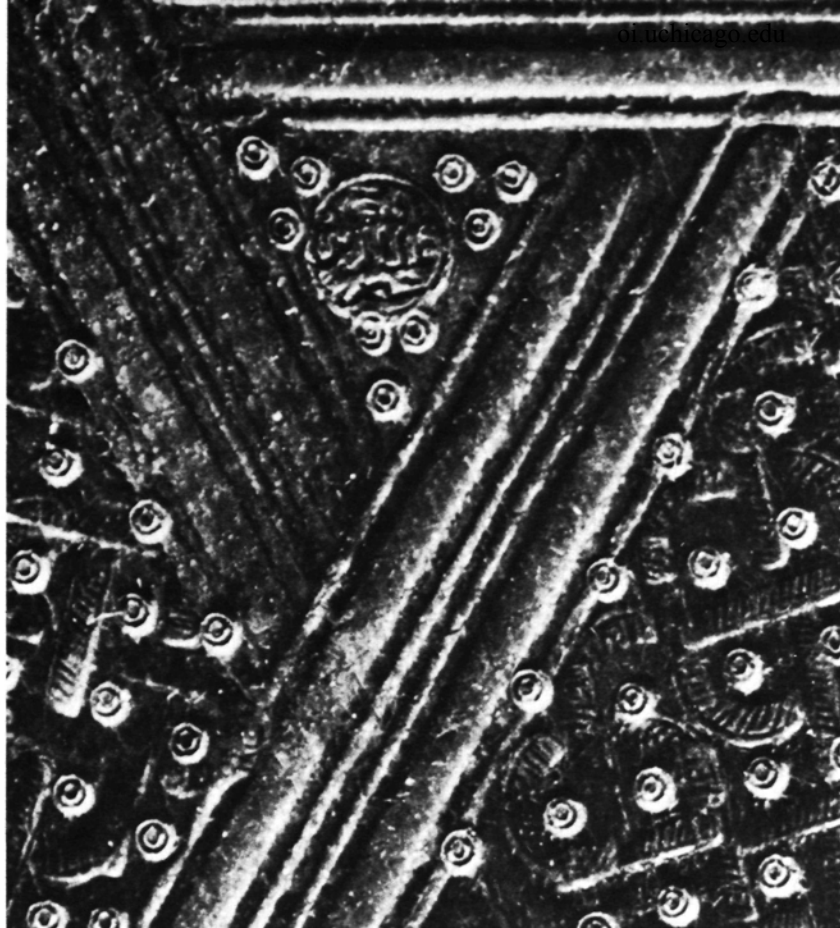
175mm × 250mm

Chester Beatty Library Moritz Collection I

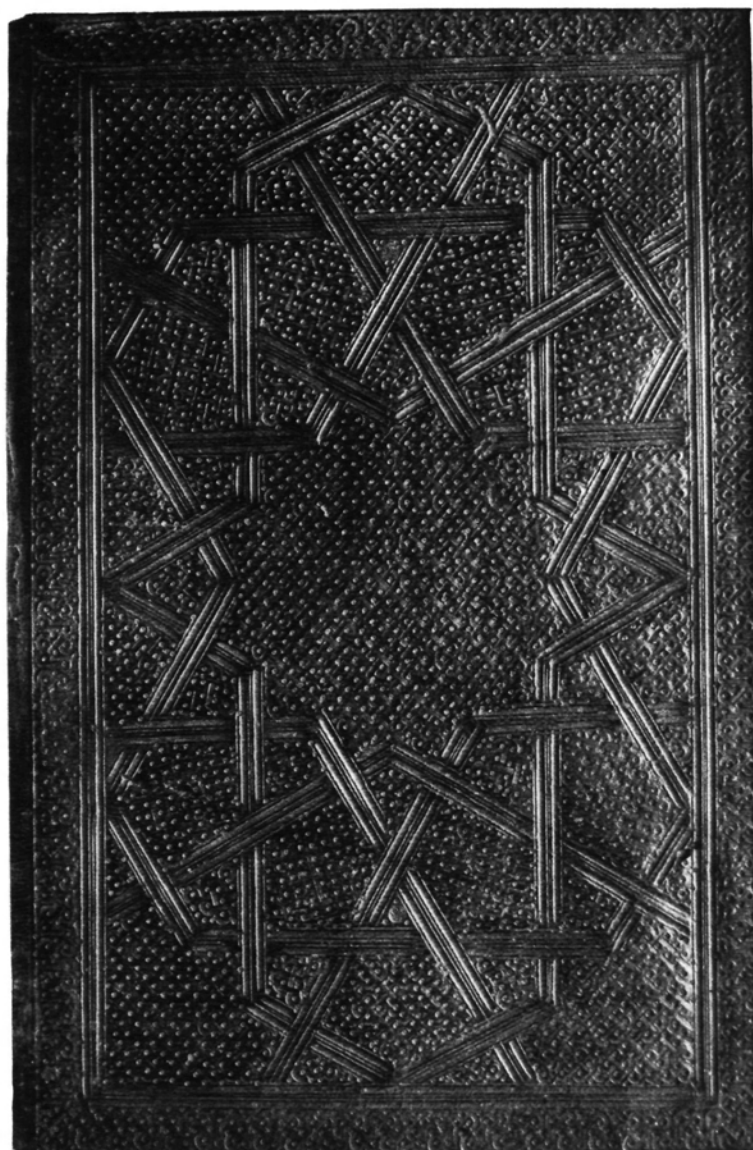
Dr. B. Moritz

Egypt/Syria, 14th century A.D.

1. detail



2. detail



Only the exterior leather of this cover survives, the pasteboard and the doublure having been removed. It is edged by a broad burnished band within which is a border, defined on the outside by a single fillet and on the inside by a tripartite fillet, of rich prominent knotwork constructed of hatched bars, arcs and dots.

The inner panel is defined by a tripartite fillet and is occupied by a geometric strapwork interlaced of infinite extension. The straps are produced by two adjacently placed tripartite fillets. The interlaced encloses large twelve-pointed stars, one of which forms the centre of the panel and four others are cut by the frame to form corner quadrants. Their centres are filled with a diagonal network produced by hatched bars, arcs and centred annular dots. The interlaced extends beyond these stars to produce another zone of star points, whose compartments are filled with knotwork of hatched bars, arcs and centred annular dots. The compartments of the zones interconnecting the star systems are tooled as for the centres of the stars. On the vertical axis, in small inward pointing triangular compartments, midway between the periphery of the central star and the frame, are placed tiny circular epigraphical finely-engraved stamps. These read:

al-Masrī (al-Baṣrī, al-Naṣrī?)
‘Izz al-Dīn (?)
Ḥusayn (?)

G. Bosch, (1952); pp. 116, 119–120, 129, 133, 143, 149, 164; Pls. XVII & LVIII.

- 3 UPPER AND LOWER COVERS of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublures block-pressed leather (sheep).

259mm × 175mm.

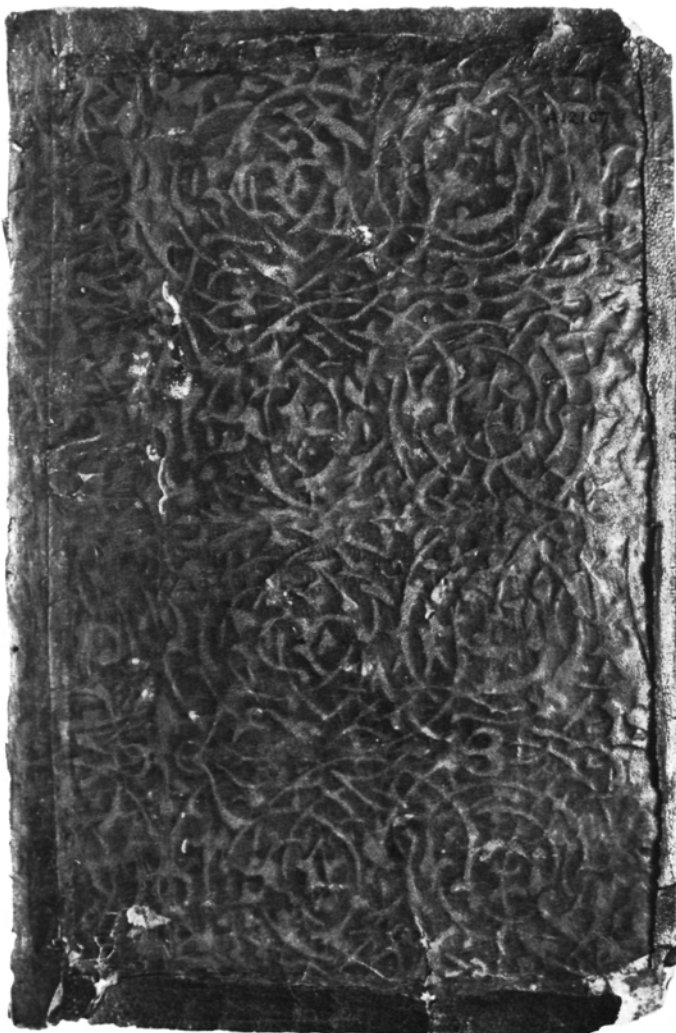
Oriental Institute A12107

Dr. B. Moritz

Egypt/Syria, 13th–14th century A.D.



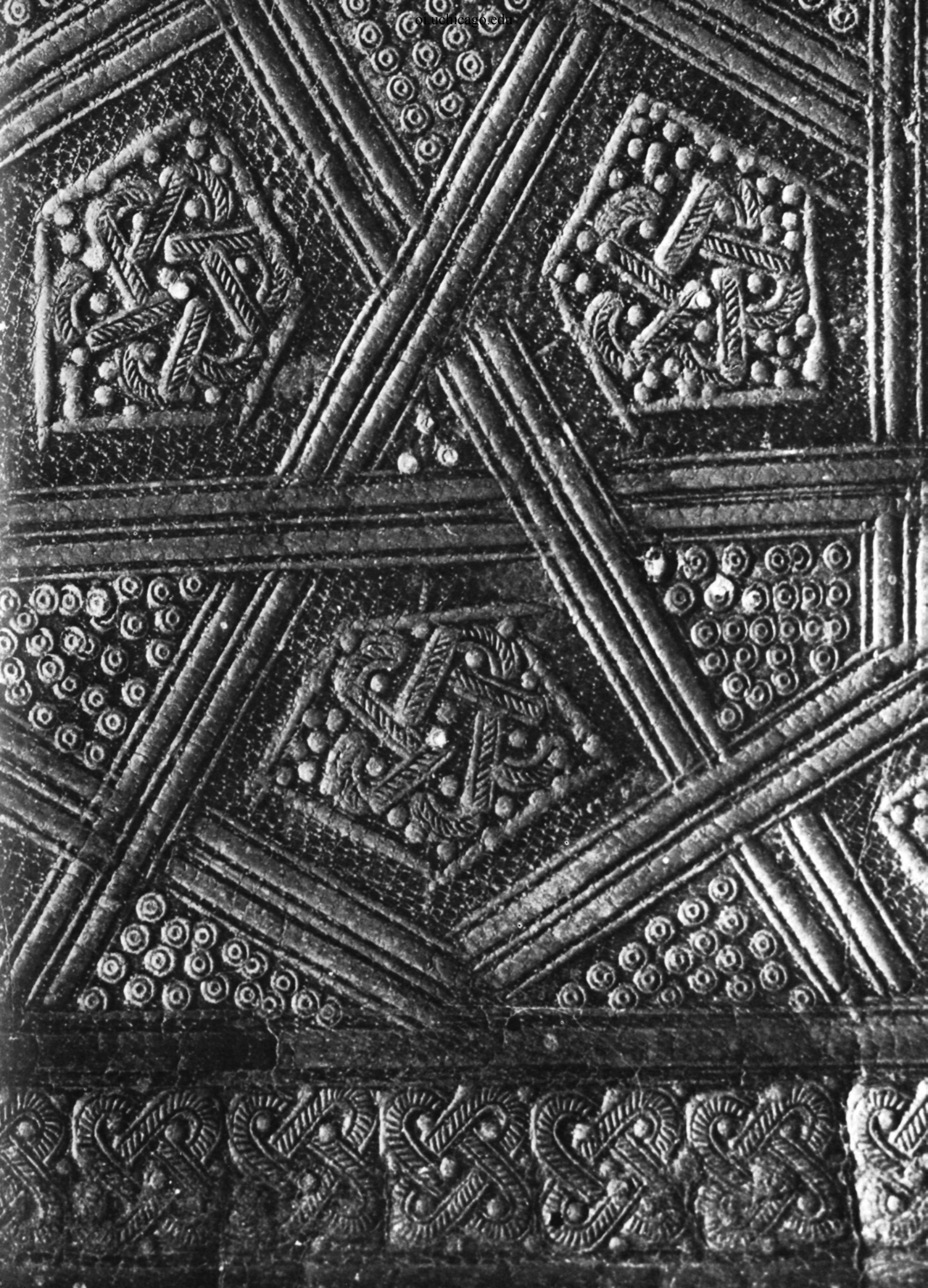
3. lower cover



Upper and Lower Covers Both covers are similarly decorated except for the knotwork at their very centre which differs in its geometry. A leather repair obscures the spine frame of the upper cover. The covers are edged with burnished bands framed by broad tripartite fillets which also define the inner edges of the frame. This is formed of impressions of a square format stamp depicting two interlinked hatched diagonal loops with interstitial dots.

The inner rectangular panel is filled with an overall blind strapwork interlace, of infinite extension, centered on a large twelve-pointed star. Although the strapwork is formed by double tripartite fillets, the central star, corner star quadrants and intervening pentagonal compartments are additionally outlined by a cushion border of untooled leather. The central star and corner quadrant stars are filled with a diagonal knotwork mesh. There is a gold dot at each point of the central star. On both covers there is a small square with central dot left at the centre of each quadrant star. This feature also appears in the centre of the main star of the upper cover but is missing from the corresponding star of the lower cover. This has such dots at the corners of an imaginary square within the field. The knotwork is formed using hatched bars, arcs and dots. The compartments formed by the pointed extensions of the central star and corner star quadrants are filled with blind centred annular dots. The intervening pentagonal compartments, whose outlines are described above, are filled with a large knot with interstitial and flanking dots.

Doublure Both upper and lower covers have doublures printed from the same block. A dense interweaving of vine spirals moves out from intervening dished lozenge-shaped areas along a single dominant axis (in this case placed parallel to the head and tail of the covers). The vines develop in their spiral path into pointed leaves, buds and possibly thorns which add to the thicket-like appearance of the pattern by overlapping in many places. Similar doublures appear on 4 and 10.



- 4 A BOOKCOVER; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling; doublures block-pressed leather (sheep).

259mm × 175mm

Chester Beatty Library Moritz Collection 64

Dr. B. Moritz

Egypt/Syria, 14th–15th century A.D.

The upper and lower covers, fore-edge and envelope flaps of the original binding survive but the spine is a relatively recent European repair.

Upper Cover The upper and lower covers have similar borders and frames but interlaces of differing geometry for their inner panels. They are edged by a broad burnished band within which is a frame, defined by tripartite fillets, of a guilloche pattern produced by interlocking hatched X-shaped stamps with interstitial gold dots. Single centred annular gold dots are placed at the outer corners of the frame.

The inner panel is outlined by an untooled band, defined on the inner side by a fillet. In each corner of this band is placed a single centred annular gold dot. The panel is filled with a rectilinear geometrical strapwork composed of three major horizontal elements. The broad straps are defined by single fillets. The interlace encloses at the centre a six-pointed star with, at its core, a single centred annular gold dot. The head and tail elements of the interlace are cut horizontally by the frame. The background field is densely textured with hatched bars and arcs as well as short fillets and dots.

Lower Cover This has a border similar to that of the lower cover. Its inner panel is outlined in a similar way and has similar strapwork and infill tooling. The geometry, however, is different. The interlace encloses at the centre a large twelve-pointed star, outlined with a broad tripartite fillet, within which is a roundel. This is also formed using a tripartite fillet. The points of the star have a motif like the eye of a peacock's feather constructed of small circles with an eccentrically placed inner centred annular gold dot leaving an untooled inner crescent. These are flanked by small centred dots. The field within the roundel has a complex knotwork woven around a square centred annular gold dot. The strapwork interlace extends beyond the central star to link with cor-



4. book cover

ner quadrant stars. The fields of the compartments are of knotwork based on squares with a central centred annular gold dot.

Fore-edge Flap The fore-edge flap is edged by a burnished band and broad tripartite fillets define tooled orthogonal panels of equal size. Those at head and tail are filled with plaitwork of hatched bars, arcs and gold dots around simple single fillet cross forms. The middle panel is tooled with interlinked knotwork squares centred by centred annular gold dots.

Envelope Flap The border and frame of the envelope flap at head, tail and fore-edge are similar to those of the corresponding areas of the upper and lower covers. Within is an untooled band (with corner centred annular gold dots) like that defining the inner panel of the upper and lower covers. This demarcates the main pointed panel of the flap. At its centre is a roundel with an exterior circular untooled band defined by a single fillet. Within is a circular tripartite fillet. Eccentrically placed along this on the horizontal axis on the side away from the point of the flap is a small medallion of knotwork centred around a centred annular gold dot.

The design of this roundel, as a whole, echoes the form of the peacock eye motifs in the points of the central

star of the lower cover. The field of the main panel of the envelope flap surrounding the roundel is filled with a knotwork mesh against which are placed knotted lozenges whose braiding is left untooled. Gold dots are placed at its interstices.

Doublures Upper cover, lower cover, fore-edge flap and envelope flap have the same block-pressed leather doublures with a pattern in which a dense interweaving of vine spirals moves out from intermediate dished lozenge-shaped areas along a dominant axis (in this case parallel to the head and tail of the covers). The vines develop in their spiral path into pointed leaves, buds and possibly thorns which add to the thicket-like appearance of the pattern by overlapping in many places.

Similar doublures appear on 3 and 10.

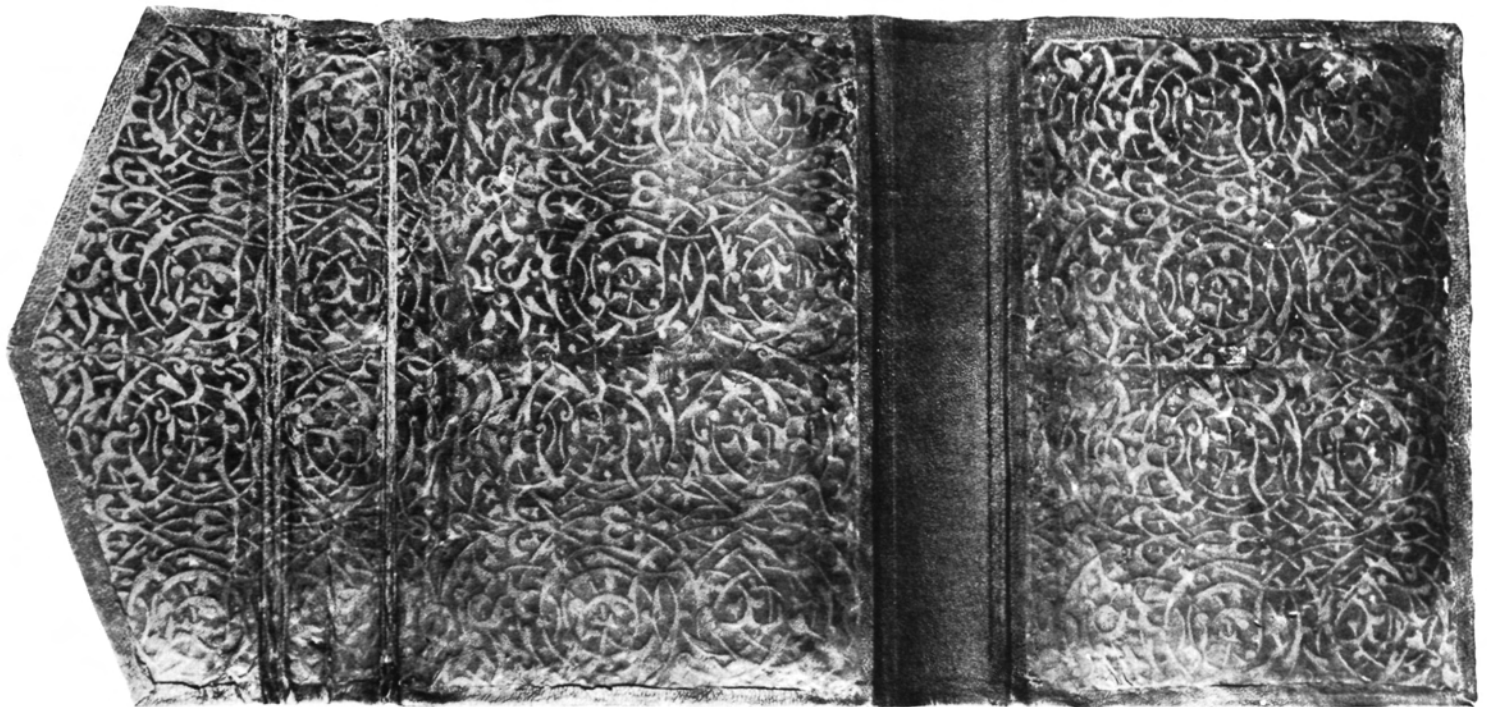
5 A BOOKCOVER; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling; doublures block-pressed leather (sheep).

265mm × 182mm

Chester Beatty Library Moritz Collection 65
Dr. B. Moritz

Egypt/Syria, 14th–15th century A.D.

Upper and Lower Covers Both upper and lower covers are similarly deco-



4. *doublures*

rated. A broad burnished band, defined by fillets, edges an untooled band. Within, a frame, divided at its horizontal and vertical axes by simple meanders formed by short fillets and gold dots into four L-shaped compartments, is filled with knotwork squares constructed of hatched bars and arcs around centred annular gold dots. The frame is defined on the inside by an untooled band with a single fillet along one side and a double row of tripartite fillets outlining the rectangular inner panel. This panel is filled with a strapwork geometrical interlace of infinite extension within which juxtaposed interlinked dodecagram systems enclose twelve-pointed stars. One of these forms the centre of the panel and four others are cut by the frame into corner quadrants. The star centres and the compartments outside the dodecagrams have a knotwork mesh of hatched bars, arcs and interstitial gold dots. The compartments which constitute the arms of the dodecagrams have related knotwork but with blind dots except for single centrally placed annular gold dots.

Spine The spine is untooled and is a later repair, but from the presence of adhesive and other accumulations on the inside it appears to have been actually used as part of a later binding phase.

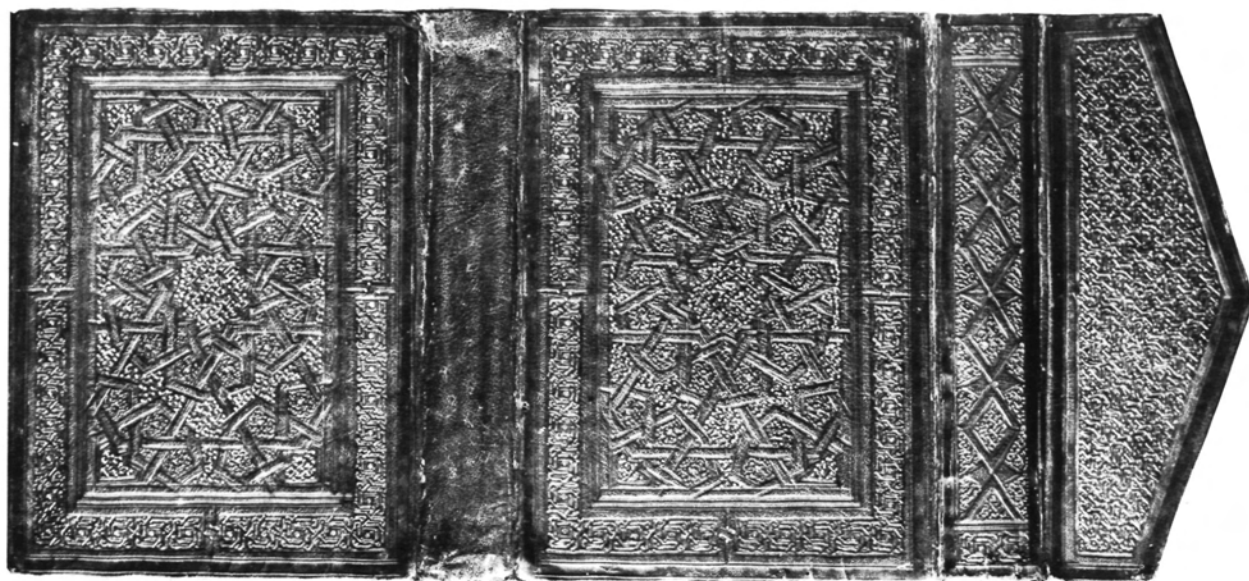
Fore-edge Flap The fore-edge flap has tooling at head and tail similar to that of the frames of the upper and lower

covers and a similar burnished edging band. Within these framing elements is a long panel outlined with tripartite fillets. It has a very distinctive criss-cross pattern of linked lozenges with pointed ties at their intersections. The strapwork of the interlace of the upper and lower covers is formed of untooled straps defined by fillets. A centred annular gold dot is tooled at the points of the lozenges. Though this panel is markedly different in the major features of its design from that of the upper and lower covers, some continuity is provided by a horizontal fillet through the centre criss-cross tie which creates a visual link with the meanders horizontally cutting the frames of the upper and lower covers. The compartments within and without the lozenges are filled with knotwork of hatched bars, arcs and dots.

Envelope Flap The envelope flap is edged with an outer broad burnished band defined by fillets within which is a band of untooled leather of equal width defined by fillets. The point of this envelope flap is not stressed by an individual motif, but rather the whole field is filled with an overall pattern of simple crosses centred by gold dots in a knotwork mesh.

Doublure The doublure is related to those of 11 cover B, and 38. It is of block-pressed leather with a bisymmetrical pattern whose module is based on a central cross with arrow-shaped

5. book cover



calyx arms arising from a central dot. The arrow-shaped points develop into larger three-sepal calices whose outer arms curve downwards. These serve as the core from which leaves develop into expanding vine scroll forms with varied foliate forms and calices. Bifurcated leaves frequently emphasize the tying elements.

B. van Regemorter, (1961); pp. 9, 14; Pl. 17. M. Weisweiler, (1962); Abb. 10, Handschrift 144, Syrian?, 1442 A.D., Klappentyp 37 (fore-edge flap only related); Abb. 13, Handschrift 131, Hamât 1421 A.D., Deckeltyp 10.

- 6 A COVER of a bookbinding; exterior covering brown leather over paper pasteboards; blind tooling, gold tooling; doublures block-pressed leather.

*Islamic Museum East Berlin I.865
Dr. B. Moritz
Maghrib, 14th century A.D.*

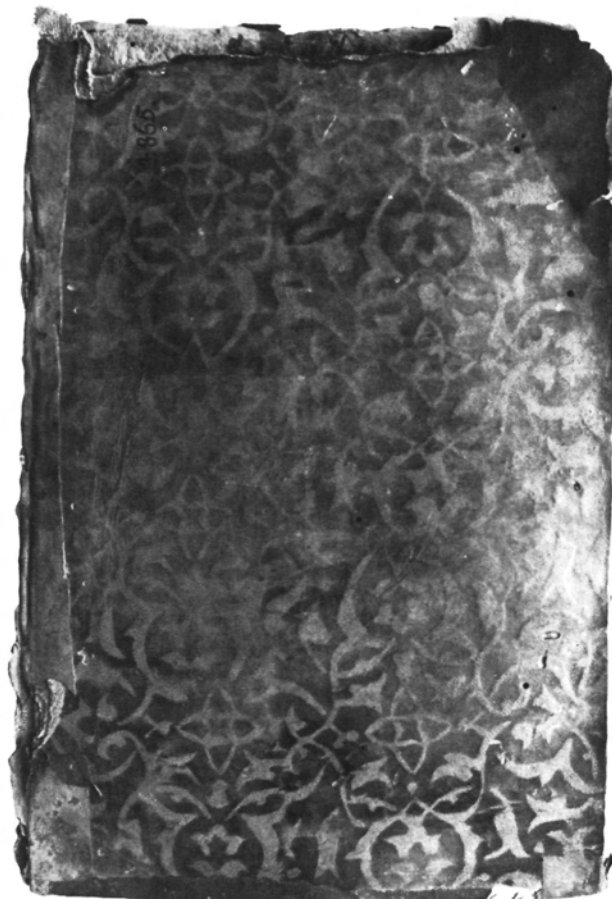
The outer frame of this cover, defined by tripartite fillets, has a pattern in which the diagonal elements are prominent, formed by hatched X-shaped stamps with interstitial dots placed so that their arms align. This tooling has been executed so as to leave a central row of untooled eight-pointed stars or diamonds centred by a centred annular gold dot.

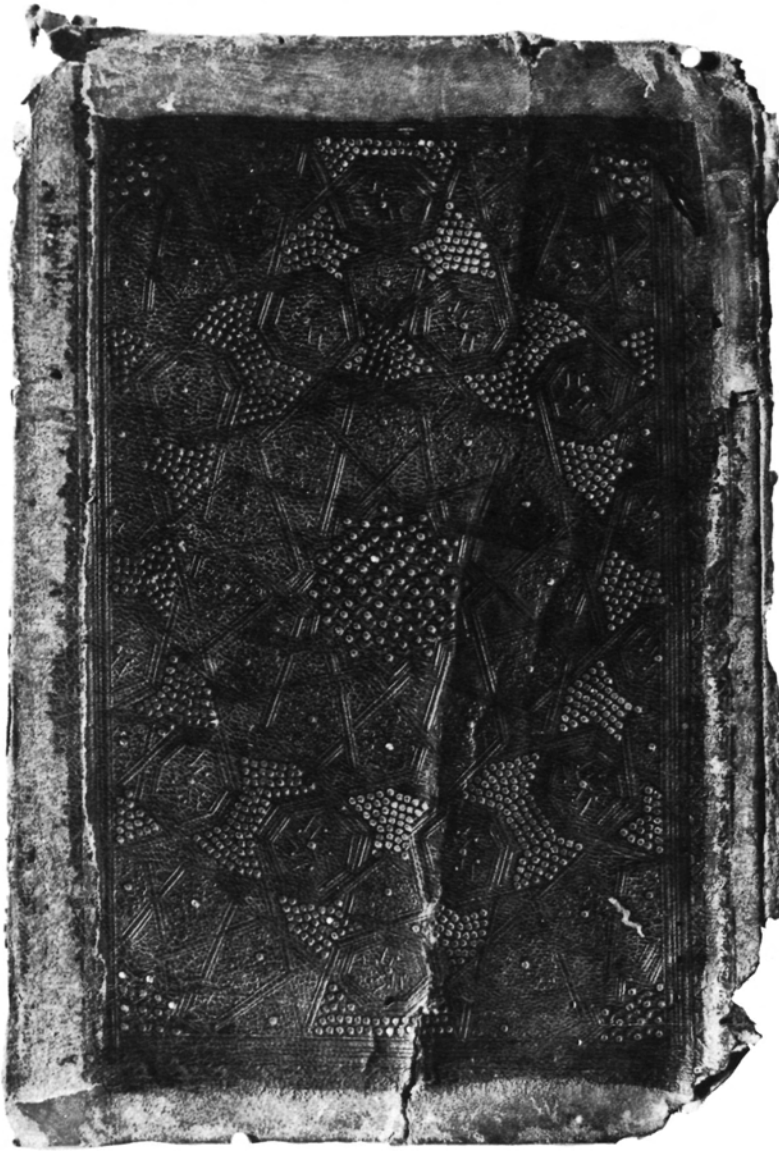
Within this outer frame at head and tail, tripartite fillets demarcate panels tooled with a simple row of the hatched X-shaped stamps. The rectangular inner panel lies within an untooled inner frame. It has a geometrical strapwork interlace of linked octagrams with central eight-pointed stars. The straps are of untooled leather edged by single fillets. The outlines of the stars are emphasized by tripartite fillets and their centres are left untooled. The small pointed compartments in the zone beyond the central stars are tooled with clusters of three gold dots. The other compartments are filled with hatched X-shaped tools and dots. The very small corner compartments are secured by groups of four gold dots.

Doublure The block-pressed leather doublure has a pattern made up of a relatively small biaxial repeat of leafy vine scrolls and calices around a central four-lobed or four-petalled form.



6. cover





7. lower cover

- 7 THE LOWER COVER of a bookbinding, exterior covering brown leather (goat) over paper pasteboards; doublure block-pressed leather (goat); blind and gold tooling.

244mm × 163mm

Oriental Institute A12137

Dr. B. Moritz

Egypt/Syria, 14th–15th century A.D.

Lower Cover Crude repairs obscure the tooling of the borders of this cover. It has a running pattern composed of impressions of a square format two-axis tool with hatched half-hexagons on each side, which has a square central compartment enclosing a small centred circle. The border is defined on its inner edge by a tripartite fillet. An adjacent tripartite fillet defines the inner panel.

The inner panel is occupied by a geometric interlace of infinite extension

formed by tripartite fillets. The interlace produces dodecagram systems, with central twelve-pointed stars, linked by irregular heptagons and hexagons. This panel has a central such system and quadrant systems at the corners. The inner twelve-pointed stars and corner sections of stars are additionally outlined by tripartite fillets and have inner fields of hatched X-shaped stamps with interstitial gold dots. The points of the star zone immediately encircling the inner stars are untooled. The arms of the dodecagrams are filled with impressions of a six-lobed rosette tool and centred by a centred gold dot. The small polygonal compartments connecting the outer zone of the dodecagrams to the heptagons and hexagons are untooled. Those linking six- and seven-sided forms are tooled with sketchy whirling forms of flecks and dots around a centred gold dot core. Like the inner stars, these compartments have additional outlining tripartite fillets. Those separating them in the zone linking the dodecagram systems are filled with gold dots. Above and below the central dodecagram on the vertical axis are two small compartments linking a group of three of the hexagons/heptagons. These are untooled except for a central centred gold dot.

Doublure The block-pressed doublure has a floral pattern of which the module is dominated by a large eight-lobed form whose outline is produced by the meeting of pointed trilobed leaves or three-sepal split calices. This octolobe is approximately square in proportions. At its centre is an eight-petalled star of cross shape with each arm of the cross having two points. It contains a chrysanthemum-like sixteen-petalled flower with alternating slender and short petals. The points of the central cross/star extend to produce four large lotuses filling the lobes in the vertical and horizontal axes. The less prominent corner lobes are occupied by peony-like flowers. The corners of the large octolobe motifs join intervening eight-petalled forms produced by the interlacing of two cross-shaped four-lobed forms containing a central chrysanthemum-like flower. From the petals of the quadri-lobe in the horizontal and vertical axes develop leafy plant sprays which fill the remaining spaces between the dominant octolobe motifs of the module.



8. envelope flap



8. lower cover

This doublure is very similar to that of 46.

G. Bosch, (1952); pp. 132, 135, 162; Pl. LI.

- 8 A BOUND MANUSCRIPT; Arabic; donated by Sultan Faraj, 801 A.H./1399 A.D.–815 A.H./1412 A.D. Textblock paper burnished Oriental, hand-made; endleaves burnished European hand-made laid watermark; link stitch sewn at two sewing stations with blue cotton thread; Islamic endbands (only fragments of the anchorage threads of the same blue thread as the main sewing thread survive); lining missing; doublures of block-pressed leather overlaid by fore-edge flap hinge of rose-coloured laid paper; reinforcements to head and tail spinefolds and repairs to edges of leaves (of Oriental paper textblock and European endleaves) as well as hinges attaching textblock to covers, all using a lighter coloured laid paper; exterior covering of brown leather over paper pasteboards; later leather replacements for spine and fore-edge; blind tooling, gold tooling, gold paint.

184mm × 127mm

Oriental Institute A12066

Dr. B. Moritz

Egypt, early 15th century A.D.

Although this volume has undergone one or two phases of repair and resewing, the upper and lower covers and envelope flap are original to the manuscript.

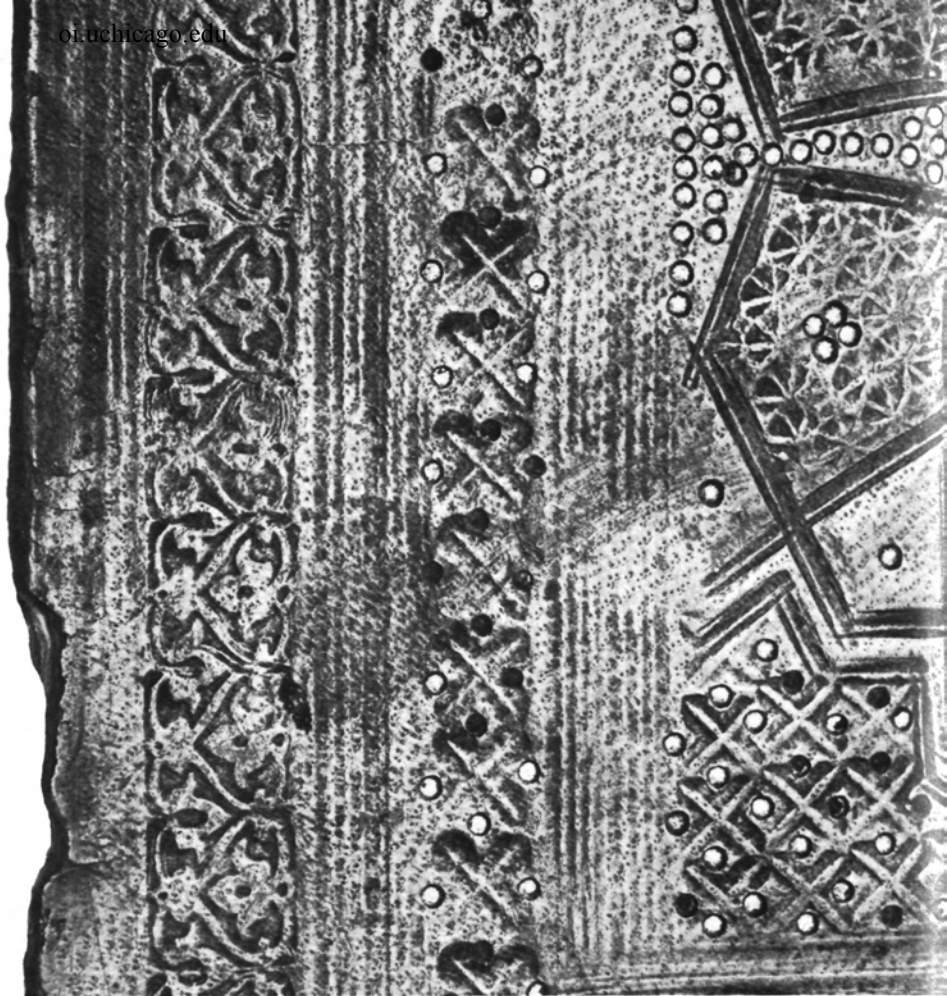
Upper and Lower Covers Both upper and lower covers are similarly tooled. A burnished band edges a frame, defined by thin tripartite fillets on the

outer edge and a broader one on the inner edge, with a guilloche pattern of hatched reverse S-shaped stamps with interstitial gold tooled dots.

The inner panel is defined by a gold painted tripartite fillet and is occupied by a geometric strapwork interlace. The straps are defined by double fillets and form a central hexagram enclosing a small six-pointed star linked to segments of similar systems in the corners. The hexagram itself expands to become a larger six-pointed star. Beyond this, on either side of the points of the star in the vertical axis, octagons are produced whose inner contours are emphasized by gold painted fillets. All the compartments of the interlace are filled with knotwork of hatched bars, arcs and small centred dots. Those of the central star, corners, and the compartments in the middle of the head, tail, fore-edge and spine sides against the frame have interstitial gold dots. The points of the large stars and quadrant stars have a central large centred annular dot.

Envelope Flap The head, tail and fore-edge of the envelope flap have a burnished outer band. Broadly spaced fillets line the pointed edge.

A gold painted fillet defines one side of an untooled band (the other is defined by a single fillet) which encloses the central roundel and the adjacent flanking panels. The roundel, emphasized by an inner gold painted fillet, is



9. detail



9. lower cover doublure

occupied by an interlace of gold painted fillets producing a seven-pointed star made up of seven irregular interlinked rhomboids. The compartments where they overlap are left untooled. The other compartments are densely filled with hatched bars, arcs and dots. The small star at the centre of the interlace contains a knot with interstitial gold dots.

The flanking panels have a diagonal knotwork grid interrupted by a sequence of three knotwork squares centred by a large gold centred annular dot.

Doublures (Upper and Lower Covers and Envelope Flap) The leather doublures of the upper and lower covers and envelope flaps have the same block-pressed pattern in which spiralling leafy vine scrolls expand from a central cross motif whose arms are schematic three-sepalled calices arising from a central dot.

N. Abbott, (1939); p. 130.

G. Bosch, (1952); pp. 120, 131, 143; Pl. I.

- 9 THE UPPER AND LOWER COVERS of a book-binding; exterior covering light brown leather (goat) over paper pasteboards; blind and gold tooling; doublures block-pressed leather (sheep).

273mm × 184mm

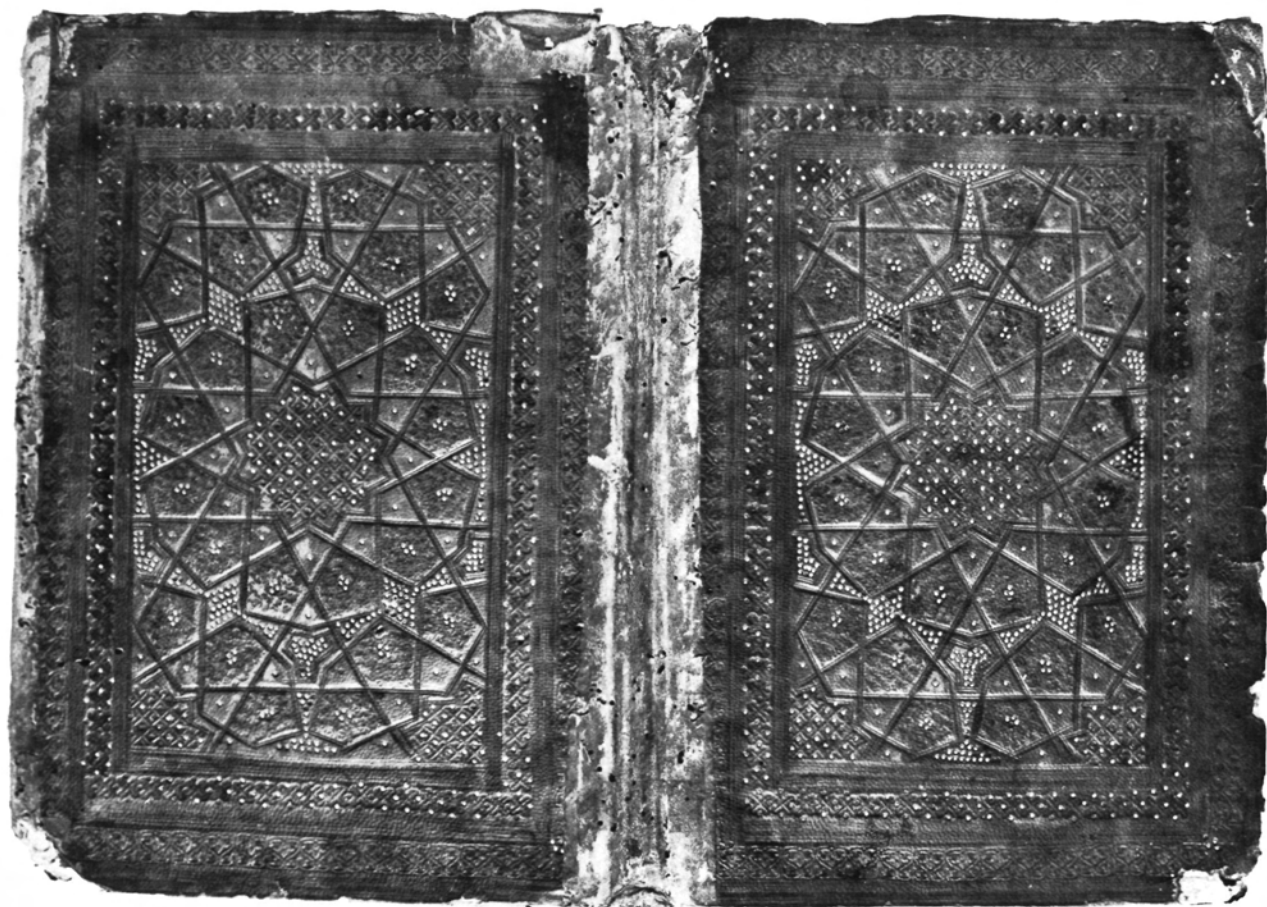
Oriental Institute A12116

Dr. B. Moritz

Egypt/Syria, 15th–early 16th century A.D.

The original upper and lower covers of this binding are attached by a later re-backing leather and with later hand-made paper hinges.

Upper and Lower Covers The upper and lower covers are similarly decorated. Multiple fillets define an outer frame composed of a running pattern of impressions of a square format single-axis tool forming alternately inverted cordiform scrolls issuing from, and enfolding, three-sepalled calices with double bases. The inner frame is defined on its inner edge by multiple fillets and is composed of impressions of an X-shaped stamp with interstitial gold dots.



9. upper and lower covers

The inner panel is occupied by a geometrical interlace of infinite extension with a central hexagram system based on a twelve-pointed star closely linked to quadrants of the same system at the corners of the panel. The interlace is formed by double fillets. The stars are additionally outlined by double fillets. They are filled with a diagonal grid constructed with the X-shaped stamp with interstitial gold dots. The points of the star in the zone immediately beyond the inner stars are left untooled except for a central dot, as are the mirror compartments opposite them. The compartments which constitute the arms of

the hexagrams are filled with impressions of a six-petalled rosette and are centred by clusters of four gold dots. The compartments of the zone linking the hexagram systems are filled with gold dots. Those situated on the horizontal, vertical and diagonal axes contain a three-bladed inner form outlined by double fillets. These are also filled with gold dots.

Doublures (Upper and Lower Covers)

The doublures are of block-pressed leather with a bold pattern of large diamonds formed by the intersection of diagonal bands containing undulating vines with three-lobed leaves. Circles enclosing eight-petalled double rosettes mark the intersections. The diamond-shaped panels alternately are occupied by a simple cordiform motif enclosing a three-sepalled calyx against a leafy bed or by a motif of similar outline and background but filled with seeds or segments suggesting a pineapple, pine cone, or possibly a pomegranate.

This doublure is similar to those of 29, 50 and 51.

G. Bosch, (1952); pp. 134, 160f.; Pl. XLVII.
M. Weisweiler, (1962); Abb. 4, Handschrift 364, Ḥamāt 1433 A.D., Deckeltyp 4.



10. book cover

- 10 A BOOKCOVER; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling; doublures block-pressed leather (sheep).

263mm × 168mm

Chester Beatty Library Moritz Collection 66

Dr. B. Moritz

South Arabia, 14th–15th century A.D.

Upper and lower covers and envelope flap of the original bookbinding survive. The spine and fore-edge flap are modern repairs. All tooling is in blind.

Upper Cover, Lower Cover, Envelope Flap The lower and upper covers and the envelope flap have the same decorative schema with the reduced pointed area of the flap cutting into the full design. A broad border of interlinked knotwork squares, each with a small circular epigraphical stamp:

‘amal Ismā‘il

عمل اسماعيل

the work of Ismā‘il



10. detail

The border is defined by tripartite fillets. Within, another tripartite fillet defines a large rectangular centre panel. Its field has a luxuriant but formal arabesque of untooled leather silhouetted against a densely textured knotwork field of hatched bars and arcs with small interstitial centred dots. This design is bisymmetrical. The vine work creates a central lozenge compartment, issuing on either side towards head and tail to form S-shaped scrolls which develop at various points into trilobed leaves or three-sepal split calices with notched bases and an extended lobe or sepal whose point is tendril-like and clasps the vine. At the centre of the covers at the head and tail, points of the lozenge area develop large three-sepal calices with a prominent cleft base. The lower sepals curve down, their tips becoming tendrils which clasp their own stems.

Doublures Upper cover, lower cover, fore-edge flap and envelope flap have the same block-pressed leather doublures with a pattern in which a dense interweaving of vine spirals moves out from intermediate dished lozenge-shaped areas along a single dominant axis (in this case parallel to the spine and fore-edge of the covers). The vines develop in their spiral path into pointed leaves, buds and possibly thorns which add to the thicket-like appearance of the pattern by overlapping in many places.

Similar doublures appear on 3 and 4.

- 11 UPPER COVER (A) of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint, blue paint; doublure block-pressed leather (sheep).

377mm × 261mm

LOWER COVER (B) of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint, blue paint; doublures block-pressed leather (sheep).

377mm × 261mm

Oriental Institute A12152

Dr. B. Moritz

Egypt/Syria, 14th century A.D.

These two covers, without original spine, fore-edge flap and envelope flap, had been connected by a recently applied mustard coloured leather which has now been removed. Although, with the exception of the tooling of the space within the central stars and the tooling of the smaller compartments, these covers have the same decorative schema and the same dimensions, the patterns of their block-pressed doublures are different. They would seem to have been produced by the same workshop. Either differing doublures were used on the same binding, or these two covers are from different volumes within the same or related sets. The central floral star of cover A is outlined in gold paint. The central star of cover B has the same tooling as other compartments of the interlace of the inner panel.

Both covers have ornamentation over their entire surfaces. The outer edges are marked by blind fillets, one of which is inpainted with blue pigment whose original colour is now lost. A thin running border of blind impressions of a small hatched X-shaped stamp with interstitial gold dots is defined by blind fillets.

Within this border is a wide compartmented frame divided by straight tripartite fillets to form L-shaped compartments at the corners, with rectangular compartments of equal size between them—one at head and tail and three along the spine and fore-edge. The corner compartments are outlined with a line of gold painted along the central framing fillet. Similar gold inpainted fillets form a geometric interlace of infinite extension within the corner panels and the panels in the middle of the fore-edge and spine sides of this frame. Octagons interlace around an evenly spaced sequence of large eight-petalled rosettes formed by blind straight flecks and hatched arcs. A gold dot is placed at the centre of each petal. The flanking compartments within the gold outlines are tooled with hatched bars and interstitial gold dots defined by blind tripartite fillets. The intervening compartments are tooled in a similar manner but outlined with a tripartite fillet painted blue rather than gold.

The panels of this frame, not tooled with the hexagon interlaces, are outlined with blue painted fillets and filled with a network of multiple blind hatched S-shaped stamps with interstitial gold dots as used in the outer border of the covers. The large inner rectangular panel is tooled with a complex overall blind geometric strapwork interlace of untooled leather defined by fillets,



11. cover B

through which moves a curvilinear system of gold painted ogival fillets. Cover A has at its centre a twelve-petalled flower whose blind tooled outline is inpainted in blue and enclosed in a twelve-pointed star inpainted in gold. This floral star is the centre of a dodecagram whose arms alternate in length and extend to connect with quadrants of similar dodecagram systems which form the corners of this panel. The compartments of the interlace are tooled with small hatched X-shaped stamps, arcs and dots. A single blind centred annular dot is placed at the centre of each arm of the dodecagrams. Some symmetrically placed compartments including contracted octagons, on cover A are outlined with blue or gold paint and have interstitial gold dots. The corner quadrant stars of this cover are out-

lined in gold while the related compartments of cover B are outlined in blue only.

Doublure (Cover A) In this block-pressed doublure large nature-inspired floral forms are set amongst leafy vines. Lotuses opposed across leafy beds are connected on either side by a curving vine stem to slender, petalled flowers in three quarter view. Similar patterns occur on 48 and 70.

Doublure (Cover B) The leather of the doublure has a block pressed bisymmetrical pattern whose module is based on a central cross with arrow-shaped calyx arms arising from a central dot. The arrow points develop into larger three-sepalled calices whose outer arms curve downwards. These serve as the core from which leaves develop into expanding linked vine scroll forms with varied leaves and calices. Bifurcated leaves frequently emphasize the tying elements. Similar patterns occur on 5 and 38.

G. Bosch, (1952); pp. 111, 134, 166; Pls. VIII & LXIII.

F. Sarre, (1923); Pl. II.

Islamic Art in Egypt (1969); p. 311, No. 297; Pl. 54.

- 12 UPPER COVER (B) AND ENVELOPE FLAP of a bookbinding; exterior covering brown leather (goat) recently mounted on strawboard, (envelope flap) brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint, blue paint; doublures block-pressed leather (sheep).

270mm × 260mm.

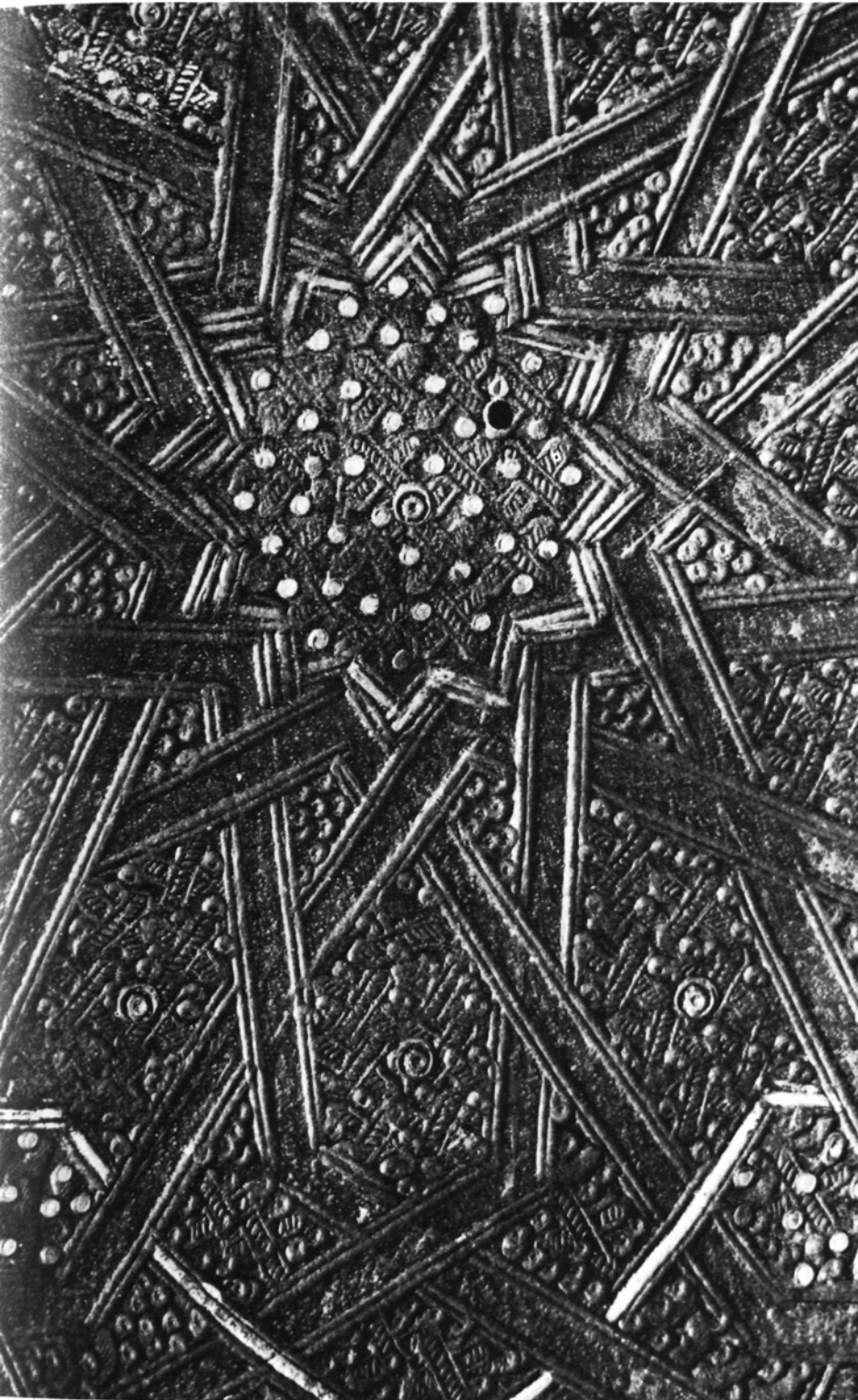
Oriental Institute A12151

Dr. B. Moritz

Egypt/Syria, 14th century A.D.

COLOUR PLATE K

This cover was received at the Oriental Institute as an assemblage of originally disparate elements joined by a modern mustard coloured leather which has since been removed. Cover B and the envelope flap (12) have similar doublures and decorative schema and may be from the same original volume although the tooling of their central star and their heights differ slightly. Cover A (17) is originally from a different volume and is closely related to cover B of 16 and is a product of the same workshop and may be from the same set of volumes.



11. detail cover B



12. doublure cover B

Cover B This cover is bordered by blind fillets, one of which is inpainted with a blue pigment whose original colour is now lost. Within, a thin running border of blind impressions of a small hatched X-shaped stamp with interstitial gold dots is defined by blind fillets.

Within this border is a wide compartmented frame divided by straight tripartite fillets to form L-shaped compartments at the corners with rectangular compartments between them—one at head and tail and three along the spine and fore-edge. The corner compartments are outlined with a line of gold painted tripartite fillets along the centre and the middle compartment at the spine, and fore-edge of the frame. Similar gold inpainted fillets form a geometric interlace of infinite extension within these panels creating octagons around an evenly spaced sequence of large eight-petalled rosettes formed by blind straight flecks and hatched arcs. A gold dot is placed at the centre and outside the junction of each petal. The flanking compartments within the gold outlines are tooled with hatched bars and interstitial gold dots. The intervening compartments are tooled in a similar manner but outlined with a tripartite fillet painted blue rather than gold.

The other panels of this frame are outlined with blue inpainted tripartite fillets and filled with a network of multiple blind hatched S-shaped stamps with interstitial gold dots as used in the outer border.

The large rectangular inner panel is tooled with a complex overall blind geometric strapwork interlace of untooled leather defined by fillets through which moves a system of gold painted ogival curves formed by tripartite fillets.

A twelve-pointed star, defined by a gold inpainted tripartite fillet and containing knotwork of hatched bars, arcs and gold interstitial dots revolving around a central centred annular gold dot, is the centre of a dodecagram whose arms alternate in length and extend to connect with quadrants of similar dodecagram systems which form the corners of the panel. The compartments of the interlace are tooled with small hatched bars, arcs and dots. A single centred gold annular dot is placed at the centre of each main arm compartment of the dodecagrams.

The corner quadrant stars are outlined in gold.

Envelope Flap The envelope flap is similarly tooled to cover B with its pointed shape cutting into the full cover design. The central star is outlined in blue rather than gold.

Doublure (Cover B) This block-pressed doublure has a tight pattern of overlapping foliated circles. These have minor variations of pattern within the block. The circles have four leaves on their horizontal and vertical axes projecting from the circumference but not inwards. The compartments formed by the overlapping circles are thus framed by these leaves and contain a pointed ovoid segment. Circles in some rows are centred by a dot. In other rows the

dot is omitted and in others the dot and the ovoid segment in the space formed by the overlapping circles is omitted.

Doublure (Envelope Flap) In this block-pressed pattern large nature-inspired floral forms are set amongst leaves and vines. From lotuses vines extend to either side and sprout six-petalled flowers represented in three-quarter view and turning towards the lotus. Related nature-inspired patterns of lotuses and associated smaller flowers in leafy vine beds are found in the doublures of 48 and 70.

G. Bosch, (1952); pp. 111, 117, 121, 134, 135, 142, 166, 168; Pl. VIII.



12. cover B



12. envelope flap

- 13 A COVER of a bookbinding; exterior covering brown leather (goat); blind tooling, gold tooling, gold paint.

252mm × 170mm

Chester Beatty Library Moritz Collection 39

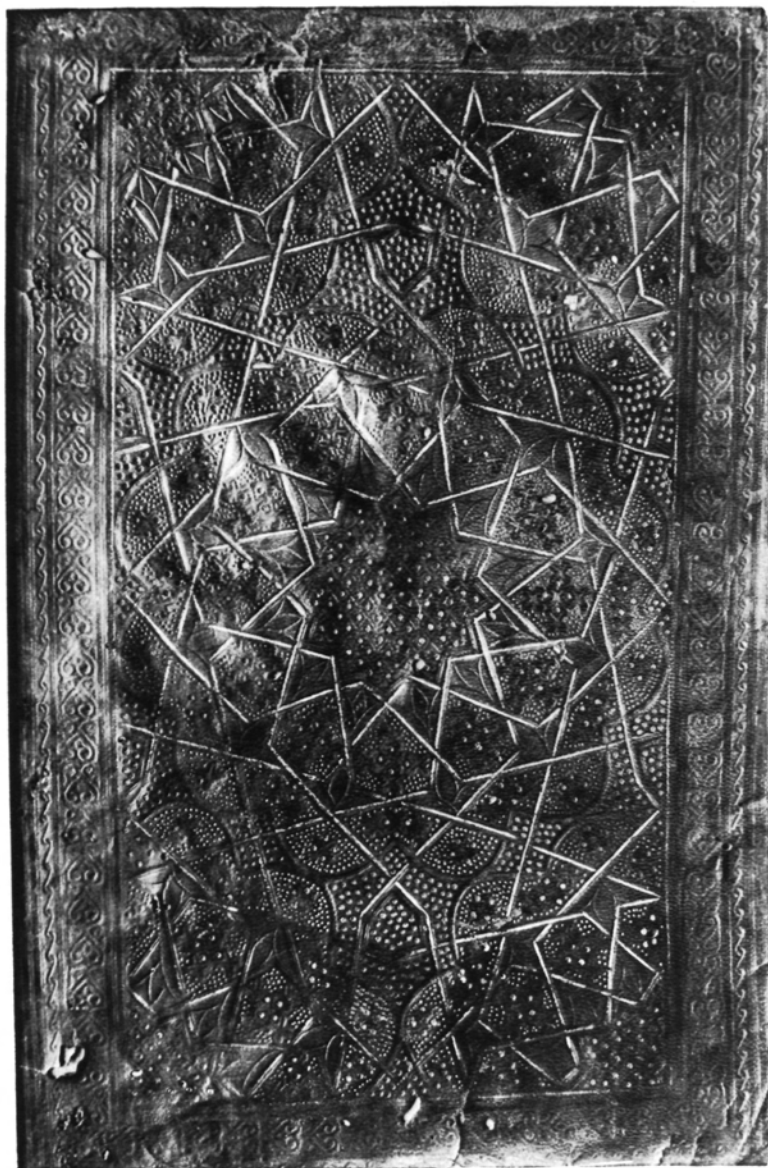
Dr. B. Moritz

Egypt/Syria, 14th century A.D.

Only the exterior leather of this cover survives, the pasteboard and doublure having been removed. A thin outer border of interlocking reverse S-shaped stamps is defined by tripartite fillets. An inner frame, also defined by tripartite fillets, has impressions of a single-axis square format stamp, which in the orientation usually encountered on Islamic bindings produces alternately inverted cordiform scrolls issuing from, and enfolding small trilobed calices, but in this case is stamped so that the point of each heart touches the base of the one next to it.

The inner panel is framed by an outer tripartite fillet and an inner gold fillet. It is filled with an overall interlace of infinite extension formed of gold painted fillets. This has large twelve-pointed concentric stars at the centre, enclosed by a dodecagram. This system links to quadrants of similar systems at the corners of the panel. The inner fields of the stars and corner quadrant stars (which are additionally outlined by bipartite fillets) have a diagonal grid of X-shaped stamps with interstitial gold dots. The centre stars extend to outer stars whose point compartments are tooled with inward-pointing three-sepal calices. Similar calices fill the points of the stars in the outer zones enclosing the dodecagrams. The strict geometry of the rectilinear gold interlace is counterbalanced by a curvilinear system of large scalloped roundels, formed by tripartite fillets, enclosing the star/dodecagram complexes.

The compartments of the arms of the hexagrams are filled with X-shaped stamps (each group with four interstitial dots), centred by large, and flanked by small dots. The outer scalloped compartments are similarly tooled and the compartments between the systems enclosed by the scallops are filled with large dots. The compartments between the major star systems are tooled with gold dots.



13. cover

- 14 A BOOKCOVER; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint, varnish (upper and lower covers), untooled (envelope flap); doublures block-pressed leather (sheep) (upper and lower covers), hand-made laid paper (envelope flap).

271mm × 175mm

Oriental Institute A12117

Dr. B. Moritz

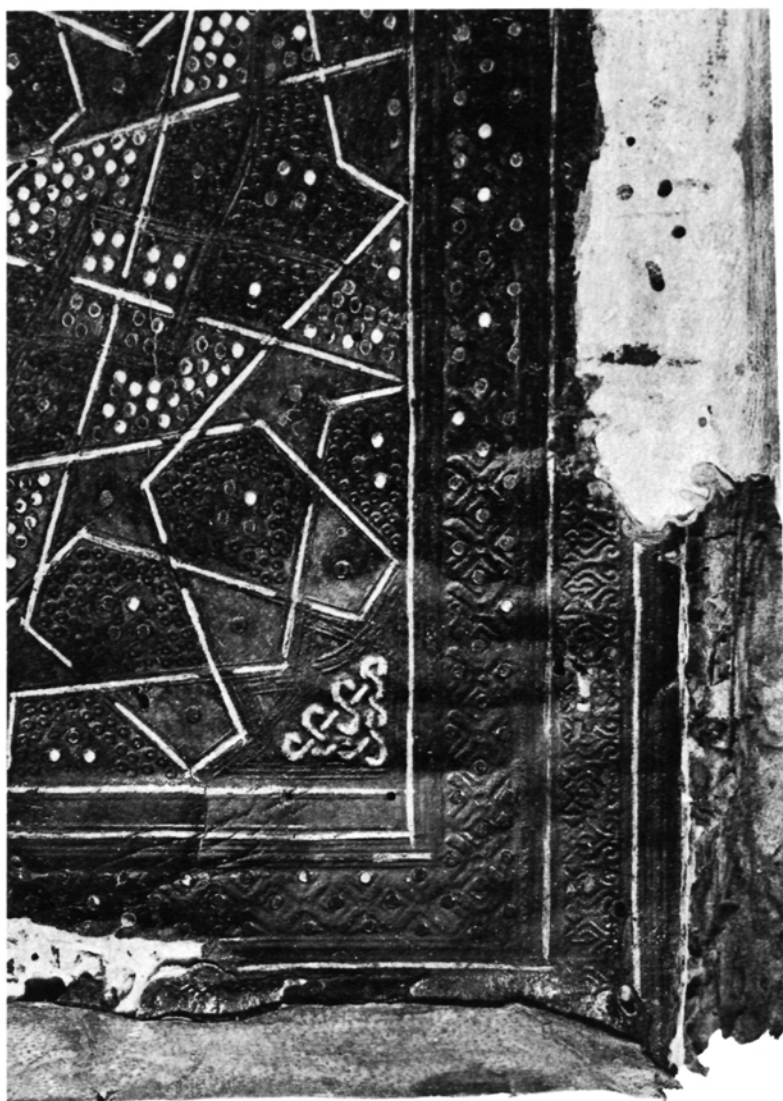
Egypt/Syria, early 15th century A.D.

This case is composed of an original upper and lower cover, and possibly the envelope flap, joined by very crudely executed spine and fore-edge with edge repairs obscuring much of the border tooling.

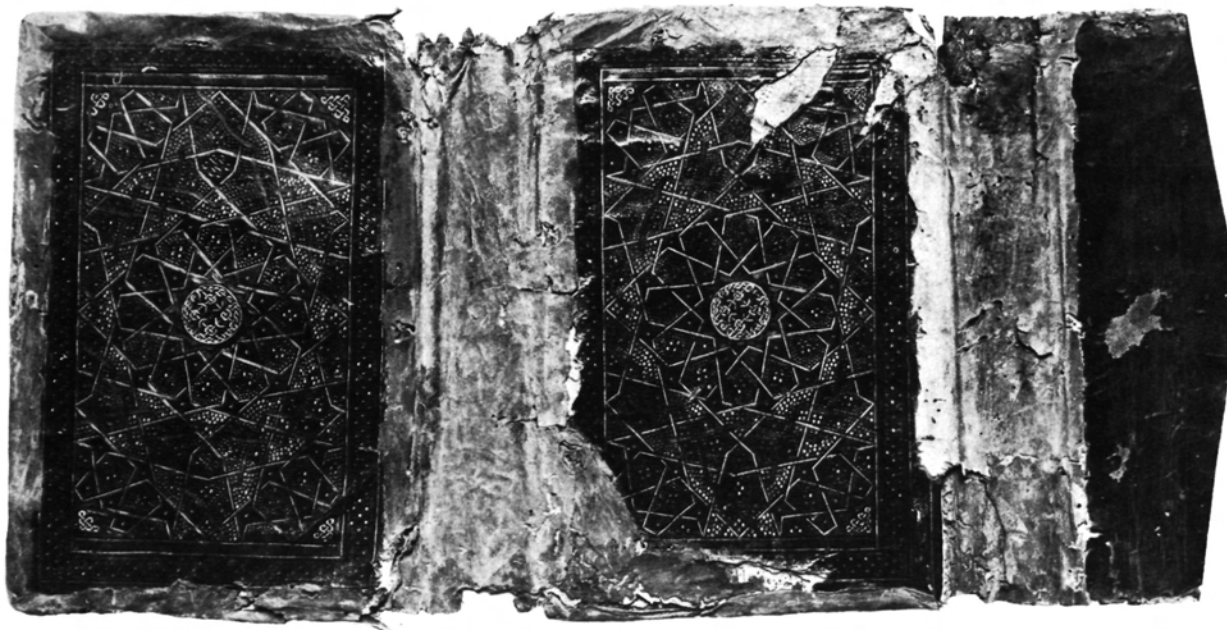
Upper and Lower Covers Upper and lower covers are similarly tooled. The border, defined by tripartite fillets and a single gold painted fillet on either side, has a running pattern of impressions of a finely-engraved rectangular format single-axis tool depicting a closed bud enfolded by symmetrically opposed vegetal scrolls.

Within this border is a frame composed of a row of hatched X-shaped stamps with interstitial gold dots. This frame is defined by tripartite fillets and by a single gold painted fillet on the inner edge. At head and tail above and below the inner panel are thin panels of untooled leather defined on the inside by a tripartite fillet and a single gold painted fillet. These panels help to restrict the geometric interlace of the inner panel so that the corner quadrant stars are exactly a quarter of the central star.

The inner panel is occupied by a geometrical interlace of infinite extension formed by tripartite fillets whose central line is gold painted. The interlace forms dodecagram systems with inner twelve-pointed stars. These inner stars or sections of stars are outlined with an additional curvilinear interlace boundary of tripartite fillets. The centre of the inner central star is filled with a roundel with a gold outline. This has a field made up of a gold painted diagonal mesh whose intersections pass through rings. This pattern is caught around the circumference by a gold painted braid-



14. detail



14. book cover

ing. Within the compartments of the mesh are tooled swastika-like forms with additional strokes interweaving through the adjacent grid. The corner quadrant stars are filled with triangular knotwork using the same short fillet and arc tools.

The points of the star zone immediately encircling the inner stars are untooled except for a single centred gold dot. The arms of the dodecagrams are tooled with a central quadruple group of ovoids formed using hatched arcs centred by gold dots and surrounded by a field of small centred dots. The pointed polygonal compartments of the next zone are untooled except for single centred gold dots.

Through the rectilinear geometrical interlace of gold painted tripartite fillets moves a secondary system of overlapping tripartite fillets with ogival curvilinear lines which encircle each of the dodecagram systems. These curved lines divide up the compartments of the zones between the systems. These are tooled with gold dots or with the quadruple groupings of ovoids in a field of small centred dots, as found in the arms of the dodecagrams. Above and below the central dodecagram system on the vertical axis are two compartments tooled with a knot with a centred gold dot at the core.

The entire inner panel is ornamented so as to give rich, vibrant changes in texture.

Envelope Flap The envelope flap is not tooled.

Doublure The upper and lower covers have block-pressed doublures with the same pattern. The impression is faint, and the doublures disfigured and abraded, which makes exact description difficult, but they have interweaving vine scrolls and associated calices similar to the doublure patterns of 11 cover B, 38, and 65.

G. Bosch, (1952); pp. 121, 134, 136, 142, 164; Pl. XI.

F. Sarre, (1923); Pl. II.

M. Weisweiler, (1962); Abb. 11, Handschrift 186, Cairo 1446 A.D., Deckeltyp 7.



15. cover



15. doublure

- 15 A COVER of a bookbinding; exterior covering brown leather (sheep) over paper pasteboards; blind tooling, gold tooling, gold paint, blue paint, white paint; doublure light brown leather (goat); blind and gold tooling.

657mm × 427mm

Oriental Institute A12172

Dr. B. Moritz

Egypt/Syria, 14th century A.D.

The edges of this binding fragment are damaged so that it is not possible to discern whether it was an upper or lower cover.

An outer burnished band, defined by fillets, borders another band of multiple fillets, two of which are painted blue and joined at intervals by a short blue painted cross bar. Within, at head and tail, are placed relatively broad bordering panels of knotwork constructed of hatched bars, arcs and dots. Each grouping of knotwork has a central cluster of five dots as well as dots in each corner.

The wide frame is bounded by a gold painted fillet and is occupied by a geometric interlace of gold painted fillets forming eight-pointed stars and asso-

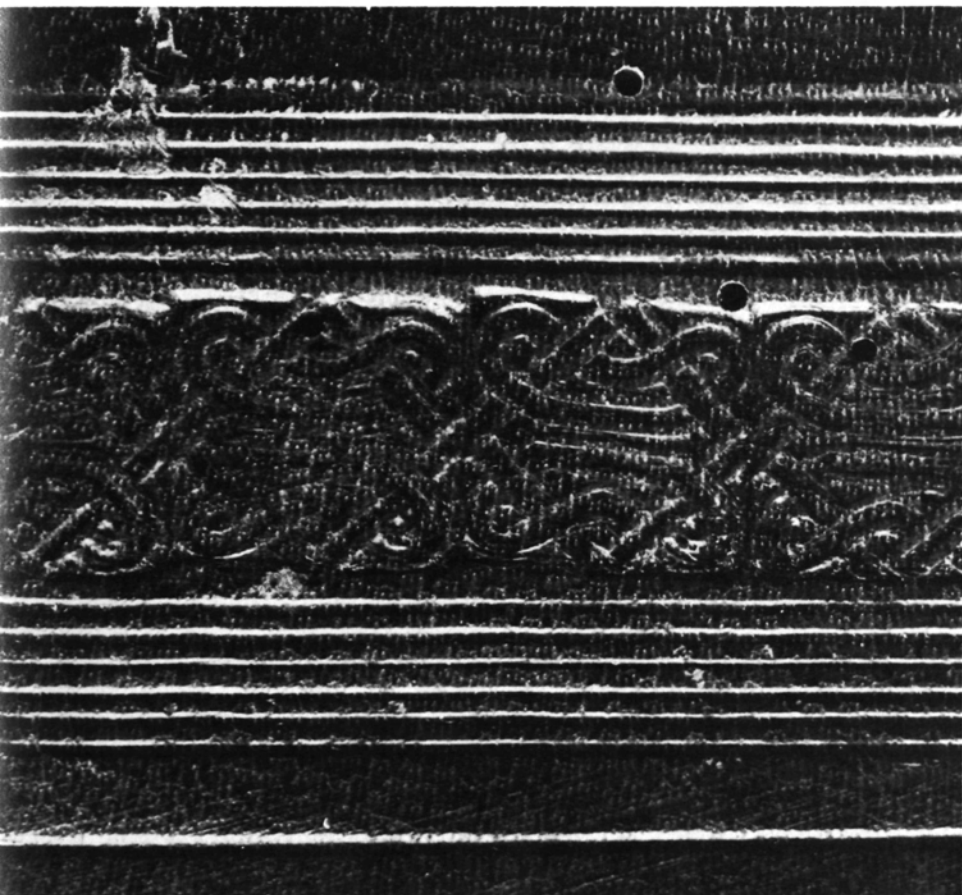
ciated octagrams with smaller five-pointed stars and five-pointed star segments in their extensions. The eight-pointed stars and segments of same are outlined with blue painted fillets and filled with hatched arcs and gold dots. The points of the star zone enclosing these stars are left untooled. The five-pointed stars are occupied by sketchy whirling flecks with pivotal gold dots. The other compartments are filled with impressions of an eight-petalled rosette stamp and centred by clusters of four gold dots.

The small inner panel is outlined by a thin inner frame defined by multiple fillets. One on each side is painted gold and one in blue. The thinner sections of the frame parallel to fore-edge and spine have a guilloche pattern of interlocking impressions of a small gold painted S-shaped stamp.

The inner panel is occupied by two superimposed interlaces of different geometries, one curvilinear and the other rectilinear. These are formed by tripartite fillets, those of the rectilinear geometry having their central line in-painted gold. At the centre of the panel the latter interlace forms an eight-pointed star outlined in gold and filled with hatched arcs and gold dots. This star is enclosed in a four-petalled star flower defined by the curvilinear interlace. Halves of similar stars appear twice along the tail and fore-edge sides of the panel and once in the middle of the head and tail sides. These alternate with different star systems of which two appear complete on the vertical axis above and below the central star, two halves on the horizontal axis of the central star against the frame of the panel, and four quarter systems in the corners of the panel. These are octagrams which enclose eight-pointed stars with cross-shaped double-pointed arms. Blue in-painting of outlining fillets defines these inner stars.

The compartments formed by the interlacing of the inner panel have three alternating types of infill; impressions of eight-petalled rosettes centred with a group of four gold dots, multiple gold dots, or untooled except for a central gold dot.

Doublure A burnished band, defined by single fillets, edges the cover. The frame, which is defined by wide bands of multiple fillets, has a running pattern of impressions of a square format two-axis



15. detail

tool depicting a diamond, through each half of which a loop interweaves.

The inner panel is dominated by a splendid medallion with extensions tapering to calices in the vertical axis. A large roundel is edged by scallops with a double outline and loops at their apices. These loops are centred by a small gold dot and flanked by three others. From the outermost of these projects a small fleck, with similar flecks at the spandrels of the scallops. On the vertical axis the double outline extends to form a tapering base or stem for two large three-sepalled calices. The inner parts of their stems are striated, leaving a small untooled triangle at the centre. The scallops are filled with eight-petalled rosettes and centred by a gold dot.

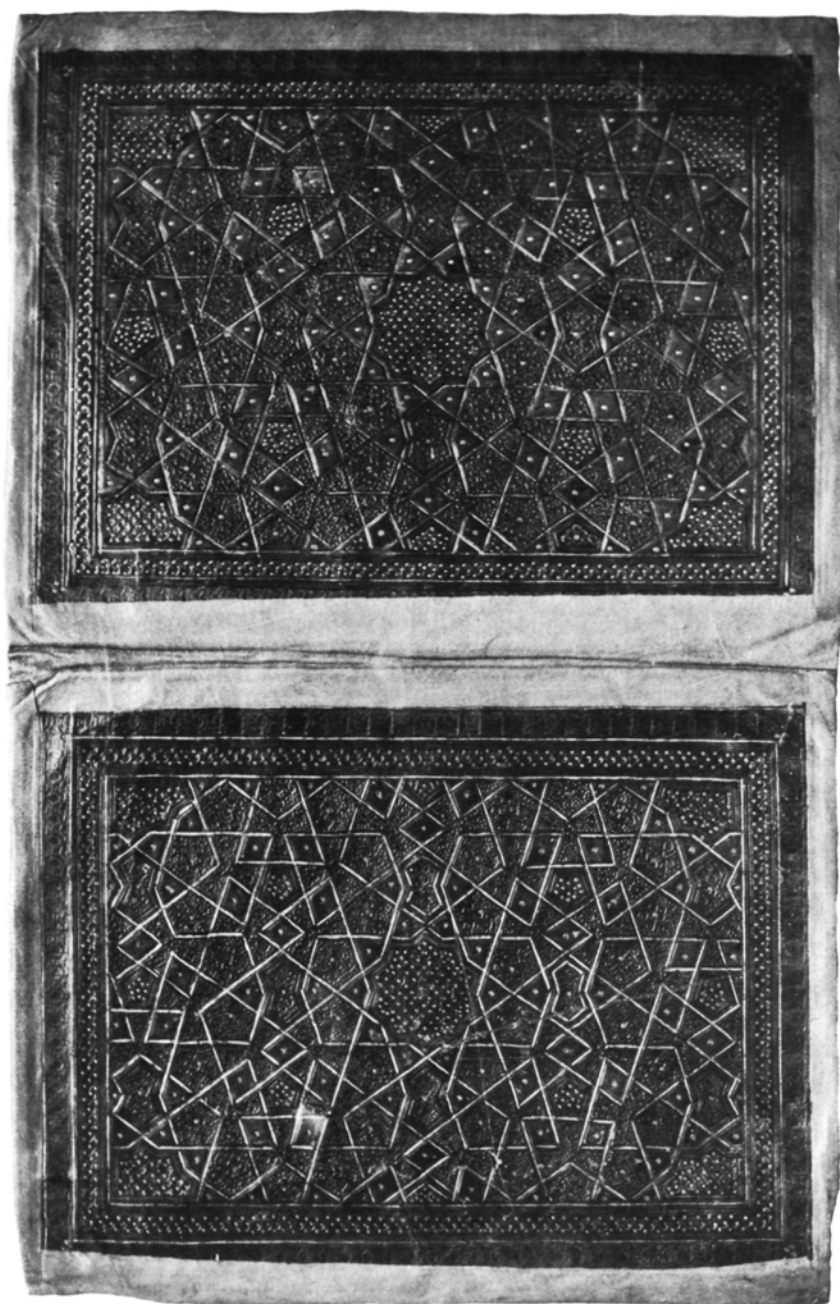
The roundel is ringed on the outside by a single fillet and on the inside by two adjacent tripartite fillets. Its field is filled with a geometric interlace formed by tripartite fillets. At the centre is a large ten-pointed star whose points extend to an encircling zone of smaller five-pointed stars. The points of the main star are left untooled. At its core is a ten-pointed star outlined by tripartite fillets and filled with hatched bars and gold dots. The five-pointed stars are tooled with whirling flecks and pivotal gold dots. The small compartments within the periphery of the roundel are tooled with clusters of three gold dots while the compartments surrounding the stars are filled with impressions of the eight-petalled rosette stamp and centred by groups of four gold dots.

The small triangular corners of the inner panel are demarcated by multiple fillets and each contain three impressions of a circular stamp depicting a minute Solomon's seal enclosing a star. These are flanked by gold dots. The perimeter of the inner field is delineated by a single fillet with flecks based on gold dots pointing inwards from each angle.

G. Bosch, (1952); pp. 114–121, 126, 132–133, 135, 141, 143, 144–145; Pls. VI & XIV.

J. Michelet, (1932); p. 12

D. Miner, (1957); p. 32, No. 70.



16. upper and lower covers

- 16 THE UPPER AND LOWER COVERS (A and B) of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint, blue paint; doublures block-pressed leather (sheep).

370mm × 270mm.

Oriental Institute A12153

Dr. B. Moritz

Egypt/Syria, 14th century A.D.

These two covers, without original spine, fore-edge flap and envelope flap, had been connected by a recently applied mustard coloured leather which has

now been removed. Although both covers appear to be from the same workshop, they differ slightly in proportion and may be from separate volumes. The decoration is very similar except for the infill of the centre stars and corner areas and a certain asymmetry of interlace in cover A. Both covers have an outer running frame, defined by a multiple fillet (cover A has the edge left untooled) of impressions of a square format two-axis tool depicting a dished diamond with a small central square. Its dished edges are filled with hatched arc shapes so that when these tools are juxtaposed an ovoid is formed intervening between the dished diamonds. The strong diagonals of this stamp allow it to be used at the corners of a rectangular border or frame with a mitreing effect. In this case the mitre is enhanced

by a cluster of three centred annular gold dots. The outer defining fillets of this frame are painted gold.

A second thinner inner frame, defined by fillets (one gold painted on either side), has a guilloche pattern formed by interlocking blind impressions of a hatched reverse S-shaped tool with interstitial gold dots.

The large rectangular inner panel is filled with a complex overall geometric interlace formed by gold painted tripartite fillets. At the centre of the covers is a ten-pointed star and quadrants of such stars appear at the corners of the panel. The interlace encompassing the stars extends to form secondary pentagram motifs whose points are untooled except for a single gold centred annular dot. The pentagonal centres of the pentagrams are outlined with tripartite fillets and filled with hatched arcs with interstitial gold dots. The stars of cover A are filled with a diagonally-orientated trellis formed by blind hatched bars with interstitial gold dots. The stars of cover B are filled with knotwork with interstitial gold dots. The stars and contracted octagons on the vertical axis are outlined by a tripartite fillet in-painted blue.

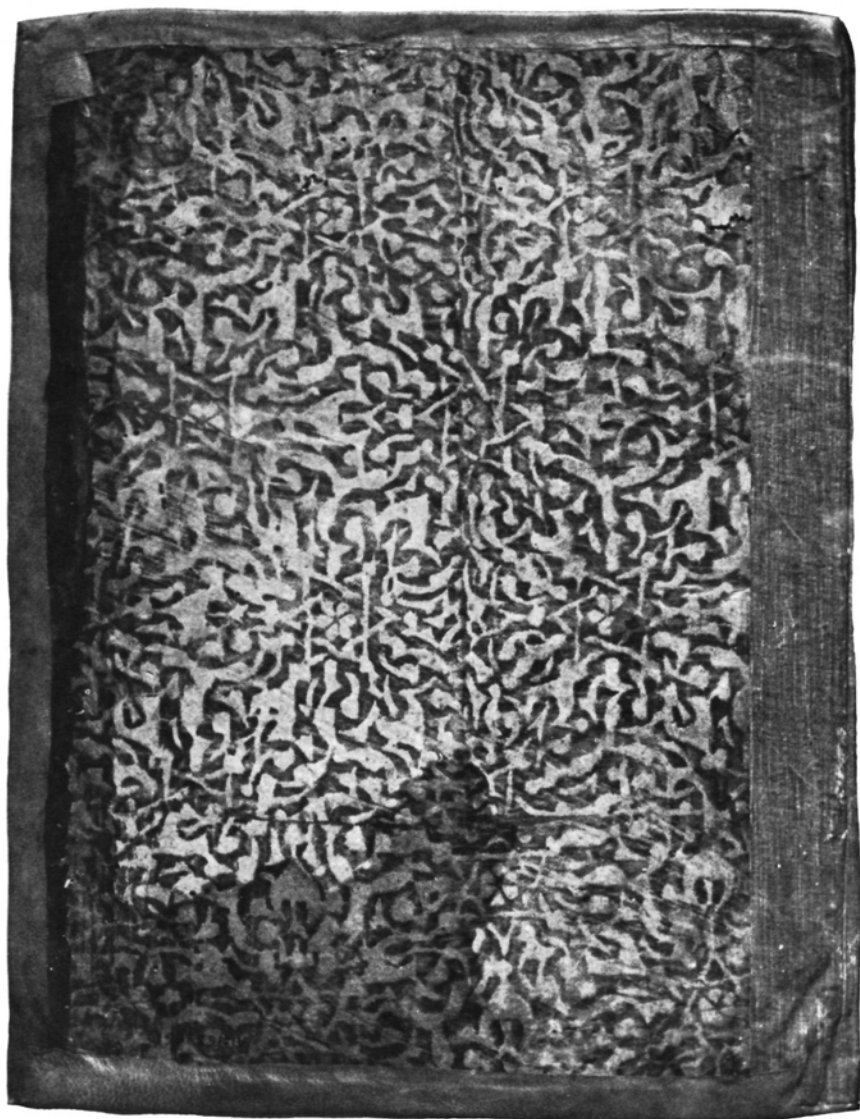
The compartments of the interlace between the stars and the points of the pentagrams are filled with knotwork formed by hatched bars, arcs and dots, with a gold centred annular dot at the centre of each pentagonal compartment.

Doublures Both covers have similar doublures, as has 17. They are of block-pressed leather from a coarsely carved or worn block and have a crowded bisymmetrical pattern in which large disjointed leaf and calyx forms issue from six-pointed stars made of two interlacing opposed triangles which contain six-lobed rosettes. The calices in this pattern have a pronounced central sepal of an elongated pointed form and the side sepals are of the split calyx form.

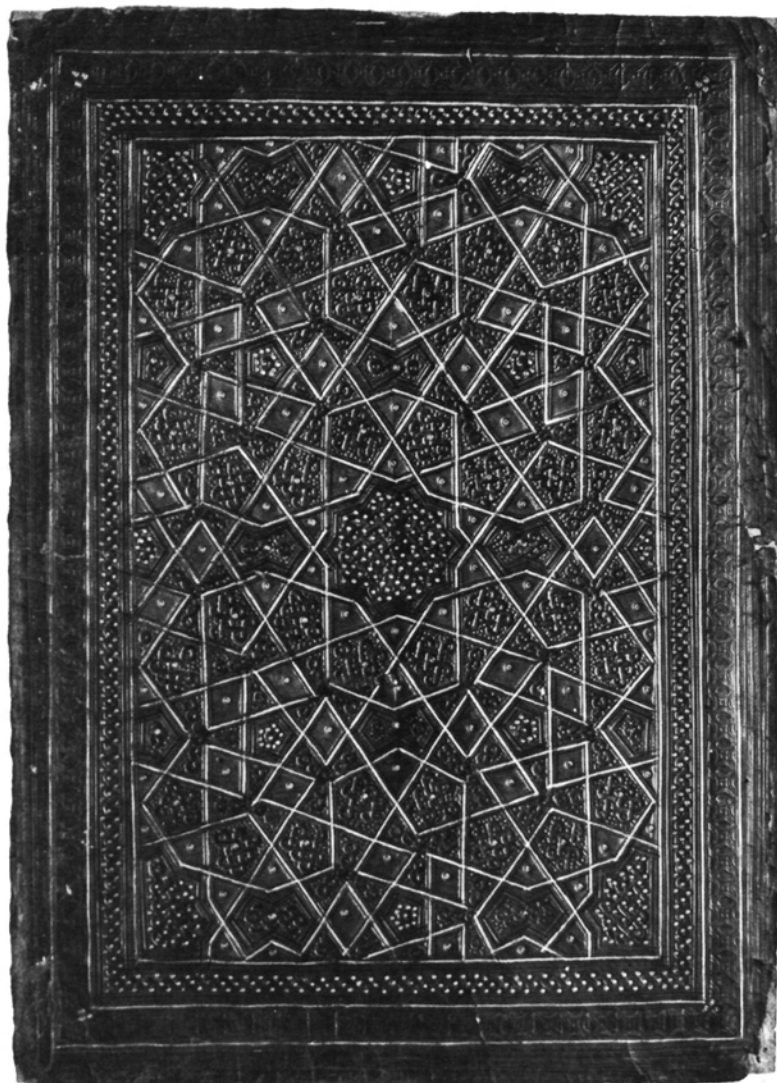
G. Bosch, (1952); pp. 111, 116, 120-121, 135, 142; Pl. IX.

D. Miner, (1957); p. 29f.

F. Sarre, (1923); p. 12; Pl. III.



16. *doublure*



17. cover A

17. UPPER COVER (A) of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint, blue paint; doublures block-pressed leather (sheep).

367mm × 270mm
 Oriental Institute A12151
 Dr. B. Moritz
 Egypt/Syria, 14th century A.D.

COLOUR PLATE M

This cover was received at the Oriental Institute as an assemblage of originally disparate elements joined by a modern mustard coloured leather which has since been removed. Cover B and the envelope flap (12) have similar doublures and decorative schema and may be from the same original volume although the tooling of their central star and their heights differ slightly. Cover

A (17) is originally from a different volume and is closely related to cover B of 16 and is a product of the same workshop and may be from the same set of volumes.

Cover A This cover is edged with multiple fillets, the innermost of which is gold painted and defines an outer running frame of blind impressions of a square format two-axis tool depicting a dished diamond with a small central square. Its dished edges are filled with hatched arc shapes so that when these tools are juxtaposed an ovoid intervening between the dished diamonds is formed. The strong diagonals of this stamp allow it to be used at the corners of the frame with a mitreing effect. Here the mitre is enhanced by a cluster of three gold centred annular dots. The inner side of this frame is edged by multiple fillets, which also define an inner frame. The outer fillet of this group is painted in gold.

The inner frame has a guilloche pattern formed by interlocking blind impressions of a hatched reverse S-shaped tool with interstitial gold dots.

The large rectangular inner panel defined by multiple fillets, one of which is painted gold, is filled with a complex overall geometric interlace formed by gold painted tripartite fillets. At the centre of this cover is a ten-pointed star with quadrant stars at the corners of the panel. The interlace encompassing the stars extends to form secondary pentagram motifs whose point compartments are untooled except for a single gold centred annular dot. The pentagonal centres of these pentagrams are outlined with tripartite fillets and filled with hatched arcs and interstitial gold dots. Those pentagrams cut off by the centre of the frame at head and tail are not symmetrically orientated in relation to the vertical axis as are the other features of this interlace. Cover A of 16 has the interlace of its inner panel constructed in the same way. Cover B of the same binding additionally has the pairs of pentagrams above and below its centre star asymmetrically orientated.

The central star is filled with a diagonal trellis formed by hatched bars with interstitial gold dots. The stars are outlined by a tripartite fillet and the contracted octagons on the vertical axis are inpainted blue. The compartments of the interlace between the stars and the

point compartments are filled with knotwork formed by hatched bars, arcs and dots. The knots in these compartments are more prominent than in the corresponding areas of cover A of 16. At the centre of each compartment is a single centred gold annular gold dot.

Doublure (Cover A) Block-pressed leather from a coarsely-carved or worn block. A crowded bisymmetrical pattern in which large disjointed leaf and calyx forms issue from six-pointed stars made of two interlacing opposed triangles which contain six-lobed rosettes. The calices in this pattern have a central sepal of an elongated pointed form and the side sepals resemble split calices. Covers A and B of 16 have similar doublures.

- 18 THE FORE-EDGE FLAP AND ENVELOPE FLAP of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint; doublure (envelope flap) block-pressed leather (sheep).

Height 572mm
Oriental Institute A12169
Dr. B. Moritz
Egypt/Syria, 14th century A.D.

Envelope Flap The envelope flap is edged by three rows of tripartite fillets. These define a running frame of impressions of a square format tool depicting linked knotwork squares in which a small central square is enveloped by a knot of overlapping layers of hatched angular segments. The inner edge of this frame is defined by a double row of tripartite fillets outlining a second frame of repeated impressions of a hatched X-shaped stamp with interstitial gold dots. The inner edge of this

frame is again defined by a double row of tripartite fillets. A third framing row of tooling appears at head and tail within this inner frame. A guilloche pattern is formed by interlocking impressions of a reverse S-shaped tool. Within, the central panel has yet another frame, this being very broad and related to the main decorative schema and whose design is built up of smaller elements rather than by tools with complete motifs as in the outer frames. This frame is defined along its inner edge by a double row of tripartite fillets which intersect at the corners to form square compartments which are occupied by a gold painted, scribed flower with four central petals and four intervening outer petals or radiating leaves. The one at the corner towards the head of the envelope flap is unfinished.

The long section of the frame between the two floral corner compartments has an interlace, formed using a tripartite fillet, of thirteen hexagons, each filled with a grid tooled with hatched X-shaped stamps with blind interstitial dots and a group of four gold dots at their centres. The small compartments flanking the hexagons are filled with gold dots. The head and tail sections of this frame have a different geometrical interlace—narrow hexagons interlinked by contracted hexagons. The larger compartments are filled with groupings of small X-shaped stamps with a single gold dot and the smaller compartments filled with clusters of three gold dots.

The tooling of the whole envelope flap is as for an orthogonal cover from which the pointed envelope shape has been cut out. The main panel is filled with an overall geometrical interlace formed using a tripartite fillet. It is a system of repeated interlinked dodeca-



17. fore-edge flap and envelope flaps

grams with internal twelve-pointed stars. This field is cut by the frame and the point of the flap so that we are left with two corner quadrant stars/dodecagrams, a large segment of a star/dodecagram at the point and two complete stars whose dodecagram extensions are cut off by the edge of the flap.

The centres of the stars are filled with grids formed by hatched X-shaped crosses with interstitial gold dots. The points of the stars and the compartments bordering the dodecagrams are untooled but for clusters of gold dots. The outer compartments/arms of the hexagons and other remaining compartments are tooled with hatched X-shaped stamps and interstitial dots.

Fore-edge Flap This section of the cover is edged by two rows of tripartite fillets and at head and tail by framing elements using the same tools as the corresponding area of the envelope flap. The area within is divided into three rectangular panels by single rows of hatched X-shaped stamps defined by double rows of tripartite fillets. The middle panel is longer and carries a scribed and gold painted inscription:

Innahu la-qurʾānun karīmun, fī kitābin maknūnin, lā yamassuhu ʾillā al-muṭahharūna

Verily, it is a noble Qurʾan in a treasured book touched only by the purified

The adjacent/flanking panels are richly ornamented with two interlinked octagons formed by fillets with central eight-pointed stars. These are divided, as though into petals, by flecks and dots. The compartments of the arms of the

octagons are tooled with petalled flowers formed by hatched bars and dots. Gold dots ornament the compartments beyond the periphery of the octagons.

Doublure The doublure survives only on the envelope flap. It has a tightly organised block-pressed bisymmetrical pattern in which, from central eight-pointed star interlaces, delicate scrolling, fine vines and leaves issue from three-sepal calices on the horizontal and vertical axes. From these outward-turning and interweaving scrolls grow. The sweeping scrolls beside the base calices end in roughly stated leaf forms, while the pair on the next level and at the point of the scrollwork axis produce three-sepal calices. The scrollwork differs slightly in each axis. Related vine scrolls appear in minor axes diagonal to the major ones.

G. Bosch, (1952); pp. 114, 116–117, 119, 129–130, 133–134, 135, 142, 166; Pls. VII, LXII.

J. Michelet, (1932); p. 15.

D. Miner, (1957); p. 31, No. 69.

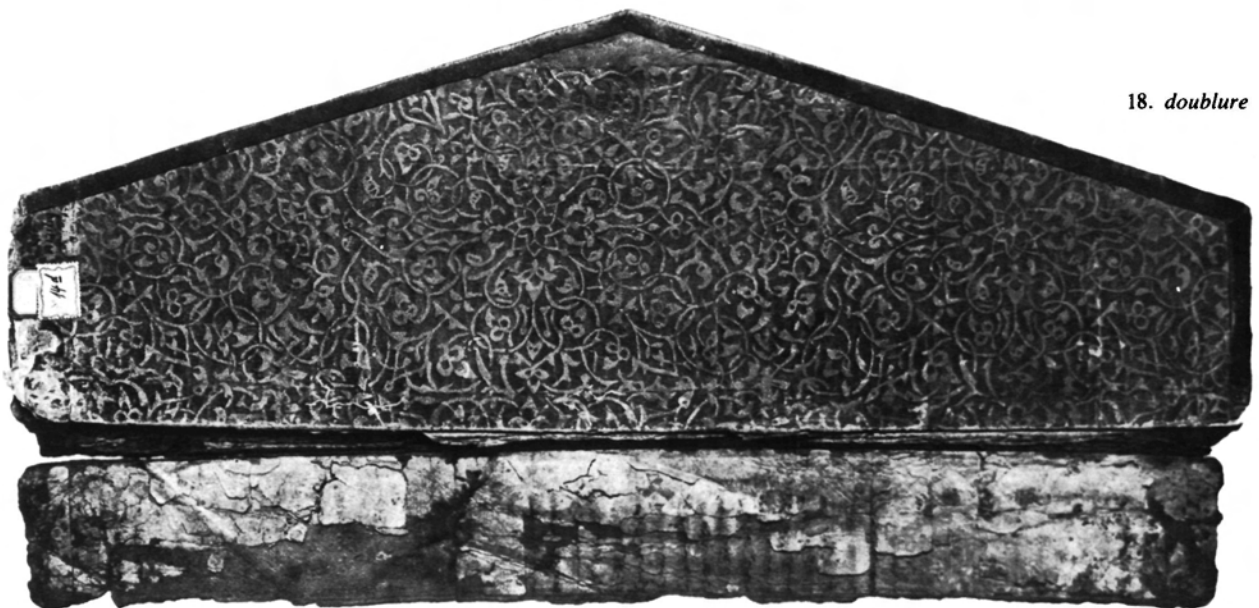
19 A COVER of a bookbinding; brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint, blue paint; doublures light brown leather; blind tooling, gold paint.

Islamic Museum East Berlin I.839

Dr. B. Moritz

Egypt/Syria, 14th century A.D.

This cover is from a very large volume. The outer edges of the inner rectangular panel and the broad frame are defined by a gold painted row of connected



18. doublure

linked diagonal loops with hexagonal compartments centred by gold dots alternating between them. These rows are defined by single gold fillets.

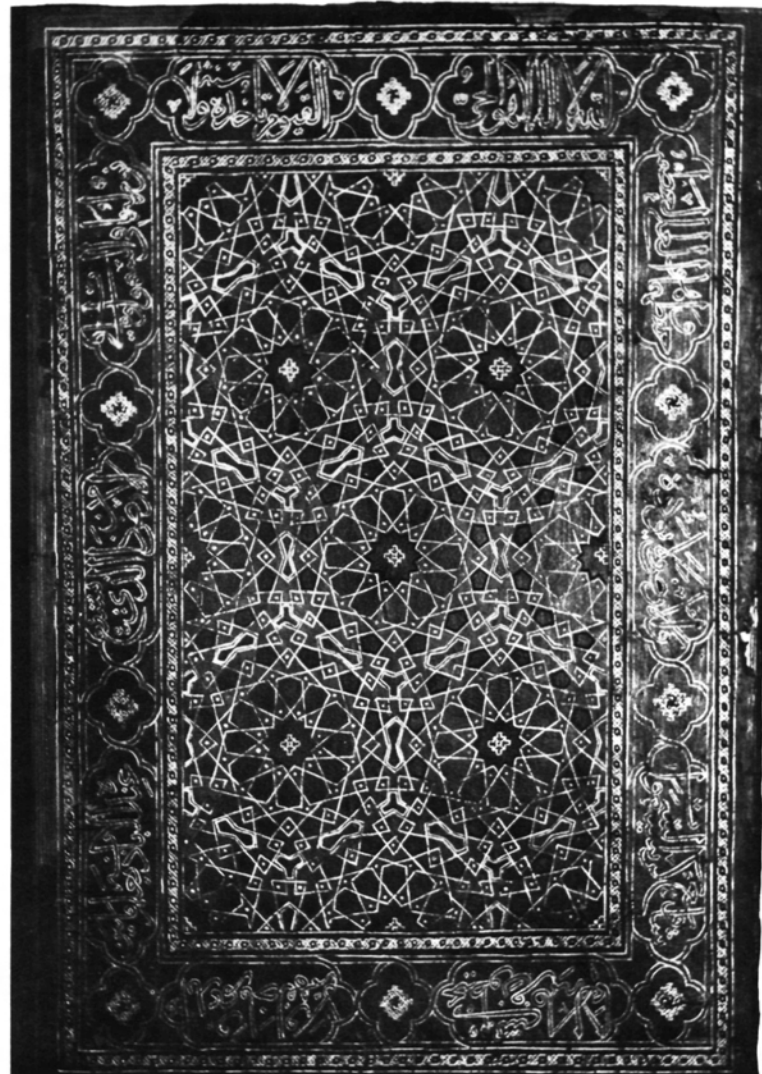
The frame is composed of double gold fillets outlining alternating large quadrilobes and cartouches whose ends are the shape of half the adjacent quadrilobes. The centres of the quadrilobes are marked by stepped lozenges of gold knotwork around a central swastika. The cartouches contain calligraphic inscriptions:

*allāhu lā ilāha illā huwa
al-hayy al-qayyūm lā ta'khudhuhu
sinatun wa lā nawn . . . (etc.)
(Qur'an 2:255).*

The rectangular inner panel is filled with a complex geometric interlace of infinite extension formed by gold painted fillets. These create interlocking dodecagram systems around twelve-pointed stars. One of these systems is located at the centre of the panel with pairs above and below it. Four quadrant systems appear at the corners and four half systems where the vertical and horizontal axes meet the frame. Complicated linkages of diamonds with contracted octagon centres and other polygonal forms connect the systems. Compartments formed by the overlapping of the major geometric forms are marked by a large gold dot. The centres of the stars are marked by a gold painted lozenge of stepped outline with diagonals intersecting a small central square. The stars at the centres of the systems and the small pentagonal compartments at their peripheries are outlined in colour and have additional background colour.

Doublure

The outer edge of the doublure has a very fine border of interlocking S-shaped gold stamps defined by fillets. A line of such tooling also edges the inner rectangular panel. These borders enclose a broad frame, divided into ten compartments by gold painted framing rows of knotwork stamps within which are inner frames of the fine S-shaped stamps described above. Each compartment is defined by a single gold fillet. The L-shaped corner compartments are filled with a gold diagonal network whose intersections pass through gold eyelets. The centres of the grid are occupied by swastika forms. The two compartments on the fore-edge and



19. cover

spine sides of the frame have gold knotwork lozenges of stepped outline on stepped bases positioned so that the untooled spaces between them echo their contours in negative form.

The rectangular inner panel is outlined by a gold fillet and has at its centre a large scalloped mandorla with ogival pointed ends which develop into pendant medallions of scalloped outline. The latter have a point in the vertical axis which becomes the stem of a small three-sepal calyx. The mandorla is filled with a luxuriant biaxial intertwining of stems, leaves, lotus and calyx forms. Related forms fill the pendants and the corners, which are conceived as quadrants of the whole central form. The surrounding field is filled with a dense gold mesh of interlocking swastikas and crosses.

*F. Sarre, (1923); p. 13, Fig. 2.
Islamic Art in Egypt, (1969); p. 213, No. 299;
Pl. 55.*

- 20 A COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint; doublure light brown leather (goat); blind tooling, gold tooling.

Islamic Museum East Berlin I.878
Dr. B. Moritz
Egypt/Syria, 14th–15th century A.D.

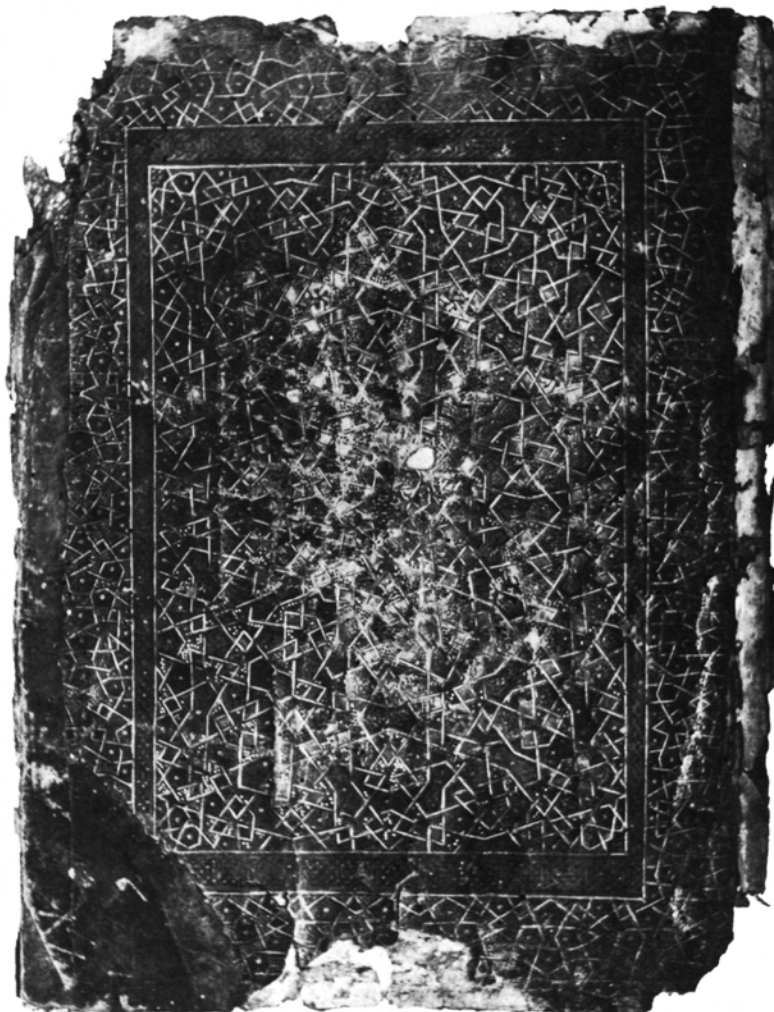
The edges of this cover are badly damaged or are obscured by leather repairs. Both the outer frame and the inner rectangular panel have a complex geometrical interlace of gold fillets. The inner frame is defined by gold fillets, with head and tail sections slightly wider than those parallel to spine and fore-edge. They are filled with a knotwork of short fillets and dots forming meander-like components. The thinner sections of this frame are stamped with S-shaped tools placed so as to create a guilloche pattern of untooled leather with interstitial gold dots.

The inner rectangular panel has a large central decagram system based on a central ten-pointed star interlinking with sections of similar decagram systems at the corners. The compartments formed by the overlapping of the lozenge forms, which link the zones as well as the points of the stars, are left untooled. In the zones connecting the decagram systems are pentagonal compartments whose fields are tooled with a large knot and compartments of contracted octagon outline defined by blue inpainting. The majority of the compartments of this dense interlace are filled either with gold dots or with blind dots and a single gold dot at the centre.

Doublure This doublure is of lighter coloured leather than that of the exterior and is edged by an untooled band. The outer frame, defined by multiple fillets, is a running pattern of impressions of a square format two-axis tool depicting a dished diamond with hatched side panels. The inner frame, also defined by multiple fillets, has repeated impressions of a hatched X-shaped stamp with gold interstitial dots. The inner panel has a central motif of an eight-pointed star or Solomon's seal with a double outline. This develops from a curvilinear octagram interlace enclosing a small central octagon. This octagon has the form of a flower whose petals are delineated by swirling flecks. Each petal is marked by a gold dot. The compartments within the hexagram



19. *doublure*



system are filled with large annular stamps centred by clusters of three gold dots in the inner zone and six gold dots in the outer zone. The outer points of the Solomon's seal are filled with gold dots surrounding a single large annular stamp. Encircling the central motif are small satellite four-petalled forms composed of gold centred dots.

The vertical axis of the central motif evolves from the point of the star or Solomon's seal to a satellite flower then to a small bar which supports a circular grouping of the large annular stamps around a central one. Above, another bar continues to support a larger lozenge-shaped knot with interstitial and bordering gold dots. The finials of these extensions of the central motif in the vertical axis are small cross-shaped groupings of gold centred dots like those of its satellite forms.

The corners are small triangles demarcated by multiple fillets and contain three impressions of the large annular stamps flanked by gold dots. The perimeter of the inner panel is marked by a single fillet with a loop at the centre of the corners with three associated gold dots and a single gold dot at each angle.

- 21 A COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint, blue paint, white paint; doublure light brown leather (goat); blind tooling, blue paint.

580mm (approximate height as cover is eroded at head and tail) × 385mm

Oriental Institute A12170

Dr. B. Moritz

Egypt/Syria, 14th century A.D.

The edges of this cover are badly damaged. A thin meander constructed of straight fillets and stressed in gold paint is defined by fillets which possibly were originally painted blue. This meander pattern borders a frame defined by blue and gold painted fillets and divided into four L-shaped corner panels, one intervening panel each at head and tail, and two intervening panels each at fore-edge and spine. These divisions are formed by double gold painted fillets with single short gold cross bars.

The corner panels are occupied by interlaces of gold painted fillets forming repeated eight-pointed stars alternately filled with gold painted hexagons and



21. cover

eight-petalled flowers. This pattern is organised so that one of the flowered panels appears in each corner of the frame. In the case of the compartments containing the hexagons, the space between these and the defining interlace is marked an eight-pointed star or Solomon's seal interlace of fillets which may have been painted white. The centre of the hexagons are tooled with hatched bars and gold dots. The flowers

have white paint outlining their gold petals and each median petal vein is marked with a white line. The areas of the interlace beyond these motifs are filled with dense fields of hatched bars, gold dots and small annular dots or are tooled with a couple of flecks and small dots.

The centre frame panels at head and tail are occupied by a pattern constructed of small bar and arc tools. The positive elements of the design are painted in gold producing a grid of linked diamonds. At the centre of each grid compartment is a gold painted swastika form against an alternating background of white and blue painted knotwork.

The panels in the centre of the frame at spine and fore-edge have a pattern constructed of the same bar and arc tools forming gold painted diamonds of knotwork with half diamond bases. Blue and white painted knotwork fills the intermediate fields.

A narrow inner frame shares its outer defining fillets with the main frame and has similar defining lines along its inner edge which also serve as the boundary of the inner rectangular panel.

The inner panel is richly tooled. It is occupied by a geometric interlace of infinite extension formed of tripartite fillets whose centre line is painted gold. The interlace creates linked dodecagram systems based on twelve-pointed stars. At the centre of the panel is one complete system with two others above and below it. Four half systems occur against the frame on the horizontal and vertical axes, with quarter systems forming the corners of the panel.

The central star has a blue painted swastika enclosed in a gold painted ribbon interlace of bar and arc tools. The star centres of the other systems are tooled with hatched arcs with interstitial gold dots and small centred dots (also with interstitial gold dots). Those in the corners of the panel have a gold painted knot of triangular outline. The inner stars are encircled by an adjacent zone of star points which are left untooled. The arms of the surrounding dodecagrams are tooled with quadruple ovoids of hatched arcs centred by gold dots in a field of centred dots. The compartments of the zone beyond are left untooled except for a single central gold dot and those of the next are filled with gold dots.



21. *doublure*

The zone which forms the perimeter of these complex interlace systems has pentagonal compartments tooled with whirling flecks and pivotal gold dots, alternating with small untooled lozenge-shaped compartments.

The zones linking the dodecagram systems have contracted octagons containing paired groups of quadruple ovoids constructed of hatched bars and centred by gold dots in a field of centred dots.



These compartments have an additional defining fillet painted blue. The contracted octagons are linked by polygonal compartments, filled with masses of gold dots, to panels, likewise additionally defined by blue painted fillets, containing a knot constructed of the simple bar and arc tools which is painted white.

Doublure The doublure contrasts in the simplicity of its decorative composition and untooled expanses of leather with the rich textures of the exterior cover. It is edged by rows of broad single fillets defining a frame of impressions of a rectangular format tool depicting a complex symmetrical foliate arabesque with a central bud form.

At the centre of the inner panel is a roundel with extensions in the vertical axis forming the stems of three-sepal calyx finials. The inside of each stem is tooled with a dished triangle containing a schematic plant-like group of flecks. The single fillet outline has loops at six points on the circumference. The roundel is ringed by a guilloche pattern of interlocking S-shaped stamps defined by two blue painted tripartite fillets. The inner field is defined by a single fillet and is filled with a diagonal network, somewhat loosely constructed of the simple bar and arc tools, around a central double swastika-like motif.

The corners of the inner panel are demarcated by intersecting sickle-shaped tripartite fillets forming three compartments. The corner compartment is tooled with a sketchy group of whirling fillets and those flanking it are left untooled. The perimeter of the field of the inner panel is delineated by a single fillet.

G. Bosch, (1952); pp. 113–115, 117–119, 123, 136, 141, 143; Pls. V, XII.

J. Michelet, (1932); pp. 12–13.

D. Miner, (1957); p. 30, No. 66; Pl. XVII.

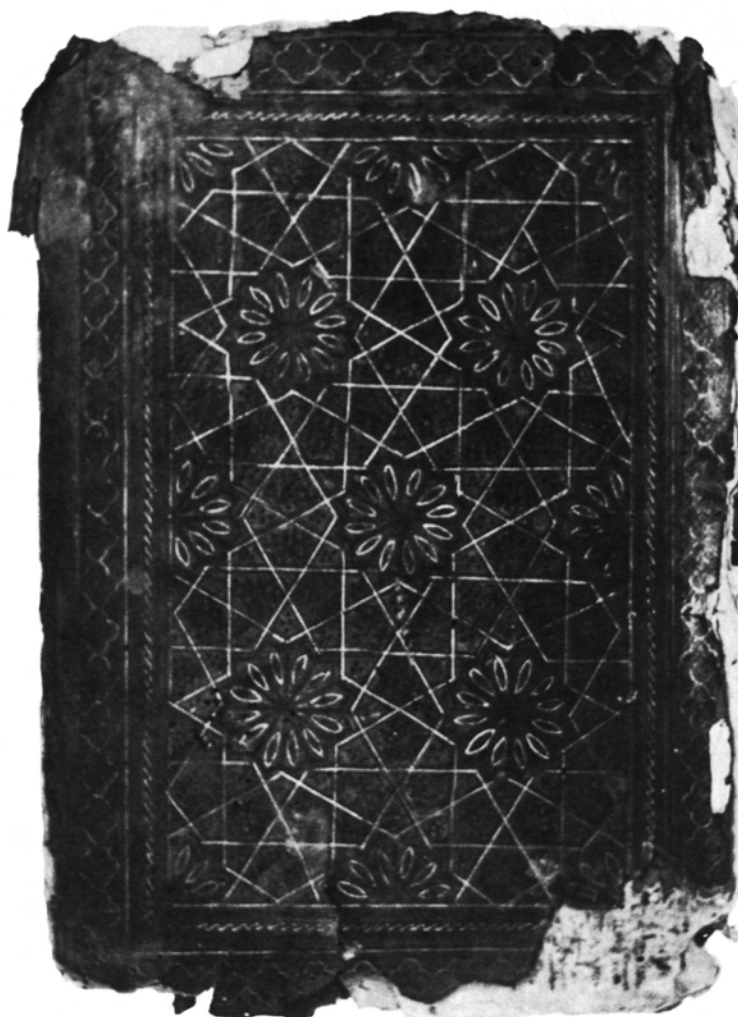
22. cover

- 22 THE COVER of a bookbinding; brown leather over paper pasteboards; blind tooling, gold paint.

Islamic Museum East Berlin I. 870
Dr. B. Moritz
Egypt/Syria, 14th–15th century

An outer frame, defined by multiple fillets (one on each side being painted gold), has a running pattern formed by impressions of a large, square format two-axis tool depicting linked convex quadrilobes enclosing a cross-shaped formation of four small trilobes issuing from a central diamond. The spaces alternating between the convex quadrilobes thus have concave sides and contain halves of similar vegetal crosses. An inner frame, also defined by multiple fillets has a pattern of interlocking S-shaped stamps painted gold.

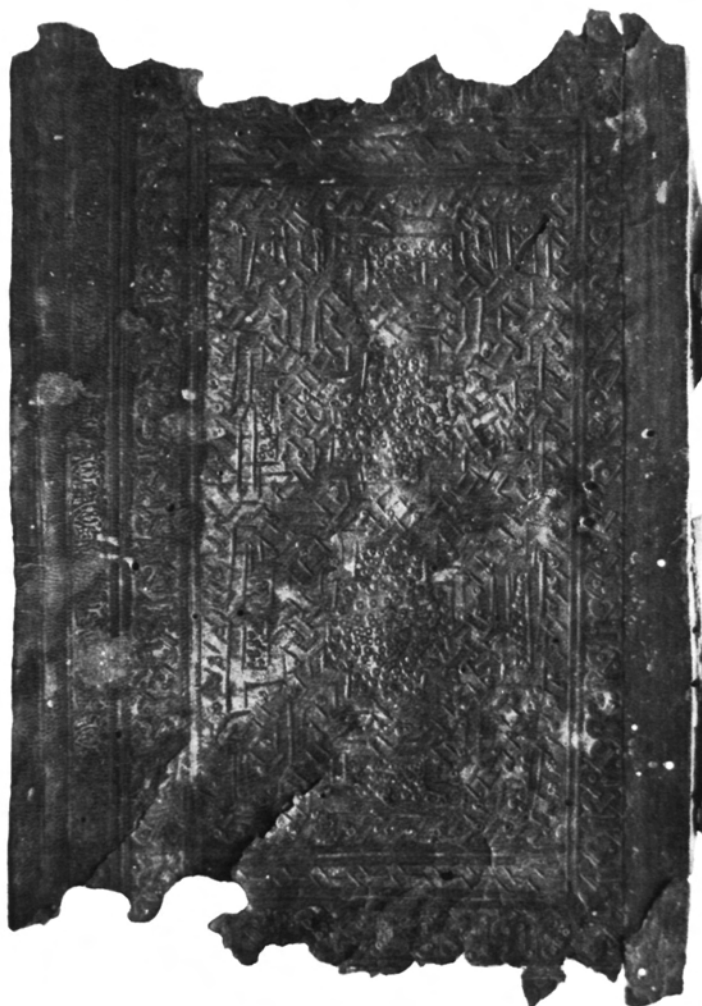
The inner panel is filled with a geometric interlace, of infinite extension, formed by tripartite fillets, the centre one being painted gold. The interlace produces regularly-placed twelve-pointed stars formed by overlapping hexagons. At the centre of each star is tooled a large rosette with twelve ovoid petals. These are painted gold. The compartments of the zones beyond the stars are tooled with small bars, arcs and dots.



- 23 THE UPPER COVER of a bookbinding; exterior covering brown leather over paper pasteboards; blind tooling; doublures block-pressed leather.

Islamic Museum East Berlin I.848
Dr. B. Moritz
Egypt/Syria, 14th–15th century A.D.

Upper Cover The head and tail edges of this cover are badly eroded, making it impossible to accurately reconstruct the decoration in these areas. The spine edge is obscured by a leather repair. Only the tooling of the fore-edge is clearly visible and has a broad outer band, untooled except for median fillets. The outer frame, defined by fillets, has a running pattern of repeated blind



impressions of a finely-engraved stamp depicting flowers, possibly lotuses, with gracefully interweaving scrolls and leaves.

Although the tooling of this border and the forwarding of the cover generally appear to be quite competently carried out, the rest of the knotwork and geometric interlace ornamentation is crude and must have been done by an apprentice or someone without leather tooling skills.

An inner frame, defined by tripartite fillets, is filled with knotwork formed by large hatched bars, arcs and dots. Within this frame tripartite fillets define a panel at head and tail filled with meander work. The inner rectangular panel is occupied by a crude interlace, constructed of fillets with interstitial dots, based around crosses (or possibly debased stars) filled with dots. Halves of such crosses with similar fields appear above and below. The interlaces become a guilloche pattern bordering the inner panel.

Doublure Only a small part of the block-pressed leather doublure remains. Its block was crudely cut and forms a dense overall geometric pattern of interwoven strapwork.

- 24 A BOUND MANUSCRIPT; *Qurʾān* (First quarter (Rubʿ)); other parts of this *Qurʾān* are in the Ardabil Shrine, Iran, and the University Library, Istanbul, where the date 361 H./972 A.D. and the scribe's name, ʿAlī ibn Sādān al-Rayī, are given; exterior leather covering brown leather (goat); blind tooling.

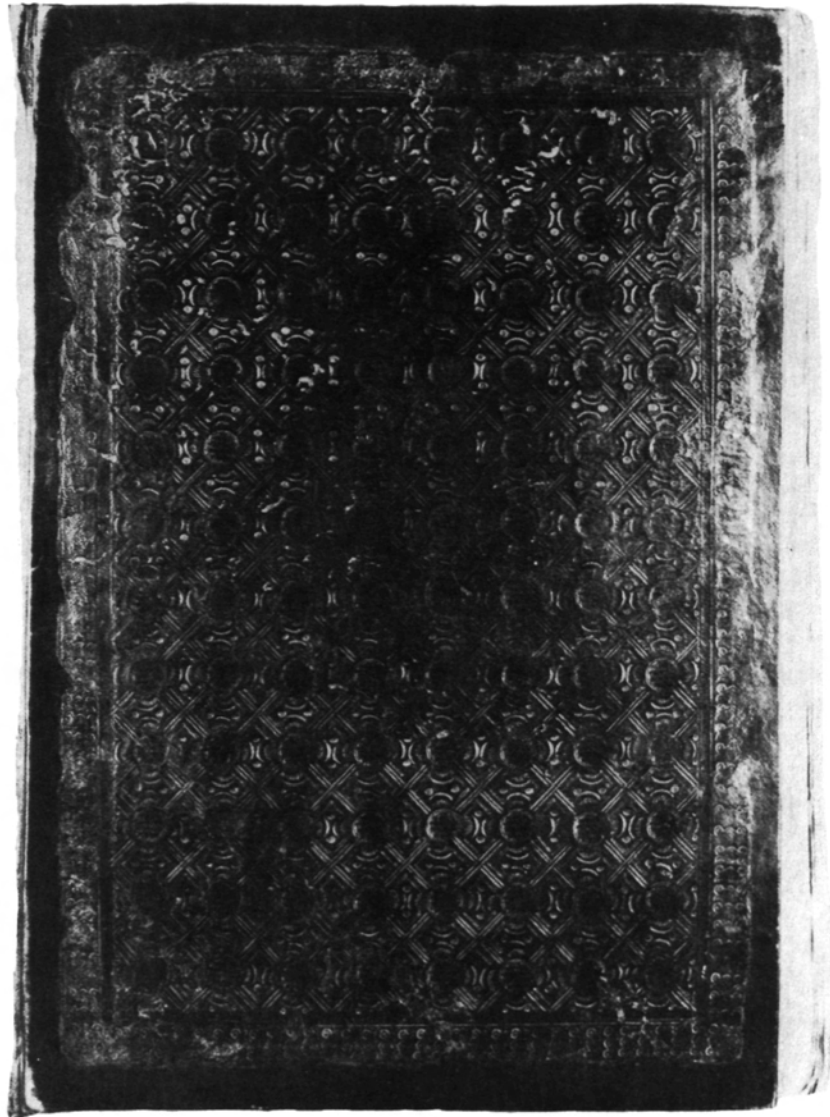
260mm × 178mm.

Chester Beatty Library MS 1434

Eastern Islamic, 11th–12th century A.D.

Only the exterior leather of the upper and lower covers of this binding survive, having been applied over a modern restoration of the covers over modern boards. There are no fore-edge or envelope flaps. The exterior leather is from a later binding phase of the manuscript when the fore-edge was severely trimmed.

Upper and Lower Covers Upper and lower covers are similarly decorated. The outer edges of both no longer survive but there is an outer frame of impressions of a rectangular format single-axis stamp depicting a simple sym-

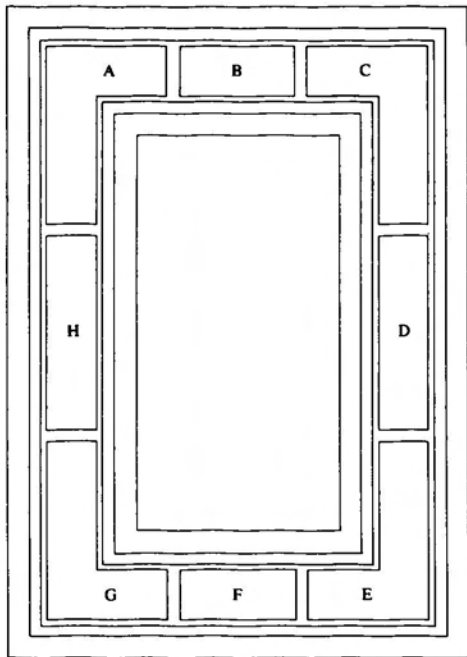


24. cover

metrical scroll. This frame is defined on its inner edge by a broad tripartite fillet which also demarcates the rectangular inner panel. The inner panel is occupied by a grid of diamonds formed by fillets. At the meeting of the points of these diamonds are tooled circular epigraphical stamps. Each of these contains the complete text of the *Qurʾān* CXII Al-Ikhlāṣ in finely-engraved miniature eastern Kufic. The spaces within the diamonds are tooled using a hatched arc, simple arcs and annular dots which frame the circular epigraphical stamps.

A. J. Arberry, (1967); No. 35.

D. James, (1980); Nos. 13, 14; pp. 27 & 28.



- 25 THE UPPER AND LOWER COVERS of a book-binding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold paint, blue paint; doublure light brown leather; blind tooling, gold paint, blue paint.

540mm × 396mm
 Oriental Institute A12168
 Dr. B. Moritz
 Egypt/Syria, 14th century A.D.

Both upper and lower covers have similar overall designs but the placing of some tools and the gold inpainting of their centre and border panels differ.

Lower Cover A broad band of multiple fillets edges an outer border of small interlocking motifs of linked diagonal loops. Alternate motifs are painted gold. Within, single fillets define a thin inner frame with a gold painted guilloche pattern of interlocking S-shaped stamps. All the tooling of these covers, with the

exception of the latter, is with simple bar and arc stamps.

Two similar frames define the inner panel and a wide middle frame. This frame is divided by single blind fillets into four L-shaped corner panels with intervening rectangular panels. The immediate perimeter of each is delineated by gold fillets.

Panels B, C, F and G are occupied by a pattern constructed of small simple bar and arc tools. The positive elements of the design are painted in gold to form linked diamonds. The fields contained by the gold grid are similarly tooled but left in blind. There is a certain asymmetry or irregularity in the shapes stressed in gold paint.

Panels H and D are tooled similarly to the above but triangular knotwork in their corners is picked out in gold.

Panel A is conceived as part of a larger pattern of infinite extension cut off by the frame. This pattern is formed of concentric diamonds stressed in gold and centred by a small gold diamond-shaped knot. This central knot appears approximately in the middle of the corner's diagonal.

Panel E has smaller diamonds picked out in gold alternating with larger ones. It also has triangular corner knots.

The rectangular inner panel is defined by a single gold fillet and contains a gold painted diagonal trellis grid whose intersections pass through rings. The grid compartments are occupied by blue painted swastika-like forms. Gold half-hexagons intersect the lines defining the grid. The edge of the panel is emphasized by the gold painting of the outer row of small arc stamps.

Although few vestiges survive, it seems that all or most of the lines tooled on these covers which are not painted gold were painted blue.

Upper Cover This has the same decorative layout as the lower cover and the two narrow frames on either side of the main frame are tooled in the same way. However, the same parts of the tooling are not picked out in gold in the outermost frame. Here, each group of



25. upper cover



26. lower cover

linked diagonal loops is painted gold with just the elements interlocking them being left in blind.

Panels A and G are decorated in the same way as Panel A of the lower cover. Panels C and E are similar but lack the small diamond knot at the core of the pattern of concentric diamonds. Panels B and F are like Panel E of the lower cover with a symmetrical design of two small diamonds on either side of a larger one. Panels D and H have a group of four diamonds on half diamond bases.

The inner rectangular panel is defined by a gold fillet and contains a trellis and swastika pattern tooled like the corresponding area of the lower cover, but in this instance only the lines defining the diagonal grid and the rings at the intersections are picked out in gold paint. It also differs in that the arms of the swastika-like motif filling the grid compartments have extra short fillets tooled parallel to the arms in the vertical axis giving an added vibrancy.

Doublures (Upper and Lower Cover)

The doublures of the upper and lower covers are similarly tooled but the field of the central mandorla of the lower cover has the grid and intersecting rings picked out in gold with the swastika-like forms painted in blue in the latter and vice-versa in the upper cover. The doublures are edged with multiple fillets defining a narrow outer frame with a guilloche pattern of gold painted interlocking S-shaped stamps. Within, blue painted tripartite fillets define an inner broader frame in which a gold painted swastika-like form alternates with a blind motif of small circles intersected by diagonals.

At the centre of the inner panel is a large mandorla outlined with a gold fillet with loops at six points. On the vertical axis this outline extends to form the narrow stems of two small three-sepal calices with straight bases. The inner field of the mandorla is defined by two blue painted tripartite fillets which

enclose a gold painted guilloche pattern of interlocking S-shaped stamps. The inner field contains a diagonal trellis and swastika pattern like that of the inner panel of the lower cover.

The small triangular corners are demarcated by a blue painted tripartite fillet and contain gold painted knotwork. The perimeter of the inner field is delineated by a gold fillet.

G. Bosch, (1952); pp. 112–115, 117, 119, 121, 123, 141, 143.

J. Michelet, (1932); p. 12.

F. Sarre, (1923); p. 12; Pls. IV & V.

26 A BOOKCOVER; exterior covering brown leather (goat) over paper pasteboards; blind tooling.

Islamic Museum East Berlin I.867

Dr. B. Moritz

Upper Cover, Turkish/Persian, 16th century A.D.

Lower Cover, Maghrib/Egypt, 14th century A.D.

This crudely constructed case has been assembled using covers from different books of differing sizes and dates.

Lower Cover Most of the border of this cover is obscured by the leather repairs. It appears to be defined by blind fillets containing a running pattern of impressions of a rectangular format single-axis stamp depicting a calyx possibly producing an alternately inverted cordiform frieze scroll. Within the centre panel a large lozenge, defined by multiple fillets, is placed with the corners on the horizontal axis touching the frame. Its inner field is a diagonal grid, whose elements are formed by tripartite grooved bars, with a knotwork infill of smaller hatched bars, arcs and dots.

The understated triangular corners of the inner panel are demarcated by rows of multiple fillets.

Upper Cover The borders of the upper cover are obscured by leather repairs. At its centre is a blind panel stamp of scalloped mandorla shape with a bi-axially symmetrical interlace of foliate scrollwork with a lozenge-shaped centre. At the points of the lozenge, on the horizontal axis, are rose lotuses and on the vertical axis points are peony-like flowers. Small three-sepal calices terminate the scrollwork at the points of the mandorla.

27. lower cover

- 27 THE LOWER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublure brown leather (goat) with blind tooling; a hinge of block-pressed leather and one of blue linen tabby.

198mm × 149mm

Oriental Institute A12128

Dr. B. Moritz

Maghrib, 14th–16th century A.D.

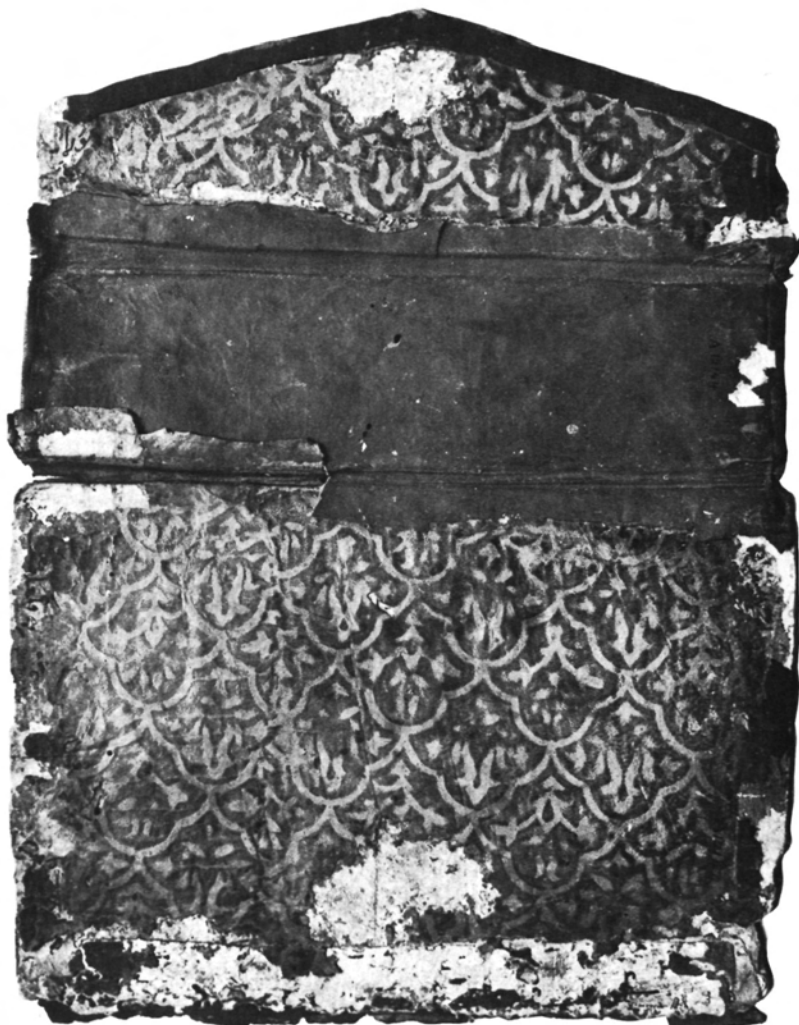
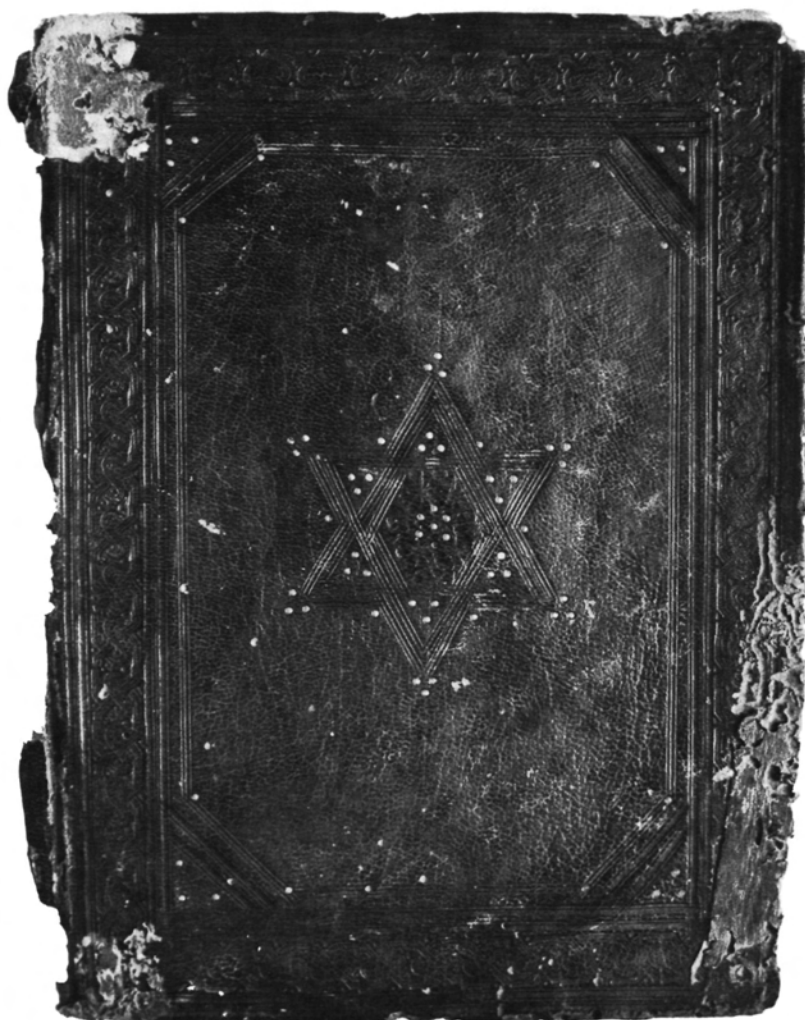
Lower Cover Two rows of tripartite fillets edge a frame with a running pattern of impressions of a square format single-axis tool forming linked knots of hatched braids. Its inner edge is defined by a tripartite fillet.

The inner panel is defined by a tripartite fillet. At its centre is a six-pointed star formed of two intersecting equilateral triangles whose outlines are formed by multiple fillets. The inner compartment of this star is filled with impressions of an eight-lobed rosette stamp with a circular grouping of six gold dots around a central gold dot. The triangular compartments of the star's points are punctuated by three gold dots. Clusters of three such dots mark the outer points and the outer junctions of their arms.

Simple triangular corners are demarcated by two rows of tripartite fillets and contain three gold dots. The perimeter of the inner panel is delineated by double fillets with single gold dots at their angles.

Doublure The doublure of this cover is tooled as for an exterior covering and is of the same material. It has a simple broad frame outlined by double fillets, in the corners of which are tooled a cluster of three small centred dots with a long fleck pointing inwards along the diagonals of the inner panel. At the centre of the panel is tooled a roundel, outlined by a tripartite fillet, and containing knotwork, constructed of large hatched bars, arcs and centred dots, with four square untooled small panels left on the horizontal and vertical axes.

G. Bosch, (1952); p. 135.



- 28 THE LOWER COVER, FORE-EDGE FLAP AND ENVELOPE FLAP of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; double block-pressed leather (sheep).

247mm × 169mm

Oriental Institute A12144

Dr. B. Moritz

Egypt/Syria, 15th century A.D.

Of this binding only the original lower cover and envelope flap survive connected by a crude leather repair at the fore-edge. This repair may overlay the leather and pasteboards of the original fore-edge flap.

Lower Cover A broad border of multiple fillets edges a frame with a running pattern of impressions of a rectangular format single-axis stamp forming alternately inverted cordiform scrolls issuing from and enveloping small three-sepal calices. The inner edge of this border is defined by multiple fillets which also outline the inner panel.

The inner panel is centred by a prominent eight-pointed star, or Solomon's seal, developing from an octagram interlace based on an eight-pointed centre star. This geometry is constructed with a tripartite fillet. This central motif is outlined by a double fillet from whose points and angles project flecks based in gold dots. The centre star is filled with hatched X-shaped stamps with interstitial gold dots. The eight points of the star immediately enclosing the centre one are left untooled. The arms of the octagram are filled with the same tooling as the centre star. In the compartments between the octagram and the outline of the Solomon's seal are placed single ovals formed by hatched arcs centred and flanked by gold dots.

The simple triangular corners are demarcated by multiple fillets and contain three impressions of an eight-petalled rosette stamp. The perimeter of the inner panel is delineated by a double fillet with gold dots at its angles from which flecks point inwards.



28. detail



28. lower cover, fore-edge flap and envelope flap

Envelope Flap The borders and frames of the envelope flap at head, tail and fore-edge are tooled in the same way as the corresponding areas of the lower cover. The band of multiple fillets defining the inner panels continue to border the pointed edge of the flap. Filling this point is a large roundel outlined by a double fillet tooled to produce a "radiance." Within is a vessel-shaped motif, aligned along the horizontal axis. Its two component parts are drawn with a double fillet. The body of the vessel form is round (also with a "radiance" outline) and contains a network of hatched X-shaped stamps with interstitial gold dots. The neck has scattered gold dots. The vessel lies against an untooled field.

The adjacent panels flanking the roundel are also defined by a double fillet placed so as to leave a continuous untooled band around both them and the roundel. The corners of the fillets are marked with single gold dots. These panels are filled with rows of impressions of the cordiform border stamp.

The flap has triangular corner areas tooled in the same way as the corresponding areas of the lower cover.

Doublures (Lower Cover & Envelope Flap) These block-pressed doublures have a pattern of trilobed scales. The interlocking compartments so formed resemble those found in *ablaq* variegated masonry found over the doors of mosques in the Mamluk period. Both the Madrasah of Sha'ban, dated 1369 A.D., and the Mosque of Mu'ayyad of 1422 A.D. have *ablaq* patterns similar to that of this doublure. The compartments are alternately filled with large lotuses with short stems and flanked by leaves, and small lotus-like flowers on a leafy stem.

G. Bosch, (1952); pp. 124, 131-132, 136; Pls. XV & XLVIII.

M. Weisweiler, (1962); Abb. 65, *Handschrift* 117, 1429 A.D., *Deckeltyp* 100.

268mm (approximate original height as head and tail of cover eroded) × 182mm

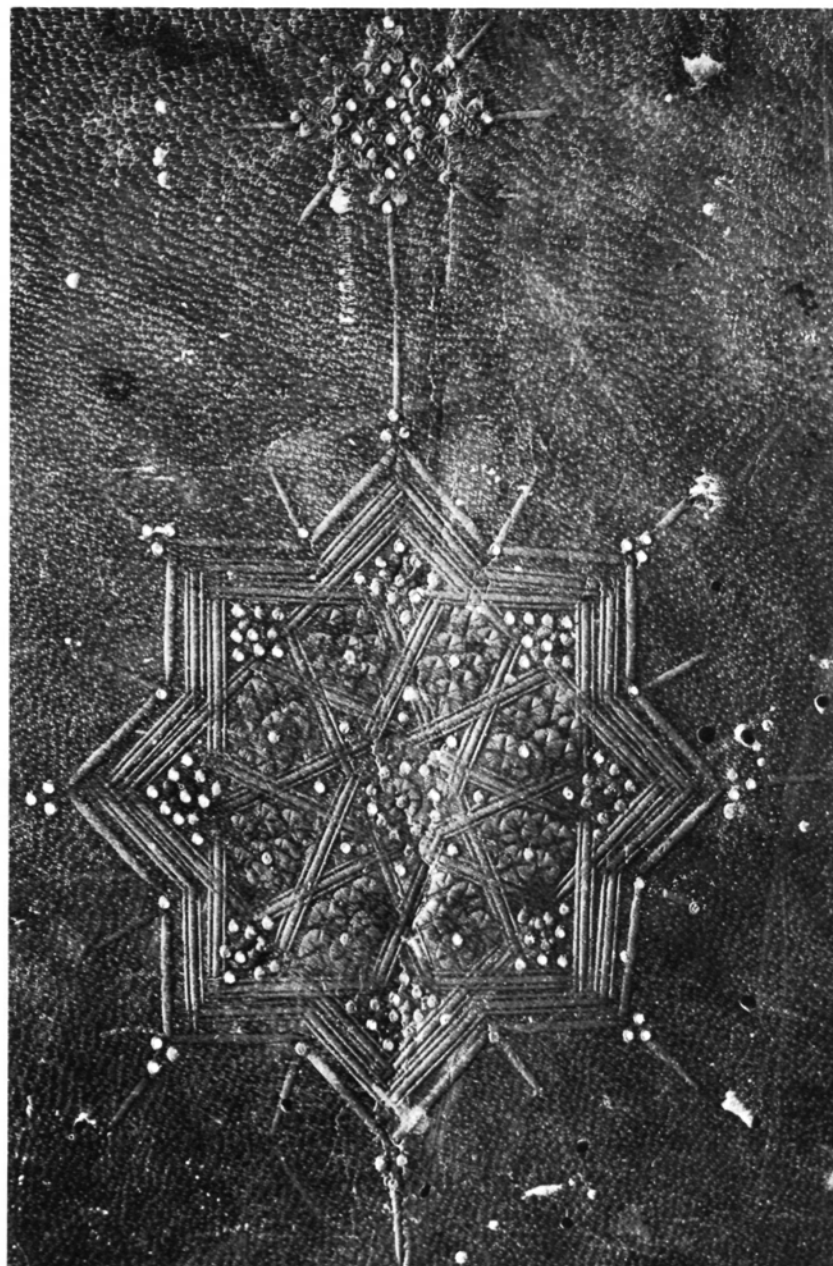
Oriental Institute A12140

Dr. B. Moritz

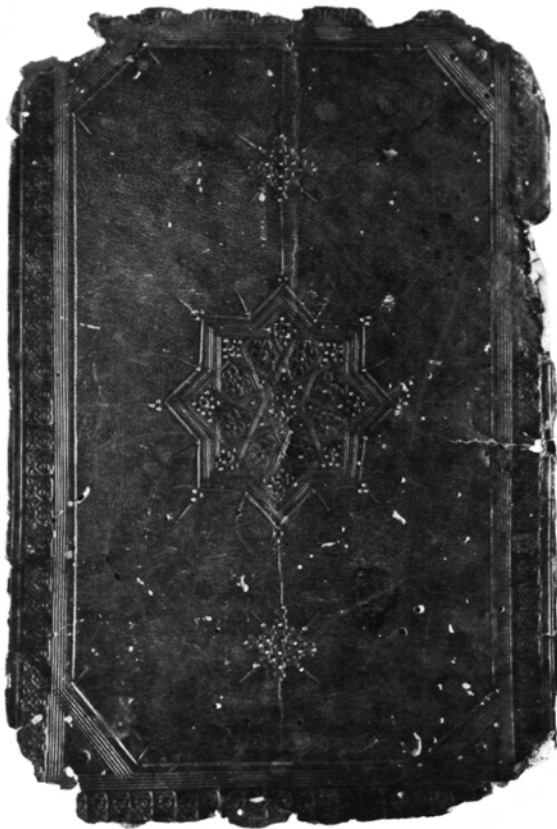
Egypt/Syria, 15th century A.D.

Upper Cover A broad tripartite fillet edges a running border of impressions of a rectangular format single-axis stamp depicting cordiform scrolls issuing from, and enfolding, small lotuses. The scrolls pass through a tie at the point of these heart-shaped framing scrolls to form intervening shallow compartments with three-sepal calices. The inner edge of the frame is defined by multiple fillets which also serve to define the inner panel.

At the centre of the inner panel is an eight-pointed star whose perimeter is defined by single fillets on the outside



- 29 THE UPPER COVER OF A BOOKBINDING; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublure block-pressed leather (sheep).



29. upper cover

and by two lines of adjacent tripartite fillets on the inside. From the points and angles of the star, flecks radiate. Those at the points are based in clusters of three gold dots and those at the angles in single gold dots. The innermost defining tripartite fillet is the extension of an octagram which occupies the inner field of the star. Its core has a ring of ten gold dots around a centre one. Single gold dots are placed in each point of the small star centre. The arms of the hexagram are filled with impressions of a six-petalled rosette stamp and are centred by a gold dot. The compartments within the point of the central star, and outside the periphery of the hexagram, are filled with gold dots.

Above and below the central star motif in the vertical axis are two diamond-shaped configurations of hatched X-shaped stamps with interstitial gold dots. Flecks radiate on the horizontal, vertical and diagonal axes.

The triangular corners of the inner panel are demarcated by multiple fillets and each contains a single impression of the six-petalled rosette stamp.

The perimeter of the inner field is delineated by a single fillet from whose angles flecks based on gold dots point inwards.



30. lower cover

Doublure The doublure is of block-pressed leather with a bold pattern of large diamonds formed by the intersection of diagonal bands containing undulating vines with three-lobed leaves. Circles enclosing eight-petalled double rosettes mark the intersections. The diamond-shaped panels alternately are occupied by a simple cordiform motif enclosing a three-sepalled calyx against a leafy bed, and by a motif of similar outline and background, but filled with seeds or segments suggesting a pineapple, a pine cone, or possibly a pomegranate.

This doublure is similar to those of 9, 50 and 51.

G. Bosch, (1952); pp. 132, 145, 160; Pl. XLVII.

D. Miner, (1957); p. 31.

- 30 THE LOWER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublure light brown leather (sheep).

251mm × 160mm

Oriental Institute A12125

Dr. B. Moritz

South Arabian, 15th century A.D.

Lower Cover This cover has crude leather corner repairs. A broad burnished band edges a running frame of impressions of a square format single-axis stamp. At the centre of this tool is a square containing the inscription:

‘amal al-Rabī
عَمَلُ الرَّبِيعِ
the work of al-Rabī

Four overlapping angular arms enclose this square. The frame is defined on its inner edge by multiple fillets.

At the centre of the inner panel is an eight-pointed star. It is outlined by a strap of untooled leather defined by thin double fillets, with gold dots tooled at the points and angles. Flecks radiate from the points of the star. The inner field of the star is outlined by a broader single fillet and is filled with rows of the square border stamp. At its centre is tooled a group of eight small gold dots in a lozenge-shaped configuration with a large central annular gold dot.

Above and below the central motif on the vertical axis are tooled large knotwork lozenges, centred by a large annular gold dot, using hatched bars, arcs and gold interstitial dots. Flecks radiate on the horizontal, vertical and diagonal axes.

The corners of the inner panel are demarcated by two rows of tripartite fillets. The innermost of these continues around the inner field. A thinner double fillet, at a slight distance in from the tripartite fillet, marks the boundary of the field. Its angles are marked by single impressions of the annular gold dot from which flecks point inwards.

G. Bosch, (1952); pp. 135, 154–155; Pl. XXXIX.

- 31 **THE UPPER COVER** of a bookbinding; exterior leather covering brown leather (goat) over paper pasteboards; blind tooling; doublure block-pressed leather (sheep).

259mm × 179mm
Oriental Institute A12146
Dr. B. Moritz
South Arabia, 14th–15th century A.D.

Upper Cover Only the upper cover of this binding survives. A broad untooled band edges a frame, defined by tripartite fillets, composed of a running pattern of impressions of a rectangular format single-axis stamp depicting a calyx



30. detail

whose stem is tied by a curving scroll terminating in bifurcated leaves.

The inner panel is centred by a roundel defined by a tripartite fillet. Its inner field has a diagonal knotwork field. Around the centre in a cross orientation are positioned round epigraphical stamps with square knotwork outlines:

‘amal Amīn
عَمَلُ آمِينَ
the work of Amīn

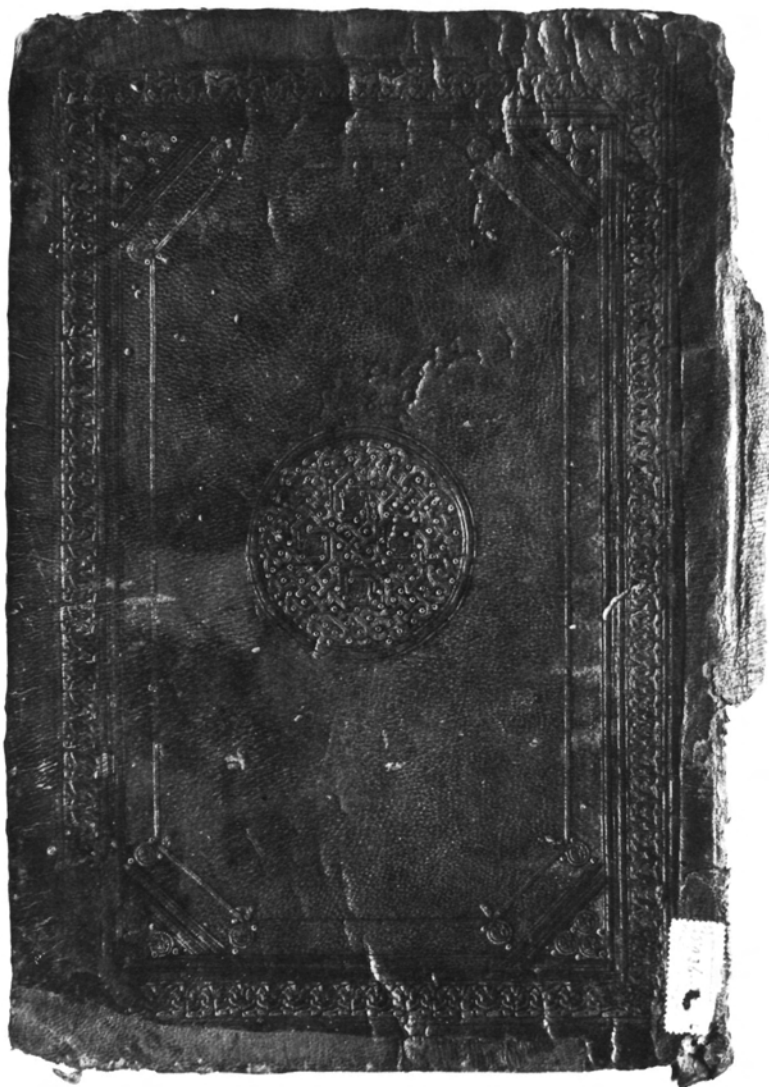
The knotwork is composed of hatched bars, arcs and centred dots.

Two rows of tripartite fillets define simple triangular corners containing three impressions of the round epigraphical stamps with rayed edges as used in the central roundel. They are flanked by centred dots. A broad un-

tooled band marking the perimeter of the inner panel is delineated by a double fillet. In its angles are placed single impressions of the round epigraphical stamp, each flanked by three centred dots. Small flecks based on centred dots point inwards from these angles.

Doublure This doublure is of block-pressed leather with a sketchy pattern of sinusoid lines forming interweaving quadrilobe forms. These spade-shaped lobes are occupied by three-sepal calices with double stems which pass through vestigial rings and form a central lozenge. The spaces between the outlines of the lobes are elaborated into split calyx forms.

G. Bosch, (1952); pp. 122, 136, 154, 164; Pls. XXXVII & LVII.



31. upper cover

32 A BOOKCOVER; exterior covering brown leather (goat) over paper pasteboards; blind tooling; doublure (envelope flap and fore-edge flap) light brown leather (goat), (upper and lower covers) yellow dyed hand-made laid paper (these may have been applied over leather doublures); fragments of linen end-band anchorage threads.

269mm × 178mm

Oriental Institute A12112

Dr. B. Moritz

Egypt/Syria, 14th century A.D.

All the elements of the original case survive although damaged and crudely repaired.

Upper and Lower Covers The upper and lower covers are similarly tooled. A broad burnished band edges a frame with a running pattern of impressions of a rectangular format single-axis stamp forming alternately inverted cordiform scrolls issuing from, and enclosing, small three-sepal calices. The inner edge of the frame is defined by a single broad fillet. The inner panel is defined by a similar broad fillet. At its centre is a roundel outlined with a tripartite fillet. This is filled with knotwork constructed with a striated bar tool, an arc tool and centred dots.

The triangular corners are demarcated by two parallel broad fillets and contain sketchy knots using the tools found in the inner roundel. The perimeter of the inner panel is delineated by a thin double fillet forming an outlining band in whose angles are placed single faint impressions of a circular epigraphical stamp whose wording is not discernible.

Spine The spine is untooled.

Fore-edge Flap At the head and tail of the fore-edge flap are broad bands of multiple rows of broad fillets.

Envelope Flap The borders of the envelope flap at head, tail and fore-edge, and the corners and defining lines of its inner panel, are tooled similarly to the corresponding areas of the upper and lower covers. At the point of the flap along the horizontal axis is placed a small mandorla outlined with a double fillet. It is filled with knotwork using the same tools used in the corresponding areas of the upper and lower covers. Flanking it are two adjacent panels, also outlined with double fillets, at whose

corners are placed single impressions of the indecipherable circular epigraphical stamp. These areas are contained within a bordering band of untooled leather.

G. Bosch, (1952); p. 136.

M. Weisweiler, (1962); Abb. 20, Handschrift 319, Karak 1319 A.D., Klappentyp 24 (envelope flap only).

- 33 THE LOWER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling; doublure burnished hand-made laid paper with a straight-torn paper hinge on one side and a curvilinearly cut paper hinge on the other.

252mm × 168mm

Oriental Institute A12167

Dr. B. Moritz

South Arabia, 15th century A.D.

Lower Cover A broad untooled band edges a frame of a running pattern of impressions of a rectangular format single-axis stamp forming alternately inverted cordiform scrolls issuing from, and enfolding, small trilobed calices. The frame is defined by fillets with a broad grooved band separating it from, and defining the inner panel.

At the centre of the inner panel is a splendid roundel circumscribed by a single fillet and filled with a scale-like disposition of stamps which suggest the eyes of a peacock's feather. The central massing of these stamps is ringed by circular epigraphical stamps reading

علي
علي

The simple triangular corners are demarcated by a broad grooved band, defined by fillets, like that outlining the central panel. They contain the impressions of the peacock feather stamp. The perimeter of the inner panel is marked by an untooled band delineated by double fillets.

G. Bosch, (1952); pp. 122, 134; Pl. XXXV.

M. Weisweiler, (1962); epigraphical stamps pp. 72, 73, 76, 77.



32. book cover

- 34 A BOOKCOVER; exterior covering dark brown leather (goat) over paper pasteboards; blind tooling; doublures paper hand-made laid; original spine lining/hinges blue linen tabby and paper; fore-edge flap hinge obscured by leather repairs.

250mm × 165mm

Oriental Institute A12109

Dr. B. Moritz

South Arabia, 15th century A.D.

All the elements of this cover survive, although damaged and crudely repaired with leather which obscures large areas of the original border tooling.

Upper and Lower Covers Upper and lower covers are similarly decorated. A broad burnished band edges a running border of impressions of a rectangular format single-axis stamp forming alternately inverted cordiform scrolls issuing from, and enclosing, small cali-

ces. The calices within the hearts along one side of the border are three-sepalled, while those on the other side are slightly larger with projections between their centre and lower sepals. The inner edge of this border is defined by a tripartite fillet.

At the centre of the inner panel is a roundel outlined by impressions of a large centred dot. The inner roundel is filled with a cellular honeycomb-like pattern of closely fitting impressions of a hexagonal stamp. This stamp has a wide circle centred by a small dot and enclosed by six lines placed slightly tangential to its circumference. The perimeter of the inner panel is delineated by a double fillet.

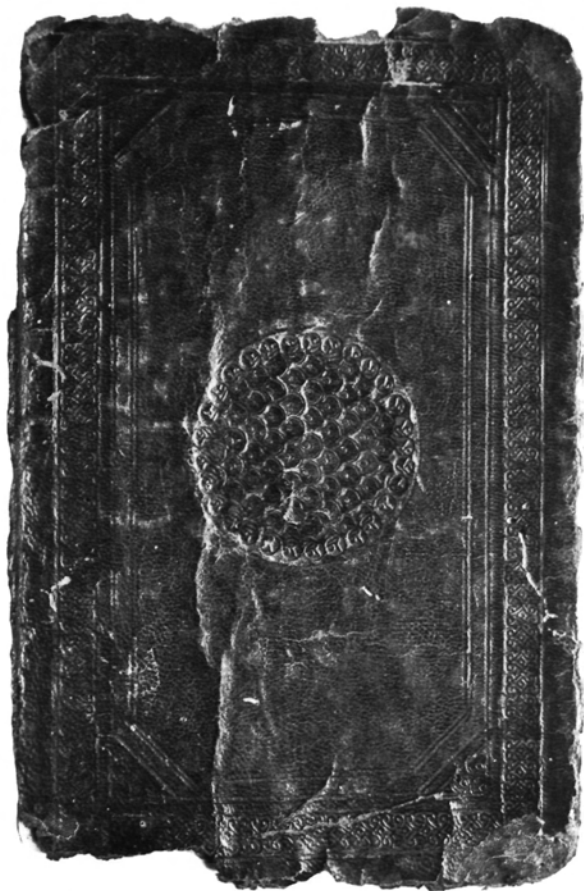
The corners of the inner panel are marked by a small corner-piece stamp depicting a heart-shaped scroll issuing from, and enfolding, a three-sepalled calyx with a dot placed at its base. This

gives the stamp a curved gable outline whose point is emphasized by a fleck based in three dots.

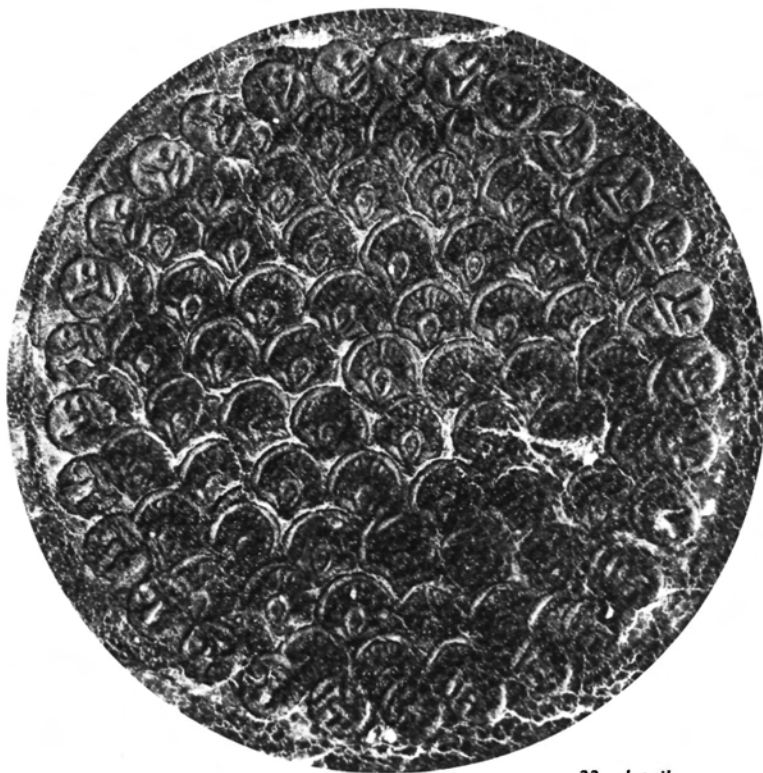
Spine The spine is untooled.

Fore-edge Flap The fore-edge flap is untooled.

Envelope Flap Most of the borders of the envelope flap are obscured by the repair leather but it seems that those at head, tail and fore-edge have similar tooling to the corresponding areas of the upper and lower covers. At the centre of the flap along the horizontal axis is a broad band of the same pattern as used in the inner roundels. This is bordered on either side by smaller bands, defined by tripartite fillets, of impressions of the cordiform scroll border tool. The fillets continue to define the flanking panel whose fields are left



33. lower cover



33. detail

untooled except for central six-petalled flower motifs composed of large centred dots. Their corners are marked by single impressions of these dots flanked by two small ones.

G. Bosch, (1952); pp. 122, 126, 131, 133, 155; Pl. XL.

D. Miner, (1957); p. 23f., No. 48.

- 35 THE UPPER COVER AND SPINE of a book-binding; exterior covering light brown leather (goat) over paper pasteboards; blind tooled; doublure block-pressed leather (sheep).

243mm × 160mm

Oriental Institute A12135

Dr. B. Moritz

South Arabia, 15th century A.D.

Lower Cover A broad burnished strip edges a border of repeated impressions of a bold, square format epigraphical stamp reading:

ḥamdan

حمد
praise



34. book cover

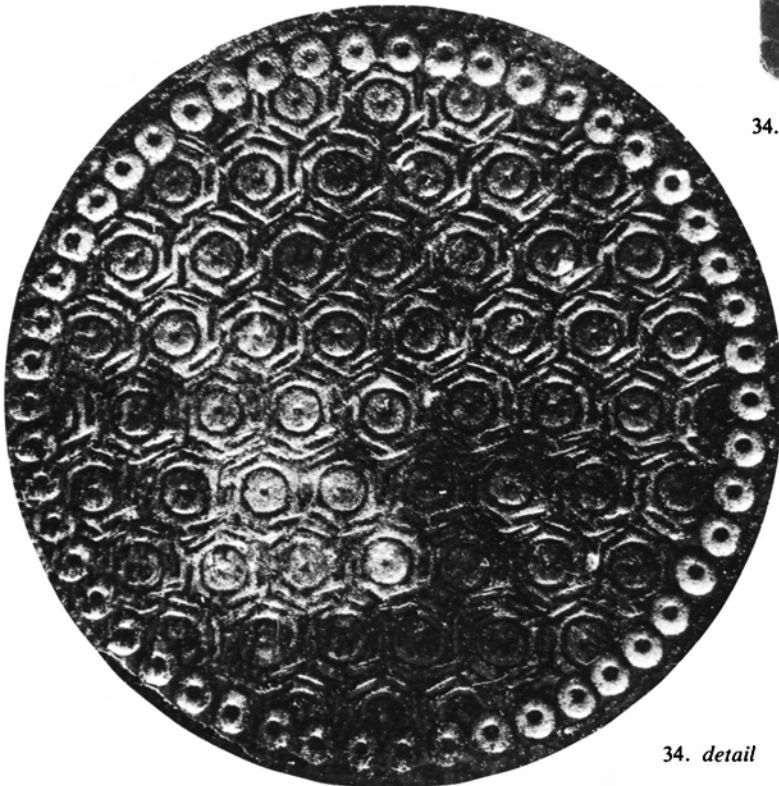
The border is defined on the outside by a single fillet and on the inside by a double row of tripartite fillets.

The inner panel has a fine central roundel defined by a tripartite fillet and is filled with a large flower whose six petals are compass-constructed using the same radius measurement as that of the encompassing roundel. At the centre of the flower is a single impression of a circular epigraphical stamp. The stamp reads:

Allāh ḥasbī

الله حسبي
God is sufficient for me

The compartments between the petals are filled with knotwork of triangular outline constructed with a hatched bar, a hatched arc and centred dot tools.



34. detail

On the vertical axis above and below the roundel are large finely-executed lozenges of knotwork with an untooled square at their centres. Flecks radiate from the points of the lozenges. The outer confines of the inner panel are marked by an untooled band defined by a double fillet, with centred dots and single impressions of the epigraphical stamp found at the centre of the roundel placed in its corners.

The triangular corners are demarcated by two rows of tripartite fillets. Within are placed three impressions of a circular epigraphical stamp with associated centred dots. The stamps read:

Allāh ḥasbī
الله حسي
God is sufficient for me

Spine The spine survives in a damaged state but is untooled.

Doublure The block-pressed leather doublure of this lower cover has a pattern of interweaving vine scrolls and calices similar to that of 36 and 41. In the case of the latter two, however, each block contains a symmetrical design whereas in this doublure the symmetry is produced by the juxtaposition of two assymetrically patterned blocks. The impression at the junction of the two block repeats is disfigured so that some of the details cannot be seen. The only clearly discernible calices appear at the end of a spiral vine shoot and are of the "three sepal with spiral cleft base" type. The leaves are basically two-lobed with one lobe extended with a curling tendril-like tip and the shorter lobe split into a small spiral although there is some variety of form.

G. Bosch, (1952); pp. 122, 126, 153–154, 167; Pls. XXXII & LXV.

- 36 THE LOWER COVER, FORE-EDGE FLAP AND ENVELOPE FLAP of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling; doublure block-pressed leather (goat).

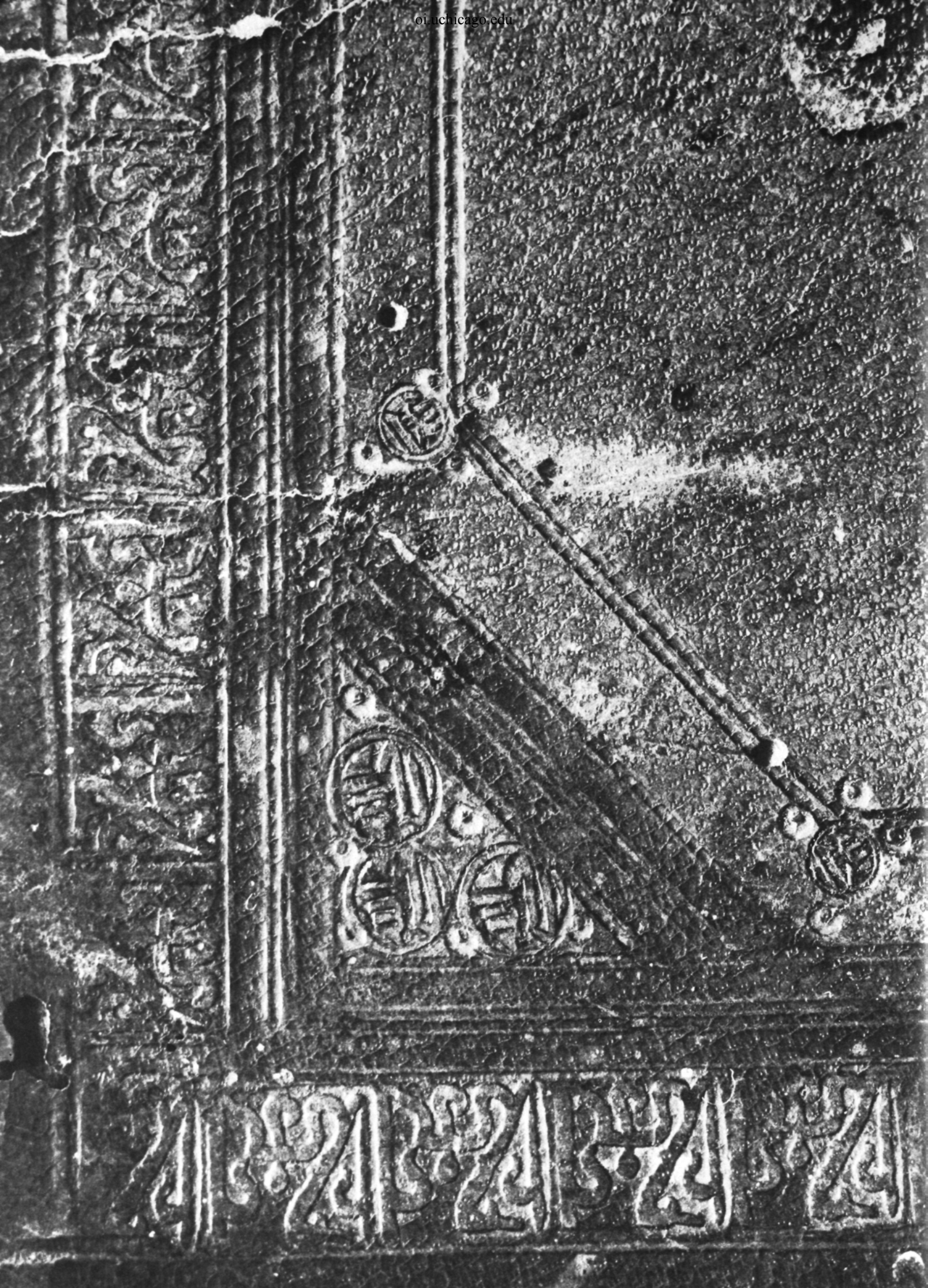
254mm × 161mm
Oriental Institute A12134
Dr. B. Moritz
South Arabia, 15th century A.D.



35. upper cover and spine



35. doublure



Upper Cover A broad burnished band edges a border of repeated impressions of a bold, square format epigraphical stamp, the same as, or very similar to that on 35. This border is defined on the outside by a single fillet and on the inside by a double row of tripartite fillets. The epigraphical stamp reads:

ḥamdan
 حَمْدًا
 praise

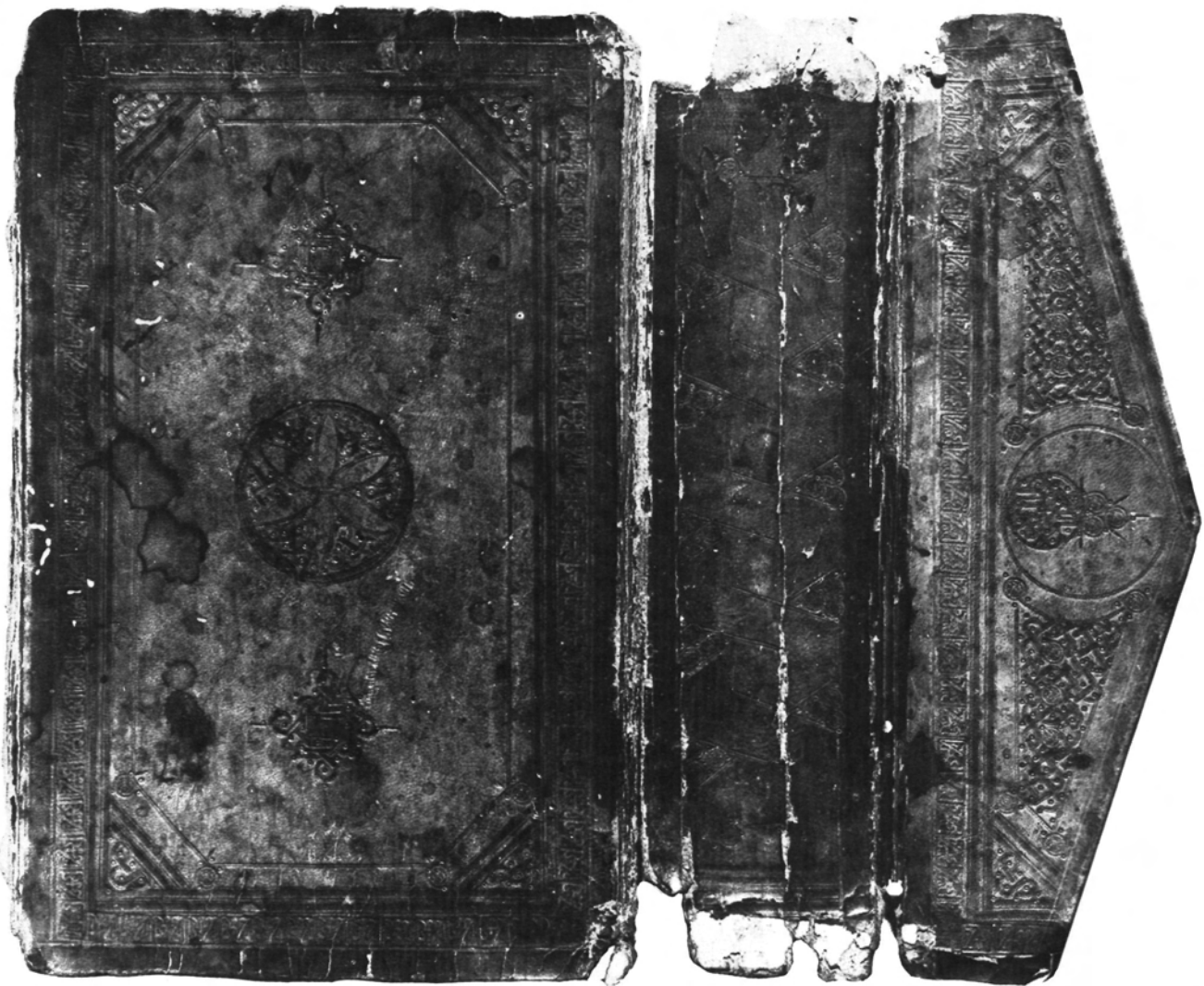
The central roundel of the inner panel is similar to that of 35 but has a simpler knotwork ground and has no epigraphical stamp at the centre of the flower. The lozenge-shaped knotwork above and below it on the vertical axis is similar to the corresponding ones on 35 but the centre square is filled with a faint impression of a circular epigraphical stamp with radiating hatchings. The stamp reads:

ʿamal Amīn
 عَمَلُ آمِينَ
 the work of Amīn

Triangular corners, demarcated by double rows of tripartite fillets, are filled with a simple knot and small centred dots.

The outer confines of the inner panel are marked by an untooled band defined by a double fillet. A single impression of the circular epigraphical stamp, associated with the small centred dots, is placed in the corners of this band. Small flecks based on centred dots point inwards from the corners.

Fore-edge Flap The fore-edge has interesting blind tooling. It is edged with a broad burnished band defined by fillets with multiple bands of fillets at head and tail. The area within is divided by staggered oblique fillets with shorter fillets forming triangles at their bases on



36. lower cover, fore-edge flap and envelope flap

either side. These triangle-based toolings alternate with oblique untooled areas. Sketchy fillets running parallel to the fore-edge/spine create an additional longitudinal central panel which has a single circular epigraphical stamp at each corner associated with centred dots. The triangular compartments on one side are filled with three impressions of the epigraphical stamp and centred dots and on the other side a fourth stamp overlaps this triangular disposition.

Envelope Flap The envelope flap is also edged with a burnished band and has

a border of the same large, square format rectangular stamps, defined by an inner double row of tripartite fillets, as the upper cover.

The roundel of the flap and the adjacent fields are demarcated by a broad continuous untooled band defined by fillets. The blind circle of the roundel contains a flask-shaped form with a knotwork roundel as the base of the vessel. Its neck or upper part has three triangularly-disposed circular epigraphical stamps with radiating flecks based on small centred dots. The whole complex suggests a sparkling translucent vessel.

36. *doublures*





36. detail

The adjacent fields are filled with a dense braid formed (as is the knotwork elsewhere on this cover) by hatched bars, arcs and centred dots. Each field has a row of three circular epigraphical stamps. A single such stamp, with associated dots, is placed in the corners of the bands outlining these fields. The triangular corners are like those on the upper cover.

Doublure The doublure leather survives on the upper cover and envelope flap but is missing from the fore-edge flap. It is very similar to that of 35 and 41, with a pattern in intaglio of an ascending sequence of three-sepalled calices on a single axis and associated dense, interweaving leafy scrolls. The base calyx is of fleur-de-lis form with the lower petals curving down and then curling upwards at their tips. On either side appear other calices with notched base and from the central sepal of the base calyx crossed vines extend to form

another simple calyx with a hollow base. The leaves are basically two-lobed with one lobe extended with a curling tendril-like tip and the shorter lobe split into a small spiral.

G. Bosch, (1952); pp. 131, 154, 167; Pls. XXXVI & LXV.

J. Michelet, (1932); pp. 14–15.

D. Miner, (1957); p. 24, No. 49.

M. Weisweiler, (1962); Abb. 6, Handschrift 181, Damascus 1338 A.D., Klappentyp 7 (envelope flap only); Abb. 20, Handschrift 319, Karak 1319, Klappentyp 24 (fore-edge flap only).

- 37 THE UPPER AND LOWER COVERS AND ENVELOPE FLAP of a bookbinding; exterior covering brown leather (goat); blind tooling, gold tooling.

255mm × 162mm

Chester Beatty Library Moritz Collection 12

Dr. B. Moritz

Egypt/Syria, 14th–15th century A.D.

Only the exterior leather covering of the upper and lower covers and the envelope flap survives, the pasteboards and doublures having been removed.

Upper and Lower Covers These covers are similarly decorated and have a running border, defined by tripartite fillets, of impressions of a finely-engraved, rectangular format single-axis stamp depicting continuous heart-shaped looping scrolls with single-bladed leaves which pass through ties, with an opposite tier of symmetrically opposed leaf tendrils.

The rectangular inner field has at its centre a roundel, circumscribed by a broad tripartite fillet, which is filled with a knotwork mesh formed by hatched bars, arcs and small centred dots. On the vertical axis above and below the roundel are knotwork lozenges with flecks projecting from their points.

An unusual feature is found opposite the roundel on each side. Against the fillet defining the perimeter of the inner panel on the horizontal axis, large split three-sepalled calices are outlined by a sinuous fillet and filled with knotwork.

The triangular corners are demarcated by two rows of tripartite fillets and are filled with knotwork. The perimeter of the inner panel is delineated by a single fillet leaving a broad band of untooled leather with flecks based on clusters of three gold dots pointing inwards from the angles.

Envelope Flap The borders at head, tail and fore-edge of the envelope flap are similar to those of the upper and lower covers, as are the corners and bands demarcating the panels. Along the horizontal axis from the point of the flap is a broad strip of regular knotwork mesh, defined by two rows of tripartite fillets. The adjacent flanking panels are each centred by a circular cluster of seven large centred annular dots with associated small dots.

M. Weisweiler, (1962); Abb. 35, Handschrift 211, Kerman 1309 A.D., Klappentyp 39 (envelope flap only).



37. detail



37. upper cover, lower cover and envelope flap

- 38 THE UPPER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublure block-pressed leather (sheep).

257mm × 176mm (approximate width as cover is cut down at spine)

Oriental Institute A12150

Dr. B. Moritz

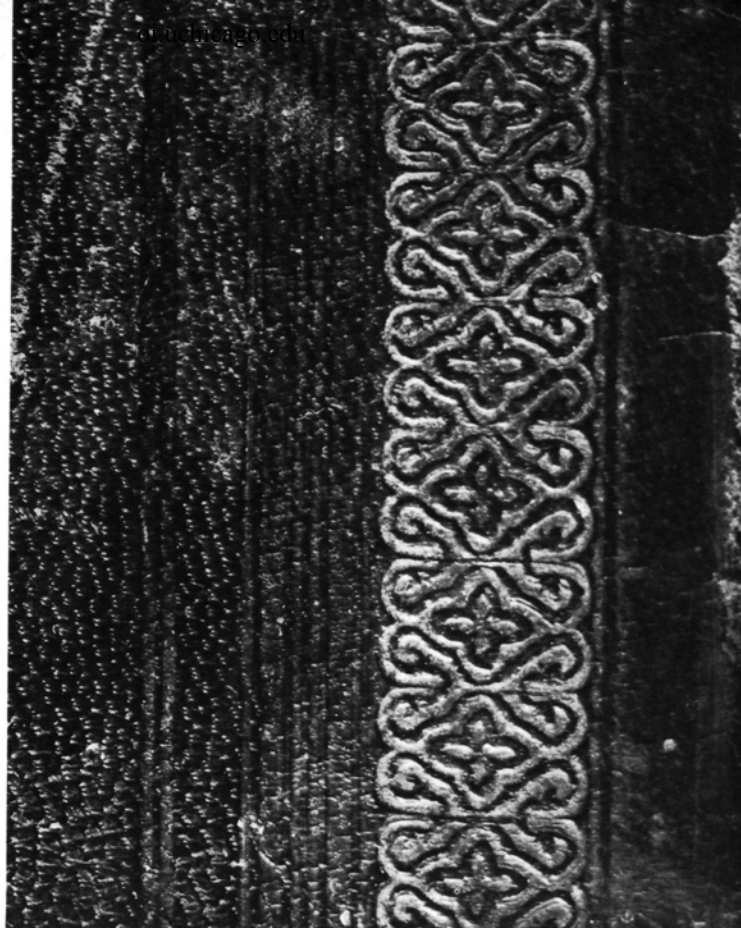
South Arabia, 14th–15th century A.D.

Upper Cover A broad burnished band edges a rich frame of a running pattern of impressions of a rectangular format single-axis tool depicting four-petalled flowers between symmetrically opposed cordiform vine scrolls ending in bifurcated leaves. The inner edge of the frame is defined by a double row of tripartite fillets.

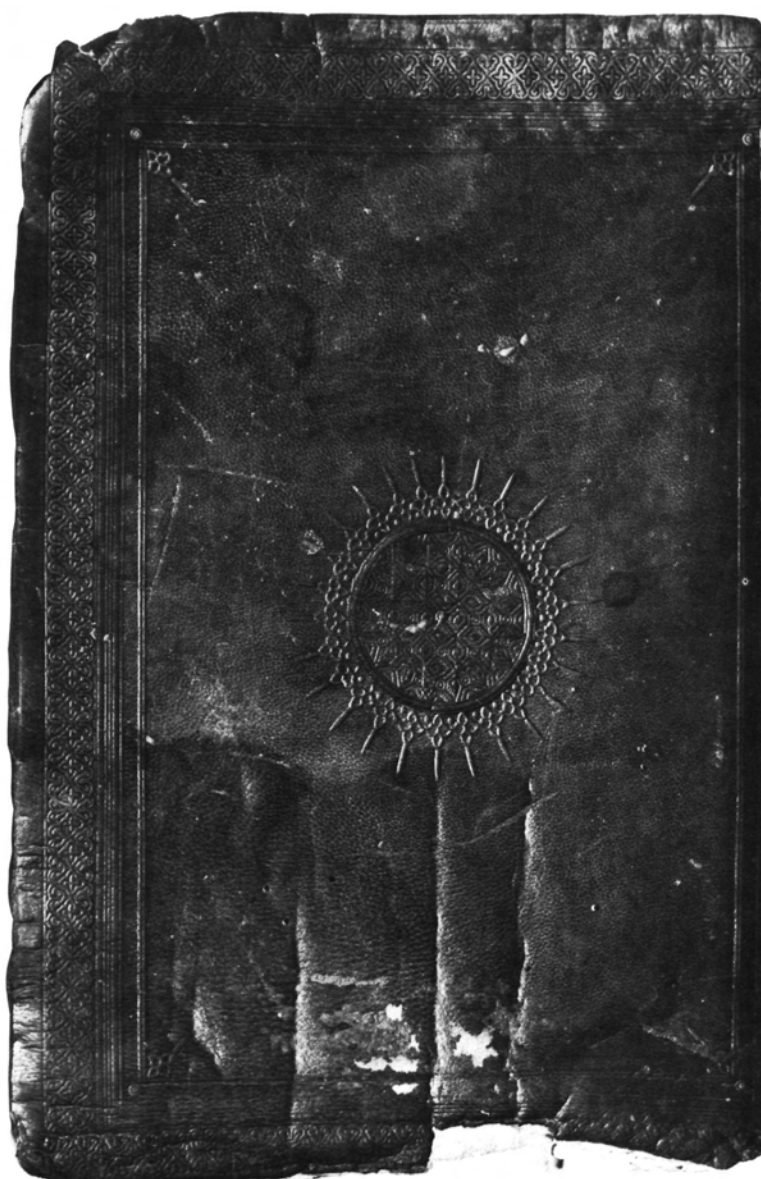
A small roundel at the centre of the inner panel, whose circle is drawn with a tripartite fillet tool, is garlanded by three-sepalled calices with cleft base and a small receptacle. Tiny centred dots are placed between each calyx. From the upper sepals flecks radiate. The roundel is filled with a diaper pattern formed by adjacent impressions of a two-axis stamp, commonly found as a border stamp, depicting a small centre ring within a square area and hatched half-hexagons on each side. At the centre of the roundel is placed a single centred annular gold dot. The perimeter of the inner panel is delineated by a band of untooled leather defined by a double fillet. In the corners of this band a single centred annular gold dot is placed. Projecting into the inner panel at each corner is a single impression of the calyx stamp used to garland the central roundel.

Doublure The doublure is of block-pressed leather with a bisymmetrical pattern whose module is based on a central cross with arrow-shaped calyx arms arising from a central dot. The arrow-shaped points develop into larger three-sepalled calices whose outer arms curve downwards. These serve as the core from which leaves develop into expanding vine scroll forms with varied leaves and calices. Bifurcated leaves frequently emphasize the tying elements. This doublure is related to those of 5 and 11.

G. Bosch, (1952); pp. 134–135, 155, 166, 168.



38. detail



38. upper cover

- 39 THE UPPER AND LOWER COVERS AND SPINE of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublures light brown leather (goat) over which hand-made laid paper has been applied; spine lining/hinges linen tabby over a paper liner.

271mm × 175mm

Oriental Institute A12114

Dr. B. Moritz

Egypt/Syria, 15th–early 16th century A.D.

The tooling of the borders, defining lines and corners of the inner panels of the upper and lower covers is similar but the geometry of their central medallions differs.

39. lower cover and spine



39. detail

Upper Cover The tooling of the upper cover differs from that of the lower only in the details of the inner part of the central roundel. This also contains a hexagram but encloses a six-pointed star flower outlined with an additional tripartite fillet. Its rays or petals are formed by flecks radiating from a centred gold dot. Single gold dots are placed in the points of the star. Otherwise the roundel is tooled as in the lower cover.

Lower Cover A broad fillet edges a border composed of a running pattern of impressions of a rectangular format single-axis stamp in which four-petalled florets alternate with cordiform scrolls issuing from, and enfolding, small three-sepal calices placed point to point. The outlines of these opposed heart shapes create lozenge-shaped compartments around the florets. This border is defined on its inner edge by three rows of tripartite fillets which also serve to define the inner panel.

At the centre of the inner panel is a large roundel drawn with two closely placed tripartite fillets and garlanded with impressions of a three-sepal calyx with receptacle. Single gold dots are placed between the bases of the calyx stamps and flecks radiate from their central sepals. The inner part of the roundel is occupied by a hexagram formed with tripartite fillets. These overlapping lines form a zone of six star points around the central hexagonal compartments. These are tooled with a cluster of three gold dots, while the centre and arms of the hexagram are filled with impressions of an eight-lobed rosette and centred by a single centred gold dot. The zone between the perimeter of the hexagram and the roundel outline is filled with gold dots.

Above and below the central roundel on the vertical axis are tooled groups of four rosette stamps in a lozenge configuration with flanking gold dots and flecks projecting on the horizontal, vertical and diagonal axes.

The corners are quarter circles demarcated by tripartite fillets and contain single fillets which radiate from a corner centred gold dot. The ends of the fillets are marked by gold dots. The perimeter of the inner panel is delineated by a single fillet with single centred gold dots at its angles.

Spine The spine is untooled.

G. Bosch, (1952); pp. 122, 125, 132, 135; Pl. XXXI.

- 40 A SET OF TWO BOUND MANUSCRIPTS; Arabic; Taqī al-Dīn abū al-Ḥasan ‘Alī ibn ‘Abd al-Kāfī al-Subkī, *Al-fatāwī*; Vol. 1 dated 19 Dhu al-Ḥijjah 879 H./April 17, 1475 A.D., Vol. 2 dated 2 Rajab 880 H./Nov. 1, 1475 A.D.; textblock and endleaves paper burnished Oriental hand-made; Vol. 1 link stitch sewn at two sewing stations with yellow/green silk thread, Vol. 2 link stitch sewn at two sewing stations with red silk thread; Vol. 1 Islamic endbands (yellow/green silk anchorage threads over leather thong core; green and pink silk decorative sewing threads); Vol. 2 Islamic endbands (red silk anchorage threads over leather core and yellow? and pink silk decorative sewing threads); Vol. 2 reinforcements earlier to head and tail of endbanding holes, spinefolds and earlier

sewing holes indicate that this manuscript has at least been sewn and endbanded twice. The title is hand-written in ink on the tail-edge of each volume; spine lining/hinges Vol. 1 & 2 linen tabby; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublures Vols. 1 & 2 block pressed with leather (sheep) hinge extension onto upper and lower endleaves trimmed into a stylised curvilinear outline.

267mm × 174mm

Oriental Institute A12056 & A12057

Dr. B. Moritz

Egypt/Syria, early 16th century A.D.

COLOUR PLATE I

VOLUME I

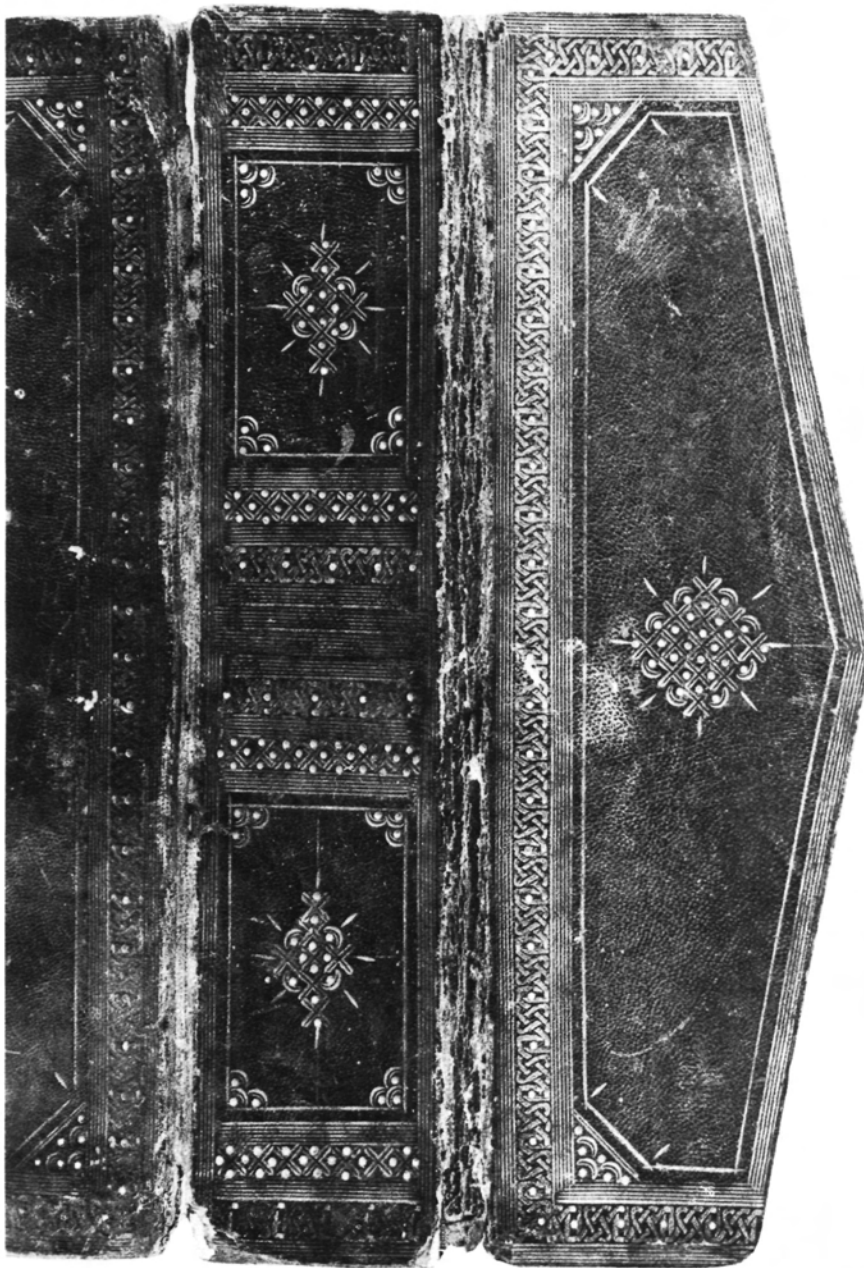
Upper and Lower Covers Both upper and lower covers are similarly decorated. The frame, defined by multiple fillets (the inner group of which also serves to define the inner panel), has a running pattern of single-axis stamps forming hatched braidwork.

At the centre of the inner panel is a circular medallion outlined with scallops produced by impressions of a crescent-shaped tool. These are centred by gold dots and flecks project from their spandrels. The roundel is encircled by a ring defined by a single fillet on the outside and by a narrow tripartite fillet on the inside. It is occupied by a hexagram interlace formed of the narrow tripartite fillet. At its centre is a six-pointed star additionally outlined by tripartite fillets and divided into petal-like segments by fillets. The compartments of the hexagon are filled with impressions of a small eight-petalled rosette stamp and are centred by a gold dot. The compartments between the periphery of the hexagram and the roundel are filled with gold dots.

The small triangular corners of the inner panel are demarcated by double fillets and each contains three impressions of the crescent stamp and associated gold dots. The perimeter of the panel is delineated by a single fillet with flecks pointing inwards from its angles.

Spine The spine is untooled.

Fore-edge Flap The fore-edge flap is edged by multiple fillets. At head and tail similar rows of parallel fillets define two rows of stamps. Closest to the head is a sequence of the same stamps as used for the frames of the upper and lower covers. The other row is of X-shaped stamps with interstitial gold dots.



40. Volume 1 fore-edge flap and envelope flap

At the middle of the flap are two similar groups of stamps, with an extra two bands of multiple fillets. Between these rows of stamps are two rectangular panels with single perimeter fillets. At the centres of these panels are lozenge configurations of X-shaped and crescent stamps with interstitial gold dots and flecks radiating on the horizontal, vertical and diagonal axes. At the corners of each panel are tooled three impressions of the crescent stamp centred by gold dots.

Envelope Flap The frames, at head, tail and fore-edge corners and perimeter tooling of the inner panel of the envelope flap are similarly tooled to the corresponding areas of the upper and lower covers. On the horizontal axis of the point of the flap is a diamond configuration with a diagonal grid of X-shaped stamps bordered by crescents and marked by interstitial gold dots. On the horizontal, vertical, and diagonal axes flecks radiate.

VOLUME 2

Upper and Lower Covers Upper and lower covers are similarly tooled. The general decorative schema is similar to that of Volume 1 but the stamp used for the frame is different as is the internal geometry of the central medallion. The frame has a running pattern of impressions of a rectangular format single-axis stamp in which small hearts issuing from and enfolding small three-sepalled calices are placed point to point creating intermediate diamond shapes occupied by eight-petalled rosettes.

The medallions of the inner panels are similar in outline to the corresponding ones of Volume 1 but have a more complex interlace interior. At the centre a small hexagram enclosing a six-pointed star extends to form a six-pointed star whose points touch the inner circumference of the roundel. This interlace system overlaps a large hexagon. The central star is divided into petal-like segments by fillets radiating from a central gold dot. These segments are alternately left untooled and marked by four small dots. The compartments of the hexagram are filled with impressions of a tiny eight-petalled rosette stamp and are centred by a gold dot. The compartments of the zones formed by the interaction of the overlapping hexagon and hexagram star are alternately filled



40. Volume 1 lower cover

with small dots and larger gold dots. The compartments between the perimeter of the interlace and the roundel are filled with gold dots.

Spine The spine is untooled.

Fore-edge Flap The fore-edge flap is edged with multiple fillets. At head and tail similar fillets define two parallel rows of stamps. Closest to the head is a row of the same stamps as used for the frames of the upper and lower covers. The other row is of X-shaped stamps with interstitial gold dots.

Two similar groupings of stamps and fillets divide the fore-edge flap into three orthogonal panels of which the middle one is largest. These have single perimeter fillets and contain central diamond-shaped configurations of stamps

and corner stamps related to those used for the fore-edge panels of Volume 1.

Envelope Flap The frames at head, tail and fore-edge, corners and perimeter tooling of the inner panel of the envelope flap are similarly tooled to the corresponding areas of the upper and lower covers. The point of the flap is marked by a diamond grouping of stamps similar to that of the envelope flap of Volume 1. The layout of this flap is like that of Volume 1.

The affinity of decorative schema and the use of the same crescent, dot and X-shaped tools and doublures indicate that these bindings are the products of the same workshop.

Doublures (Volumes 1 & 2) Both volumes have similar doublures with a block-pressed pattern of regularly placed interlinked double medallions formed by continuous triple lines. The inner medallions knot into heart shapes at four evenly-spaced points on the outer medallions which connect with a loop to the next repeat above and below. The inner medallion contains a finely knotted filling. The compartments of the bands between the inner and outer medallions are filled with floral and foliate forms. A cross-shaped configuration of various leaf and calyx forms fills the spaces between the medallions.

M. Krek, (1961); p. 22.

- 41 THE LOWER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling and gold paint; doublure block-pressed leather (sheep).

267mm × 184mm

Oriental Institute A12132

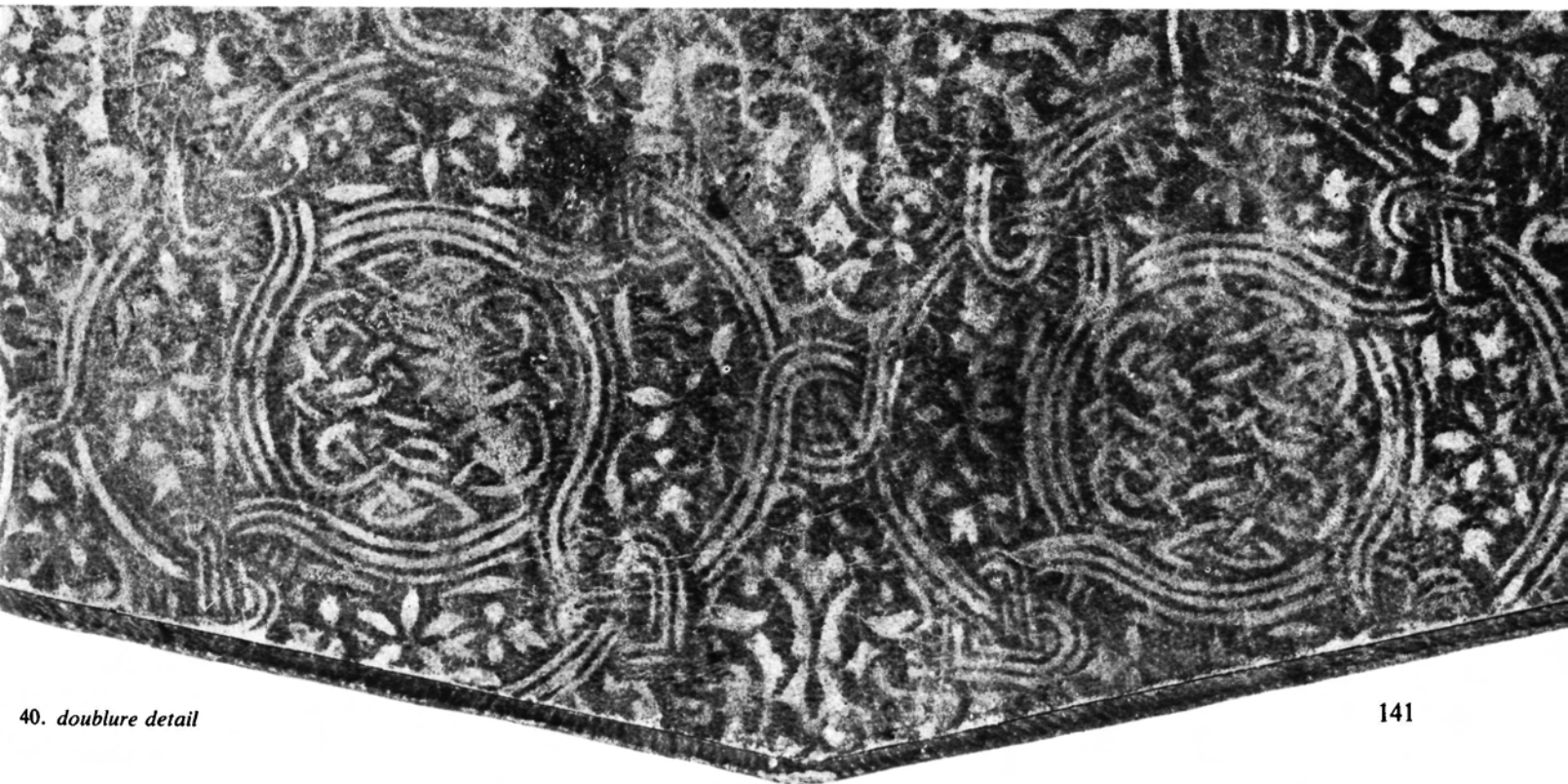
Dr. B. Moritz

South Arabia, 15th century A.D.

Lower Cover Chester Beatty Library Moritz Collection 4 appears to be the other cover of this bookbinding. The cover is edged by a burnished band defined by fillets. Within is a running border of impressions of a rectangular format stamp depicting alternately inverted cordiform scrolls issuing from the bases of small trilobed calices which they enfold. The inner edge of this border is defined by a broad tripartite fillet.

The centre roundel, tooled with fillets over a radiance pattern, is garlanded with three-sepalled calices with cleft base and receptacle. From the upper sepals radiate flecks. The diagonal knotwork field within the circle is composed of hatched bars, arcs and centred dots and has a central square with a large centred annular gold dot.

The corners are simple triangles defined by the broad tripartite fillet used for the inner edge of the border. They each contain three impressions of circular epigraphical stamps ringed by radiating hatchings and associated with small centred dots. The wording on these stamps is:



40. doublure detail

‘amal Amīn
عَمَلِ آمِينَ
the work of Amīn

This stamp is similar to one on 36 and is related to the small epigraphical stamp on 35. Single blind impressions of the calyx stamp which garland the inner roundel are placed at the corners of the band pointing inward with a fleck issuing from the upper sepal.

The outer confines of the central panel are marked by a band of untooled

leather defined by double fillets with smaller circular epigraphical stamps (with associated centred dots) in the corners of the band. These read

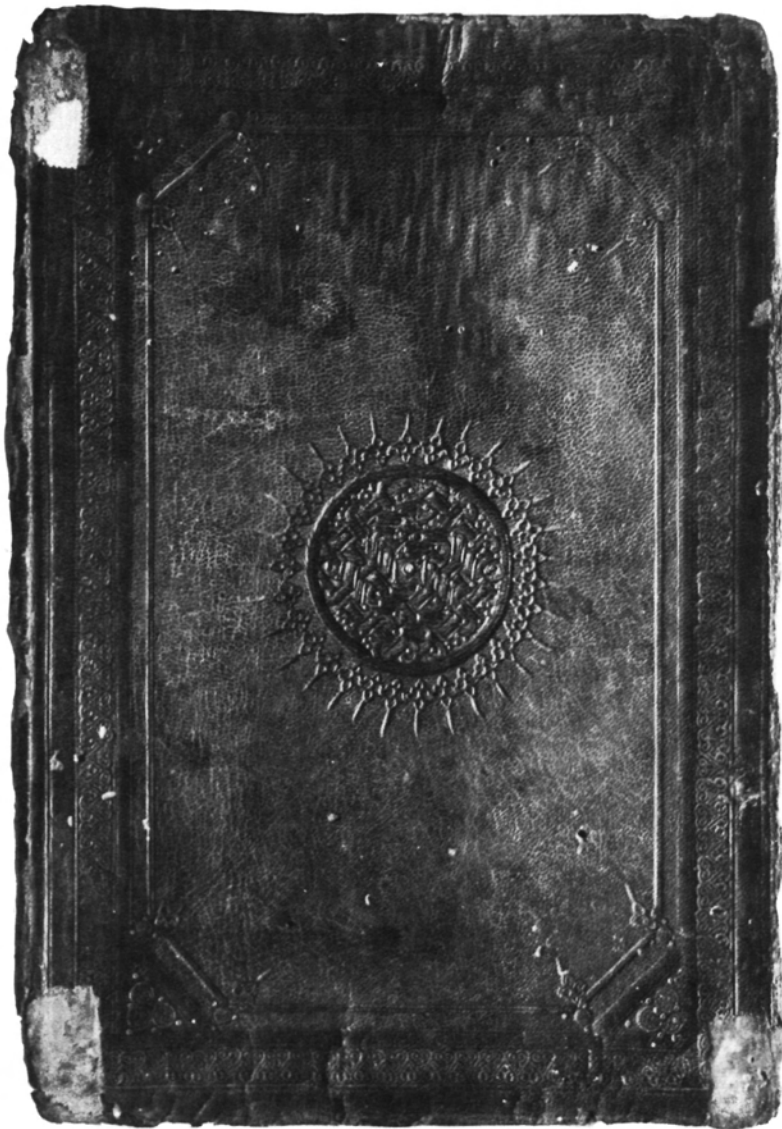
‘amal Amīn
عَمَلِ آمِينَ
the work of Amīn

Doublure The module of the pattern of the block-pressed doublure moves as an ascending sequence of calices and associated leafy scrolls on a single axis. The base calyx, of fleur-de-lis form, is three-sepalled with the lower sepals curving down and then curling upward at their tips. On either side appear two other three-sepalled calices with notched base. From the central sepal crossed vines extend to form another three-sepalled calyx with a hollow base. The elaborate crisscrossing of the vine scrolls has a disjointed stencil-like appearance.

The leaves are basically two-lobed with one lobe extending to a curling tendril-like tip and the shorter lobe split into a small spiral. The pattern is related to those of 35 and 36.

G. Bosch, (1952); pp. 126, 134, 136, 154, 167; Pl. XXXVIII.

M. Weisweiler, (1962); Abb. 25, Handschrift 342, Baghdad 1150, Deckeltyp 17.



41. lower cover

- 42 THE UPPER AND LOWER COVERS, SPINE AND FORE-EDGE FLAP of a bookcover; exterior covering light brown leather (goat) over paper pasteboards; blind and gold tooling; doublures block-pressed leather (sheep).

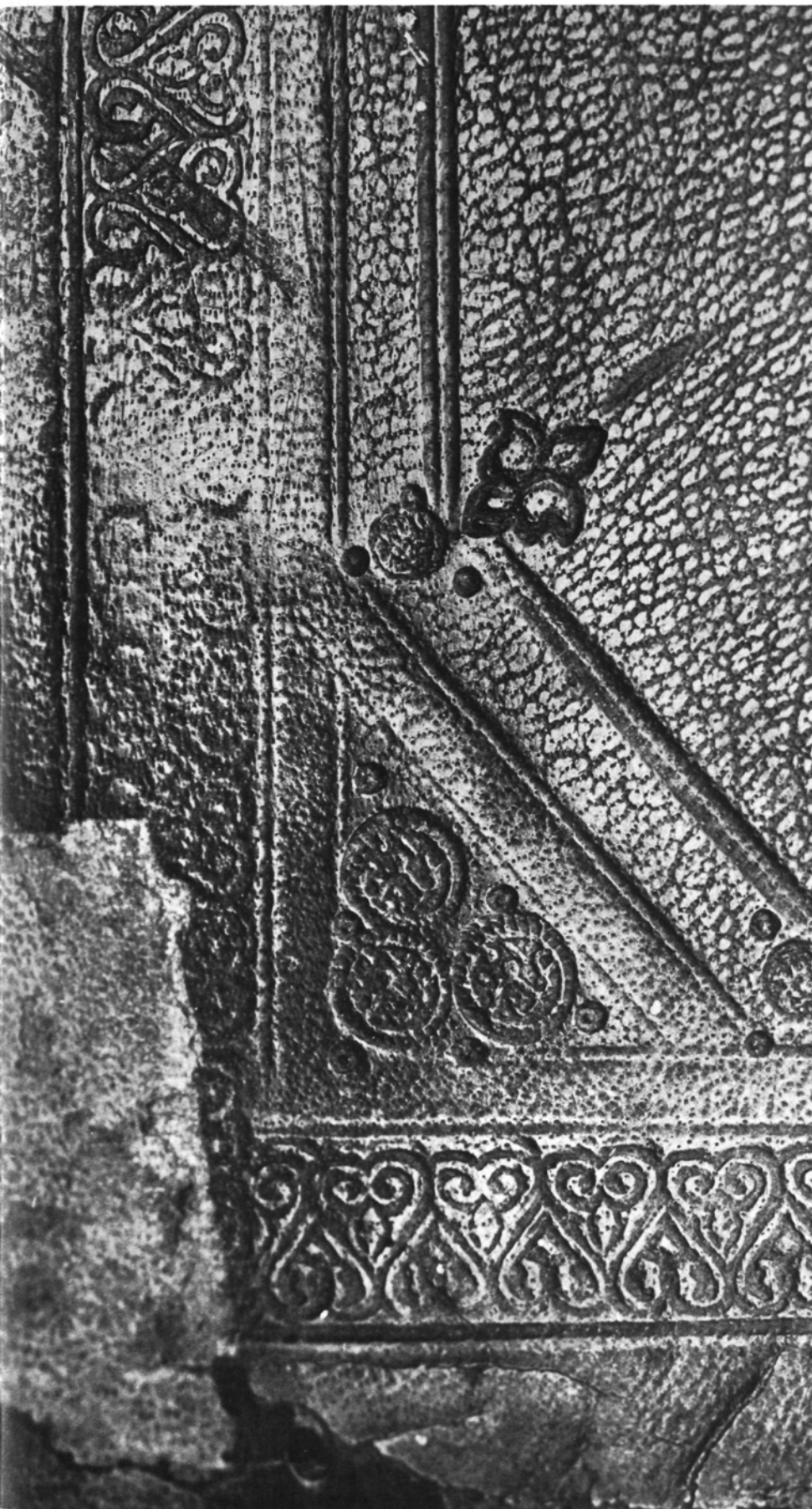
254mm × 188mm

Oriental Institute A12120

Dr. B. Moritz

South Arabia/Egypt/Syria, 15th century A.D.

Upper and Lower Covers Only the upper and lower covers of the original binding survive now attached with a crude later rebacking of leather and with part of a similar fore-edge flap. Upper and lower covers are similarly decorated. A burnished band, defined on the outside by tripartite fillets, edges



a running border of impressions of a finely-engraved square format two-axis tool depicting overlapping flowing strapwork which forms small compartments with alternating concave or convex curvilinear frames. The two-axis repeat of this stamp is intended to produce compartments with eight-petalled rosettes alternating with compartments with three-sepal calices. In this case the stamp is used to form a frieze in one axis so that only the rosette appears complete. The inner edge of the border is defined by a tripartite fillet as is the inner panel.

At the centre of the inner panel is a medallion. This consists of a roundel outlined by two rows of tripartite fillets, staggered tangentially to produce a "radiance" formation, garlanded by impressions of a stamp depicting a three-sepal calyx with receptacle. Between these receptacles are placed small centred dots. From the central sepals flecks radiate. The inner field of the roundel is occupied by a twelve-pointed star interlace enclosing a small central hexagon with six star point extensions. The interlace is formed by tripartite fillets.

The hexagon core is tooled with six centred dots grouped around a central one. The small compartments of the star points in the next zone are left untooled. The interlace then extends to form a hexagram whose compartments are filled with impressions of a six-petalled rosette stamp (with a dot at the centre of each petal) centred by a single gold dot. The compartments of the zone enclosing this are tooled with gold dots. The outer points of the major star are alternately left untooled and stamped with a group of four gold dots. The compartments beyond the periphery of the star are filled with impressions of the rosette stamp and centred by a gold dot.

Above and below the central medallion on the vertical axis is tooled a lozenge-shaped configuration of four round epigraphical stamps with small flanking centred dots from which radiate flecks on the vertical and diagonal axes. The epigraphical stamps read:

Allāh ḥasbī
الله حسبي

God is sufficient for me

41. detail



41. *doublure*



42. lower cover

The triangular corners of the inner panel are demarcated by two rows of tripartite fillets and each contains a single impression of the circular epigraphical stamp with flanking small centred dots.

The perimeter of the inner field is delineated by a single fillet. Where this borders the corners, there are projecting loops centred by centred dots. From these and from the angles of the perimeter fillet project flecks, the latter based on centred dots. This cover seems to derive from the same workshop as 43 which is very similar.

Doublures (Upper & Lower Covers)

The upper and lower covers have doublures of the same block-pressed leather with a dense pattern with prominent large quadrilobe or four-petalled mo-

tifs. These bulbous lobes or petals are formed by opposing bifurcated leaves. Those in the vertical axis of these covers terminate in three-sepalled calices with plant infill. At the centre of these large flower motifs are interlaces of similar but smaller forms (also with three-sepalled calices at their points) flanked by small five-petalled florets and acanthus leaf forms. Where the large petals in the horizontal axis of the covers overlap there is a lozenge-shaped knot. The spaces between the dominant motifs are filled with a dense growth of calyx, floral and foliate forms.

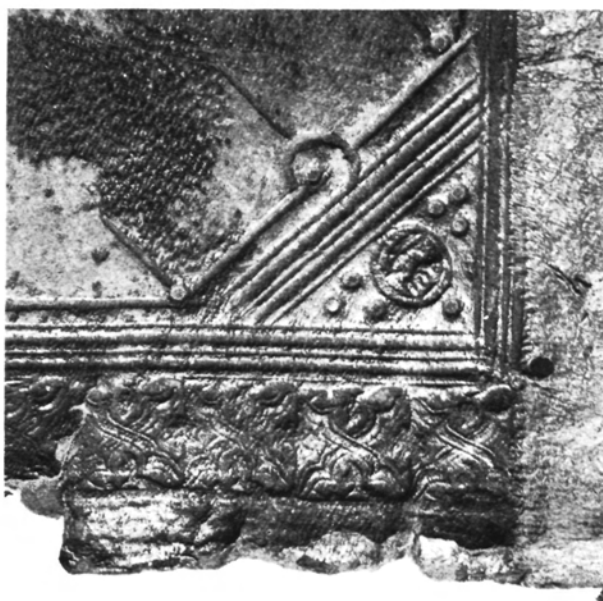
This cover is from the same workshop as Oriental Institute A12141, the upper cover of which has a similar doublure.

P. Adams, (March 1905); p. 168.

G. Bosch, (1952); pp. 132, 134-136, 153, 163; Pls. XXXIV & LIII.

D. Miner, (1957); p. 31.

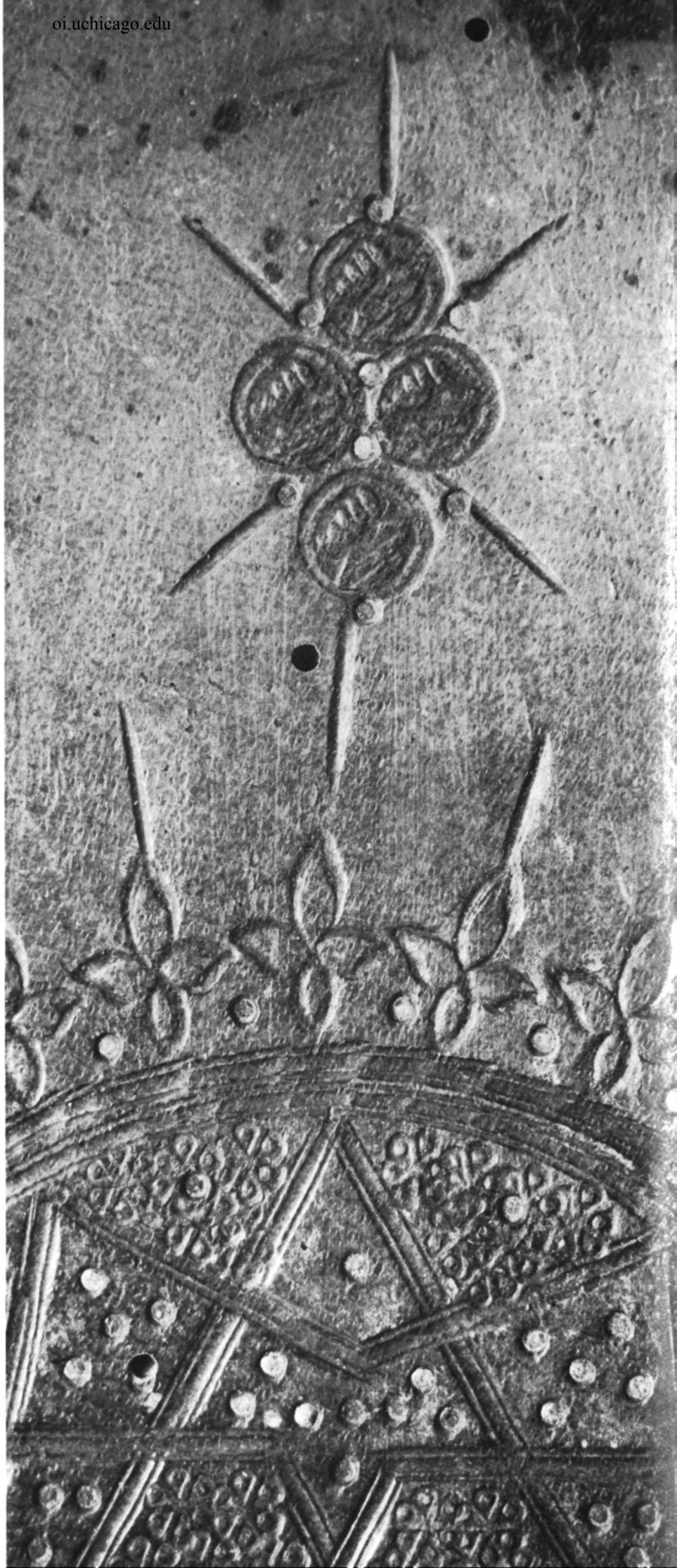
M. Weisweiler, (1962); Abb. 30, Handschrift 25, 1197 A.D., Deckeltyp 22; Abb. 38, Handschrift 20, Syrian, (shortly before 1099 A.D., binding more recent?), Deckeltyp 41; Abb. 32, Handschrift 357, 14th or 15th century A.D., Deckeltyp 25; p. 76f., calligraphy stamps Nos. 95, 96.

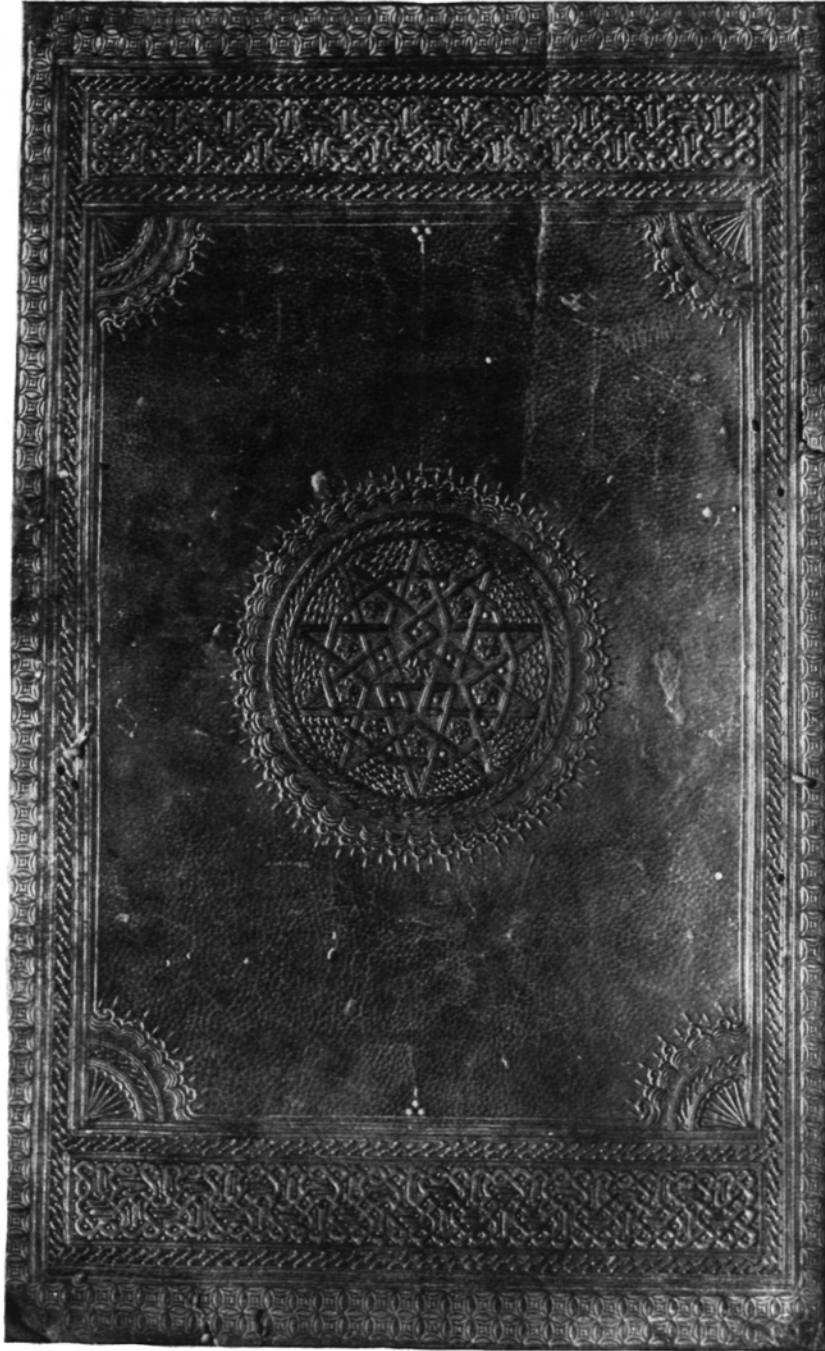


42. detail



42. detail





43. cover

- 43 A COVER of a bookbinding; exterior covering brown leather (goat); blind tooling.

246mm × 158mm

Chester Beatty Library Moritz Collection 9

Dr. B. Moritz

Turkey, 15th century A.D.

Only the exterior leather covering of this cover survives, the pasteboard and doublure having been removed. It has an outer border, defined by tripartite fillets, of a double row of impressions

of a square format two-axis stamp depicting dish-sided diamonds, centred by a point, whose juxtaposition creates ovals. A thin inner frame, also defined by tripartite fillets, has diagonal hatchings produced by double impressions of a short bar tool with a dot before and after each impression.

At head and tail within this inner frame, and enclosed by another row of the same tooling, are large panels defined by tripartite fillets and filled with a prominent knotwork formed by hatched bars, arcs, dots and short thin fillets.

At the centre of the rectangular inner panel is a scalloped roundel whose outline is imparted a very individual vibrancy by repeated small scallops with even smaller scallops and intervening dots and outer loops from which radiate short flecks. Within this multi-scalloped edge is a finely pecked band and then concentric rings of double fillets enclosing hatching like that of the inner frame. The central circle is occupied by a ten-pointed interlace of two five-pointed stars tied by a circular band. This interlace is formed of triple fillets. At its centre is a small pentagon with a five-armed, swastika-like core.

The compartments of the zone outside this are tooled with a single dot while the star points of the next zone are left untooled. The zone beyond, immediately within the perimeter of the tying "circle" has compartments stamped with single impressions of a five-petalled flower which has tiny dots between its leaves. The outer points of the star are left untooled and the spaces between them and the circumscribing fillet are filled with a scale-like pattern of small arcs and dots.

The corners are quadrants of circular medallions and contain at their centre seven petals of a twenty eight-petalled flower. This is contained by a hatched band like the inner frame and is edged by multiple layers of scalloping like the circumference of the inner roundel. A concave scallop connects the outer edges of the corners to a fillet which continues around the perimeter of the inner panel. Against this fillet on the vertical axis at head and tail are placed short flecks based in clusters of three centred dots.

- 44 A BOOKCOVER; brown leather (goat) over paper pasteboards; blind and gold tooling; doublures light brown leather (sheep).

265mm × 172mm

Oriental Institute A12115

Dr. B. Moritz

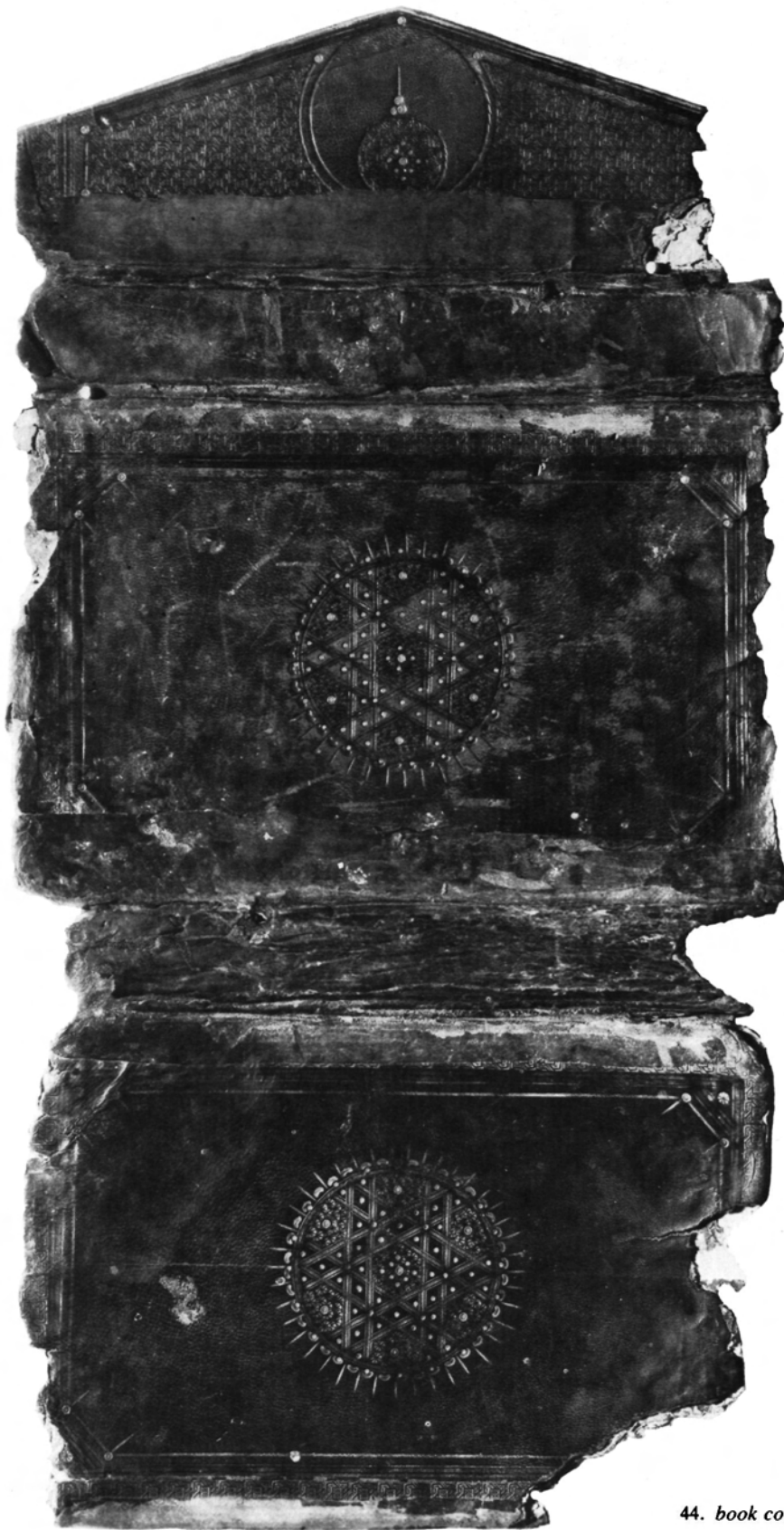
Egypt/Syria, 15th–early 16th century A.D.

Only the upper and lower covers and envelope flap of the original binding survive, the spine and fore-edge having been replaced by later crude repairs which obscure the outer parts of the decoration. Substantial areas of the edges of the covers are also missing.

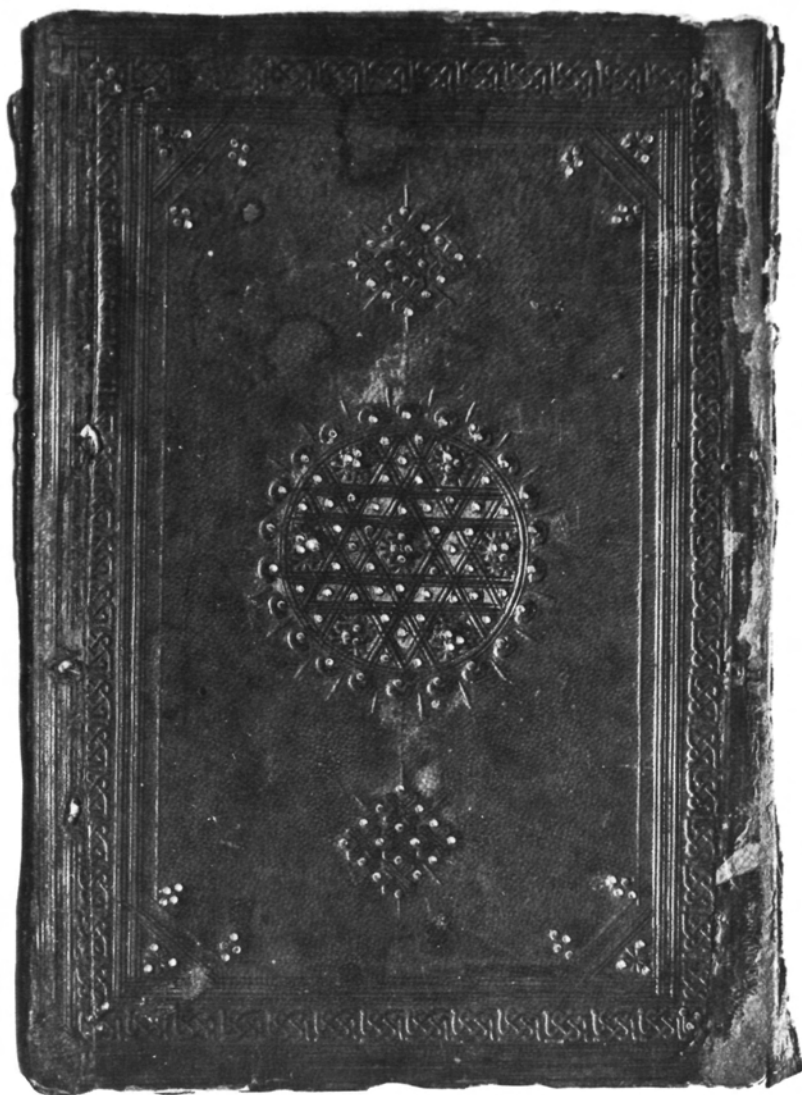
Upper and Lower Covers The upper and lower covers are similarly tooled. The outer edge of the border is now missing or obscured but the inner edge is defined by a tripartite fillet. The border has a running pattern of impressions of a square format two-axis tool. This tool has a square centre compartment, containing a small diamond intersected by diagonals, from which radiate four swastika-like arms with a hatched infill. The rectangular inner panel is defined by tripartite fillets and centred by a medallion. This is outlined by scallops formed by hatched arc tools alternating with radiating flecks. The roundel is defined by a tripartite fillet and is occupied by a six-pointed star formed of intersecting double rows of tripartite fillets forming compartments which are left untooled except for a central dot. The compartments at the centre of the star and flanking it are filled with six-petalled rosette stamps. The inner compartment has a large centred annular gold dot at its centre surrounded by a lozenge formation of smaller gold dots. The outer compartments are centred by single centered annular gold dots.

The simple triangular corners are underemphasized in scale and are demarcated by two rows of tripartite fillets. They contain a single impression of the six-petalled rosette stamp. The perimeter of the inner panel is delineated by a single fillet with flecks based on centre annular gold dots pointing inwards from its angles.

Envelope Flap A large part is missing at the tail of the envelope flap, and its border and part of the inner area along the fore-edge are obscured by the later leather repair. Only the border at the head of the flap is visible. It is tooled similarly to that of the corresponding



44. book cover



45. lower cover



44. detail

areas of the upper and lower covers. The pointed edge of the flap is marked by multiple fillets. At the centre is a large roundel outlined by single fillets in a radiance formation. Within the roundel, and eccentrically placed on its horizontal axis towards the fore-edge, is a smaller roundel with a similar outline filled with impressions of the border stamp with a central centred gold annular dot surrounded by a lozenge grouping of smaller gold dots. At the perimeter of this small roundel and at the centre of the larger one is a triangular group of three of the large centred annular gold dots with a fleck at their apex.

The panels which flank the roundel are defined by single fillets with parallel curved sides adjacent to the roundel. This leaves an untooled band of leather outlining both the roundel and the

flanking panels. The corners of the latter are marked by a annular centred gold dot. They are filled with rows of the border stamp exploiting its two-axis repeat quality.

- 45 THE LOWER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; double block-pressed leather (sheep).

184mm × 130mm

Oriental Institute A12149

Dr. B. Moritz

Egypt/Syria, 15th–16th century A.D.

Lower Cover Multiple fillets define a running frame of impressions of a rectangular format stamp depicting interlinking knots.

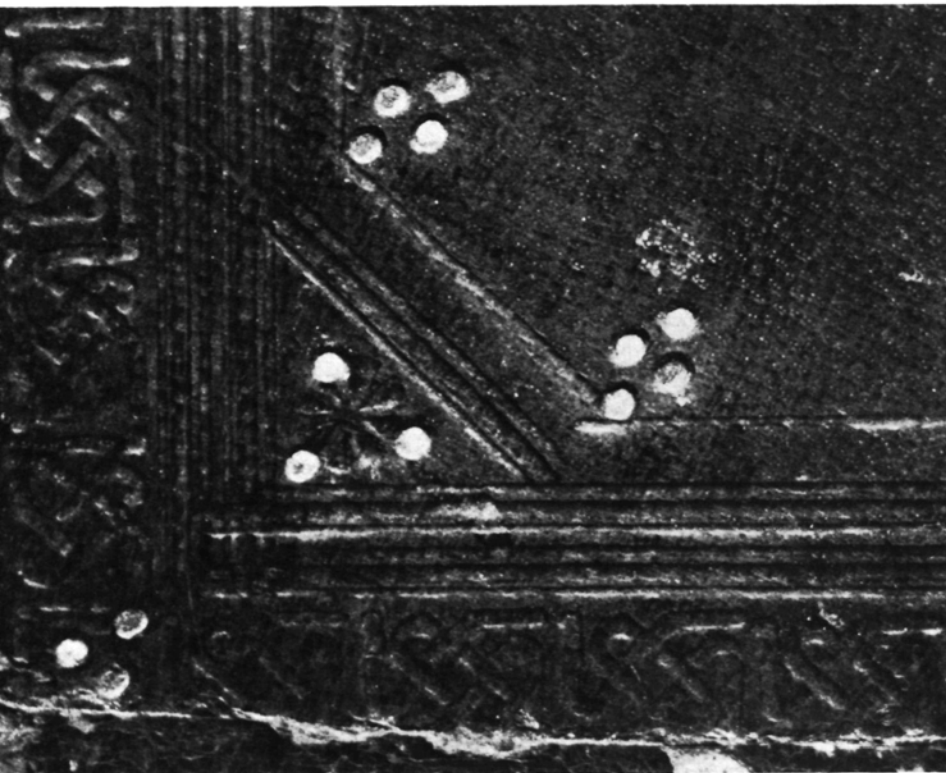
The inner panel has a central roundel defined by a tripartite fillet and garlanded by scallops formed by hatched arcs centred with a gold dot. These have intervening radiating flecks. The field of the roundel is occupied by a six-pointed star whose defining fillets extend to the periphery. The compartmented arms of the star are tooled except for single central gold dots. The other larger compartments are filled with eight-lobed rosettes and groups of three gold dots.

On the spine fore-edge axis are lozenges formed by five hatched X-shaped stamps with interstitial gold dots and radiating flecks.

The simple triangular corners are demarcated by tripartite fillets and each contains a single, tooled eight-lobed rosette flanked by three gold dots.

The outer confines of the inner panel are marked by a band of untooled leather defined by a fillet. Clusters of four gold dots are placed at each angle.

Doublure This doublure is from a rather coarsely cut block. Along the cover's horizontal axis are addorsed three-sepal calices with plant filling within a framing tulip shape formed by heavy vines and thick lobed leaves. The stem of each passes through straight bars and splits to form a slender centred lozenge. Each split stem then passes on into the upper sepal tips of addorsed large, bulbous three-sepal calices on the vertical axis. These bulbous calices are grouped in a cross disposition along two axes—one parallel to the vertical axis of the cover and the other parallel to



45. detail

the horizontal. They grow from the points of a four-petalled flower. These points form the stems of the mono-based bulbous calices. The petals of the central flower contain an arrow-shaped motif while the large calices have internal vines which pass through a bar. It would appear that this system of central four-petalled flowers, with large calices on its axes, forms the centre of the decorative module, though the original woodblock was larger than the double of this cover so that its impression cannot be seen in its entirety.

G. Bosch, (1952); pp. 132, 135, 144-145, 159, 163, 165; Pl. LIV.

- 46** THE LOWER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; doublure block-pressed leather (sheep); blind and gold tooling.

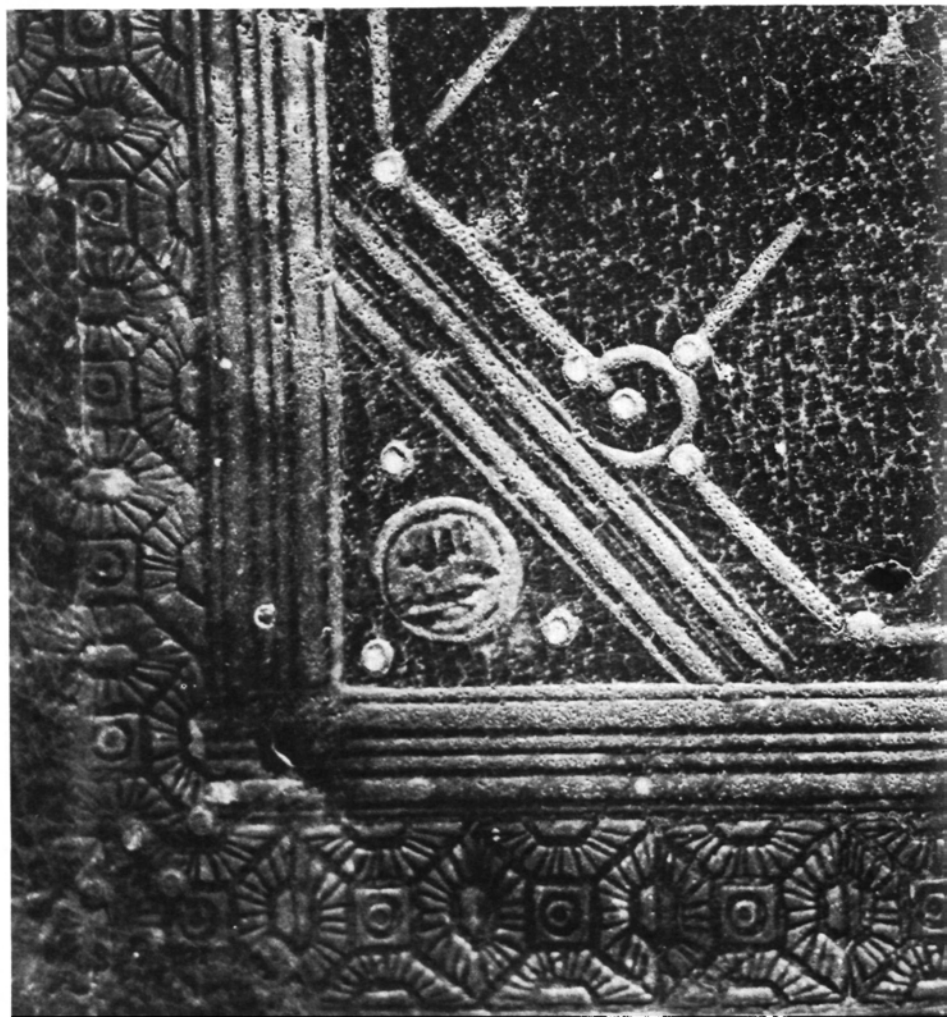
242mm × 162mm

Oriental Institute A12133

Dr. B. Moritz

Egypt/Syria/South Arabia, 15th century A.D.

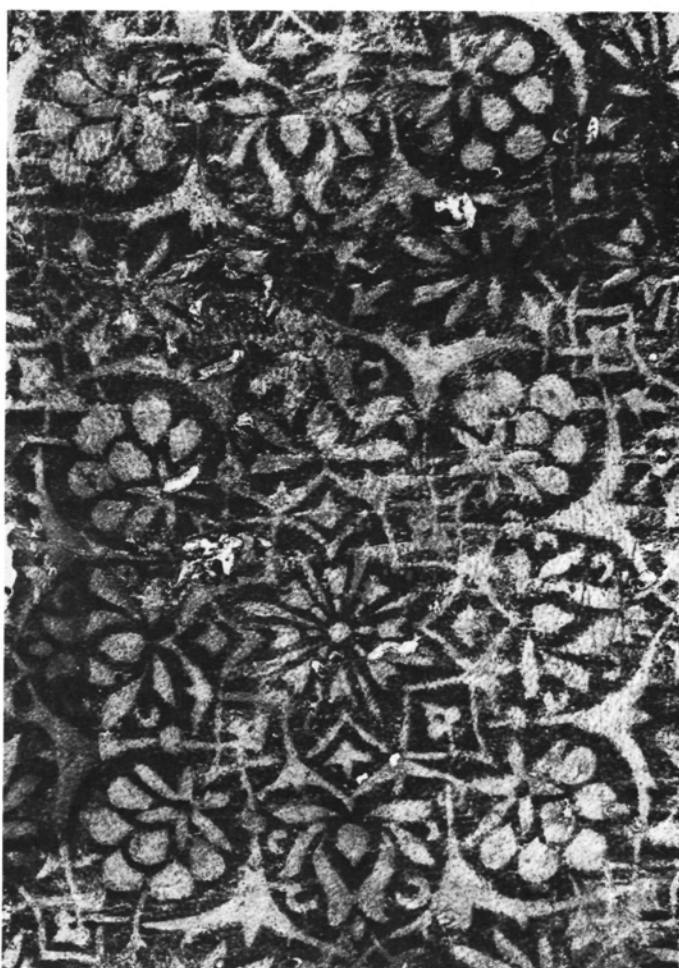
Lower Cover A very broad tripartite fillet edges a border with a running pattern of impressions of a square format two-axis stamp. This tool has a central square compartment, with hatched half hexagons on each side, enclosing a small centred circle.



46. detail



46. lower cover



At the centre of the inner panel is a roundel of irregular outline (i.e., not drawn with a compass). It is enclosed by an outer band, defined on the inside by a double fillet and on the outside by a single fillet with projecting loops on the horizontal and vertical axes. Each loop is centred by a dot and flanked by three others from which flecks project. The inner roundel is filled with a knotwork mesh with a prominent knotwork grid. Square configurations of gold dots are tooled in the centre, placed as though at the corners of an imaginary square. The knotwork is constructed of hatched bars, arcs and dots.

The triangular corners of the inner panel are demarcated by multiple fillets and contain single impressions of a round epigraphical stamp flanked by three dots. This bears the legend

Allāh ḥasbī

الله حسبي

God is sufficient for me

The perimeter of the inner field is delineated by a single fillet. At the middle of its corner sections are tooled projecting loops centred by dots and flanked by three dots from which issue flecks. At the adjacent angles of this boundary fillet are also tooled small dots with inward pointing fillets.

The tooling of this cover is very similar to that of Oriental Institute A12136 and seems to derive from the same workshop, although the latter's central roundel is smaller with a more simply tooled inner field. Their doublures are similar.

Doublure The block-pressed doublure has a floral pattern whose module is dominated by a large eight-lobed form whose outline is produced by the meeting of pointed trilobed leaves or three-sepal split calices. This quadrilobe is approximately square in proportions. At its centre is an eight-petalled star of cross shape with each arm of the cross having two points. It contains a chrysanthemum-like sixteen-petalled flower with alternating slender and short petals. The points of the central cross/star extend to produce four large lotuses filling the lobes in the vertical and horizontal axes. The corner, less prominent, lobes are occupied by peony-like flowers. The corners of the large octolobe motifs join intervening eight-petalled forms produced by the interlacing of two cross-shaped four-lobed forms

containing a central chrysanthemum-like flower. From the petals of the quadrilobe in the horizontal and vertical axes develop leafy plant sprays which fill the remaining spaces between the dominant octolobe motifs of the module.

G. Bosch, (1952); pp. 132, 135, 162; Pl. LI.

- 47 A COVER of a bookbinding; exterior covering brown leather (sheep); blind tooling, gold tooling.

253mm × 174mm

*Chester Beatty Library Moritz Collection 6
Dr. B. Moritz
South Arabia, 15th century A.D.*

Only the exterior leather of this cover survives, the pasteboard and doublure having been removed. It has a running border, defined by tripartite fillets, of blind impressions of a rectangular format single-axis stamp depicting a four-petalled flower within a quadrilobe scroll whose symmetrically opposed extensions in one axis terminate in bifurcated leaflets. These extensions produce opposing cordiform compartments, with the bifurcated leaves uniting to form a small trilobed calyx when the stamps are juxtaposed in a row.

At the centre of the inner panel is a motif, delineated by two interlacing three-lobed strapwork forms, which appears to rotate. The broad straps are defined by single fillets. The field within the interlace form is filled with hatched X-shapes and interstitial centred dots. The inner points of the strapwork are marked with single gold dots with a single larger centred annular dot placed at the centre. Blind flecks based on gold dots radiate from the spandrels of the outer perimeter of the central motif.

Above and below the central motif, on the vertical axis, are placed small lozenges formed of hatched X-shaped stamps with interstitial and flanking dots. Flecks radiate on the horizontal, vertical and diagonal axes.



47. cover

The triangular corners are demarcated by two rows of tripartite fillets and contain three impressions of a circular epigraphic stamp with associated centred gold dots. The stamps are illegible.

The perimeter of the inner field is delineated by a double fillet defining a band of untooled leather. In its angles are placed single impressions of a centred annular stamp. At the angles of the perimeter fillet are placed single impressions of a delicate stamp depicting a three-sepalled calyx from whose base issues an enfolding heart shape. From the upper sepal a fleck projects inwards.

- 48 THE LOWER COVER of a bookbinding; exterior covering brown leather over paper pasteboards; blind tooling, gold tooling; double block-pressed leather.

*Islamic Museum East Berlin I.847
Dr. B. Moritz
South Arabia, 15th century A.D.*

Lower Cover A broad burnished band edges a frame, defined by fillets, of impressions of a square format two-axis stamp with a square centre compartment, containing a small diamond intersected by diagonals, from which radiate four swastika-like arms with a hatched infill.

The rectangular inner field is defined by tripartite fillets and centred by a medallion of scalloped outline produced by three interlacing skein-like strapwork loops. At the core is a six-petalled flower, the surface of its petals being left untooled. Centred annular dots appear at its centre and in the middle of the outer edges of its petals. The compartments in the outer zone are filled with hatched X-shaped tools and blind dots. Those with star-like points adjacent to the central flower have a centred annular gold dot at their centre.

The triangular corners are demarcated by two rows of tripartite fillets and contain three impressions of a ringed six-lobed rosette with flanking small centred dots.

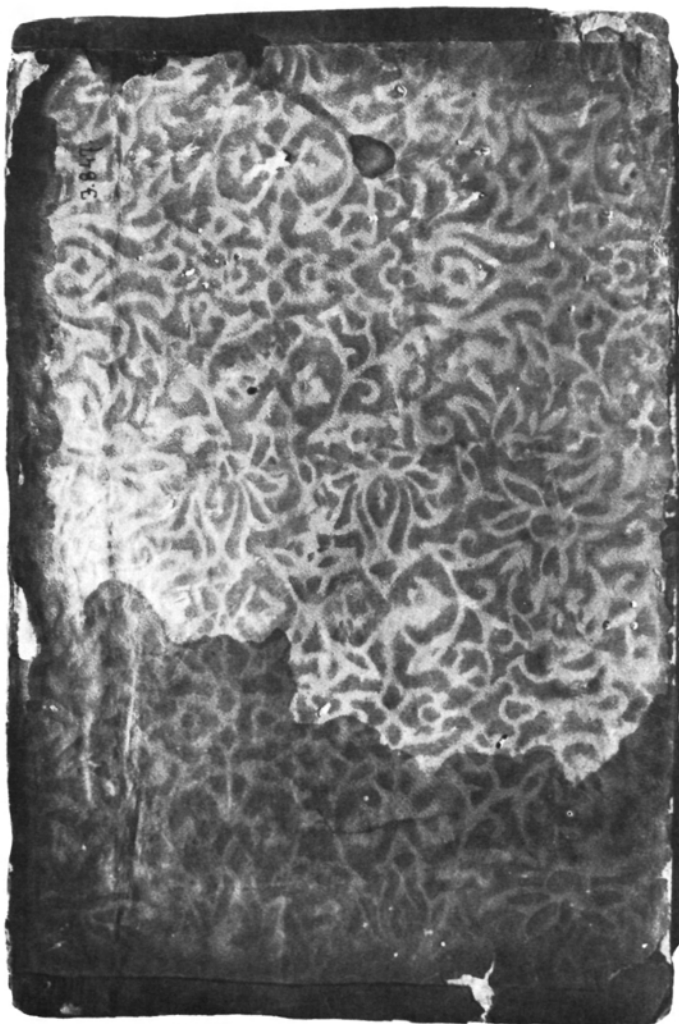
The perimeter of the inner panel is delineated by a double fillet leaving an untooled band. At the angles are placed single impressions of the larger centred annular dot from which point inwards impressions of a small three-sepalled calyx with receptacle. From the central sepals of these stamps project flecks.

Doublure In this block-pressed leather doublure large nature-inspired floral forms are set amongst leaves and vines. Lotuses and other flowers in both axes of the cover are connected by curling leafy vines.

Related patterns of lotuses and associated smaller flowers in a leafy bed are found in the doublures of 11 cover A and 70.



48. lower cover

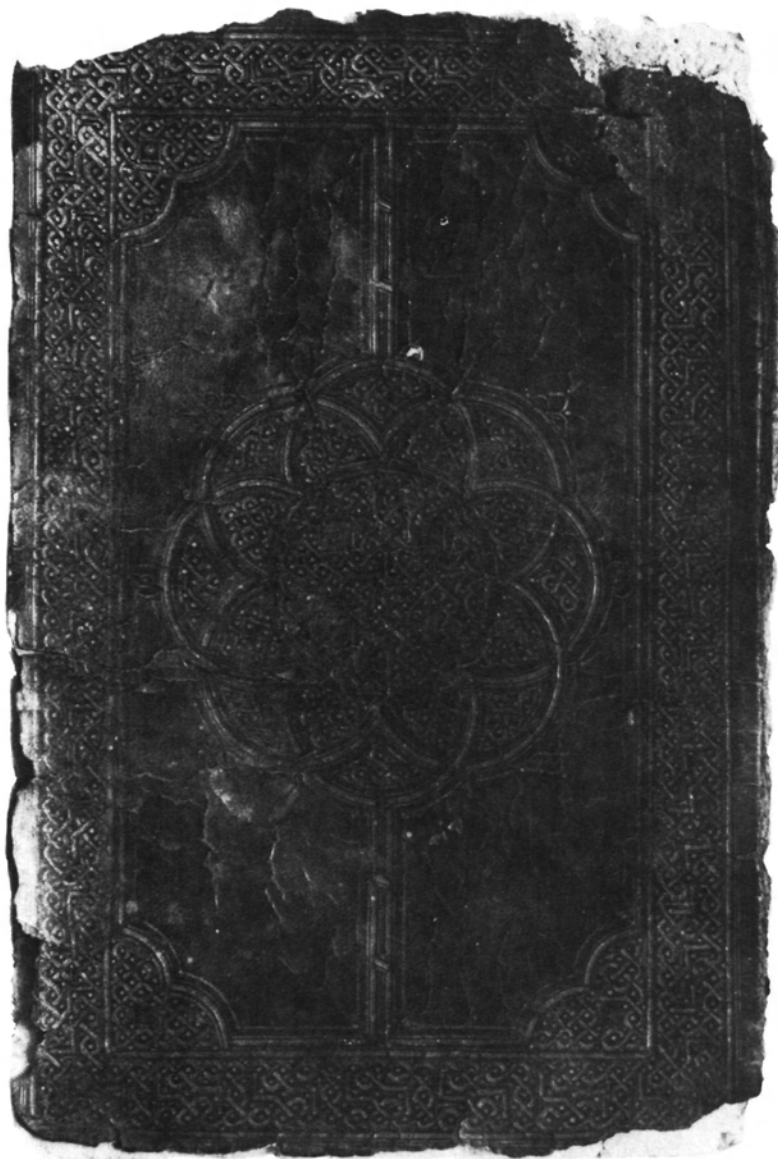


48. doublure

- 49 THE UPPER COVER of a bookbinding; exterior covering brown leather over paper pasteboards; blind tooling; doublures block-pressed leather.

*Islamic Museum East Berlin I.860
Dr. B. Moritz
Maghrib, 15th century A.D.*

Upper Cover It is edged by an untooled band. A frame, defined by triple fillets, is filled with elegant calligraphy-like knotwork of grooved bars, arcs and



49. cover

centred dots. The rectangular inner panel is dominated by a large medallion of overlapping arcs giving a deeply scalloped outline. These are constructed using a tripartite centre fillet edged by parallel single fillets. The compartments are filled with knotwork, that of the central roundel weaving round four small squares with dots at their centres. The inner panel surrounding the central medallion is divided in two on the vertical axis by fillets attaching it to the frame. The central fillets of this linkage are joined by two diagonals producing a thin meander pattern. Fillets continue around the perimeter of the two halves of the inner panel.

The corners are demarcated by two segments of a circle and contain knotwork centred round a small square with a centred annular dot.

Doublure This doublure is of block-pressed leather with a finely cut pattern of paired leafy spiral scrolls interweaving with central mandorla-shaped vine interlaces. At the centre of the mandorla is a three-sepal calyx. The vine leaves have elaborately curling tips or spirals at the base of their lobes. Tendril-like leaf tips and tying elements are prominent.

G. Bosch, (1952); pp. 131, 133, 144-145; Pl. XX.

- 50 THE UPPER AND LOWER COVERS of a book-binding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublures block-pressed leather (sheep).

*272mm × 184mm
Oriental Institute A12138 & A12139
Dr. B. Moritz
South Arabia, 15th century A.D.*

Upper and Lower Covers Both covers are similarly tooled. Multiple fillets edge a frame of impressions of an X-shaped stamp with interstitial gold dots. Three lines of thick single fillets define its inner edge. These fillets also bound the inner panel.

At the centre of the inner panel is a large motif with substantial tapered extensions in the vertical axis. It is based on an interlace of two skein-like forms in the diagonal axis with related form shaped like a peanut with pointed ends in the vertical axis. The outer curves

of this interlace are tooled with successive tangential strokes creating the illusion of shimmering radiance. A strip of untooled leather, defined on the outside with shimmering tooling in the sections adjacent to the interlace curves, outlines the central form.

The central compartment is outlined with an untooled band and has the shape of a hexagon with dished sides. It is filled with impressions of a six-petalled rosette with a central group of six gold dots around a middle one. The compartments of the six-lobed star enclosing the hexagon are tooled with gold dots. The outer compartments of the central motif are tooled as for the inner compartment but with clusters of three and four gold dots.

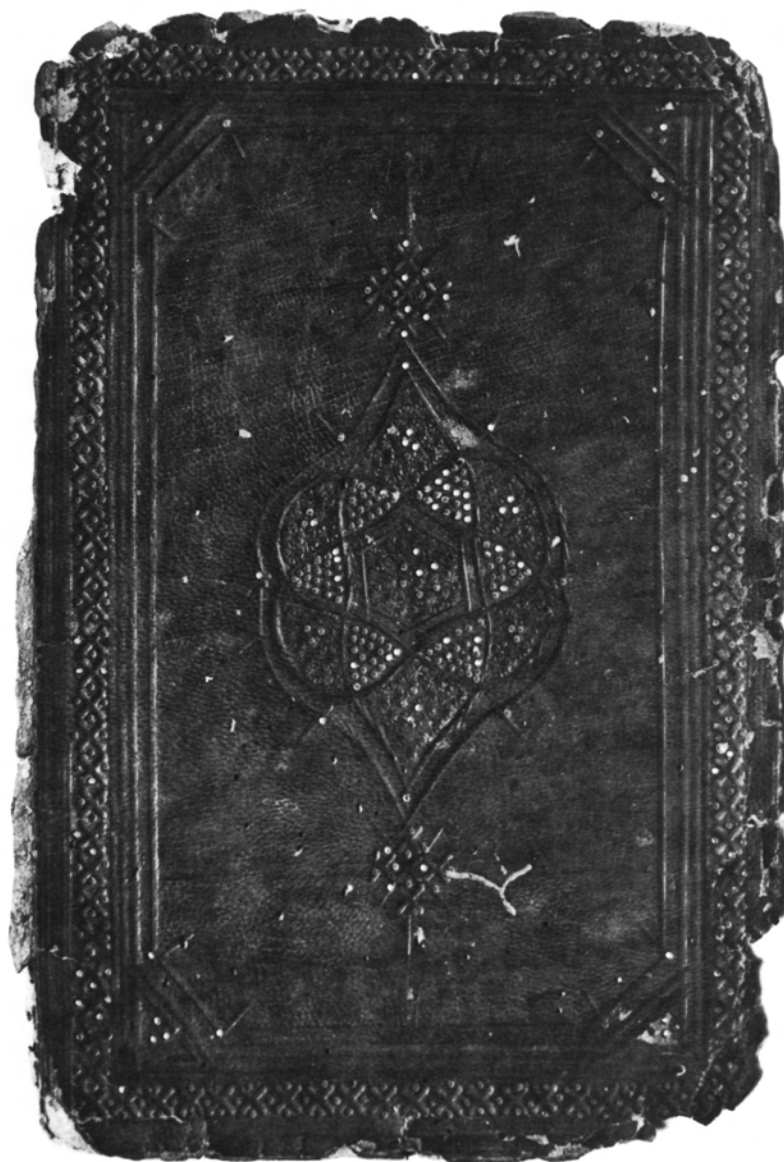
To the points in the vertical axis are appended lozenge-shaped configurations of X-shaped stamps with interstitial and flanking gold dots with flecks radiating in the horizontal, vertical and diagonal axes.

The triangular corners are demarcated by two of the thick single fillets and each contains a cluster of three gold dots. The perimeter of the field of the inner panel is delineated by a single thick fillet with flecks based in gold dots pointing inwards from its angles.

Doublures The doublures of both covers are of the same block-pressed pattern of large diamonds formed by the intersection of diagonal bands containing undulating vines with three-lobed leaves. Circles enclosing eight-petalled double rosettes mark the intersections. The diamond-shaped panels alternately are occupied by a simple cordiform motif enclosing a three-sepal calyx against a leafy bed, or by a motif of similar outline against a similar background but filled with seeds or segments suggesting a pineapple, a pine cone, or possibly a pomegranate. The doublures are similar to those of 9, 29 and 51.

G. Bosch, (1952); pp. 132-133, 160; Pls. XLVII & XVIII.

M. Weisweiler, (1962); Abb. 53, *Handschrift* 371, 1478 A.D., *Deckeltyp* 88.



50. lower cover

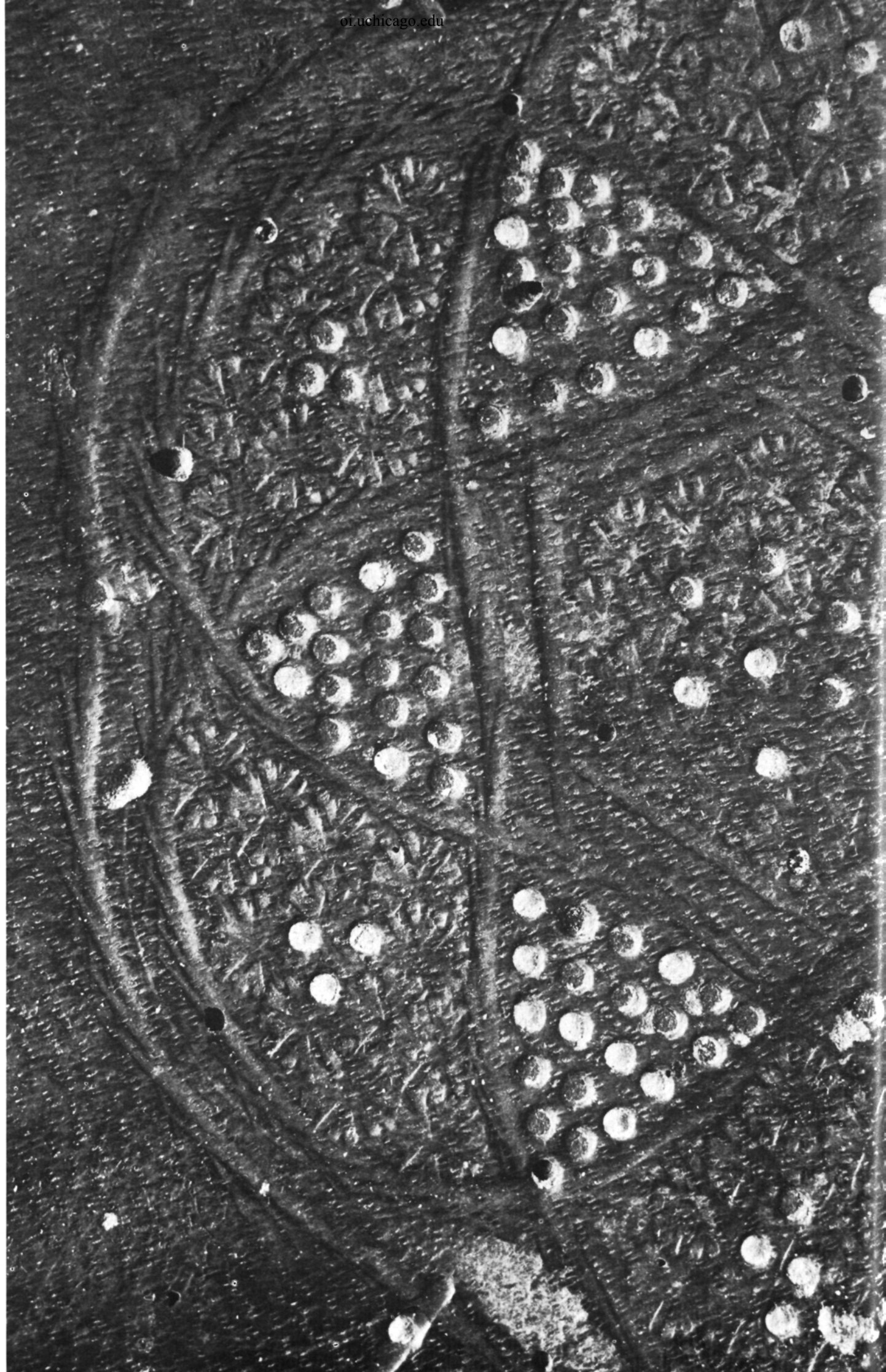
- 51 A BOOKCOVER; exterior covering light brown leather (goat) over paper pasteboards; blind and gold tooling; doublures block-pressed leather (sheep).

268mm × 174mm

Oriental Institute A12122

Dr. B. Moritz

Egypt/Syria, 15th century A.D.



The outer leather covering of this case retains all its component parts but is badly damaged, principally by insect attack. The pasteboards and lining materials are missing. The spine and fore-edge flaps are untooled.

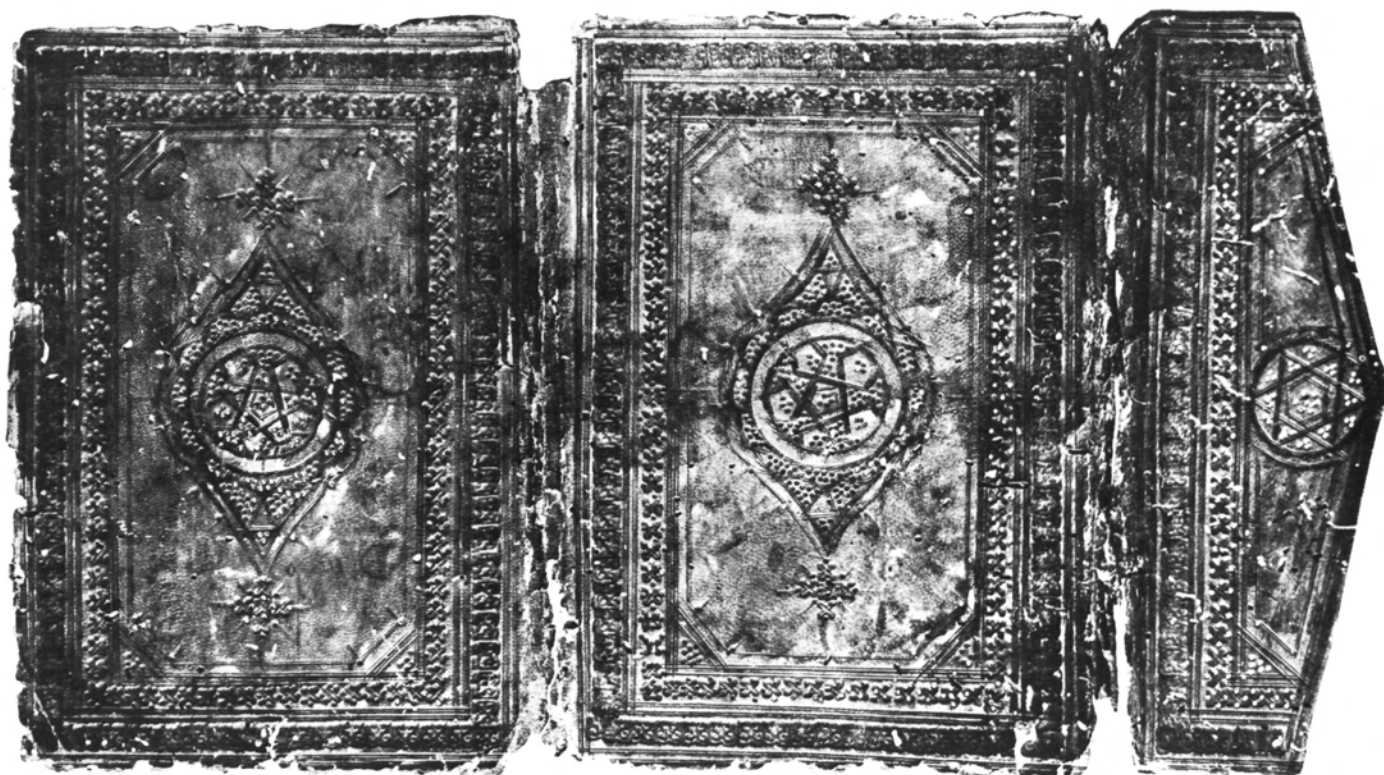
Upper and Lower Covers The upper and lower covers are similarly tooled. An outer frame is defined by two rows of tripartite fillets which intersect at the corners. It is composed of impressions of a square format single-axis stamp. This tool is quite crudely engraved. It should create a running pattern of alternately inverted three-sepalled calices. However, the realisation of this running pattern depends on placing the stamps immediately next to one another and in this case they are slightly separated to its detriment.

The inner frame, defined on its inner edge by two rows of tripartite fillets, has a pattern of somewhat erratically placed X-shaped stamps with gold interstitial dots.

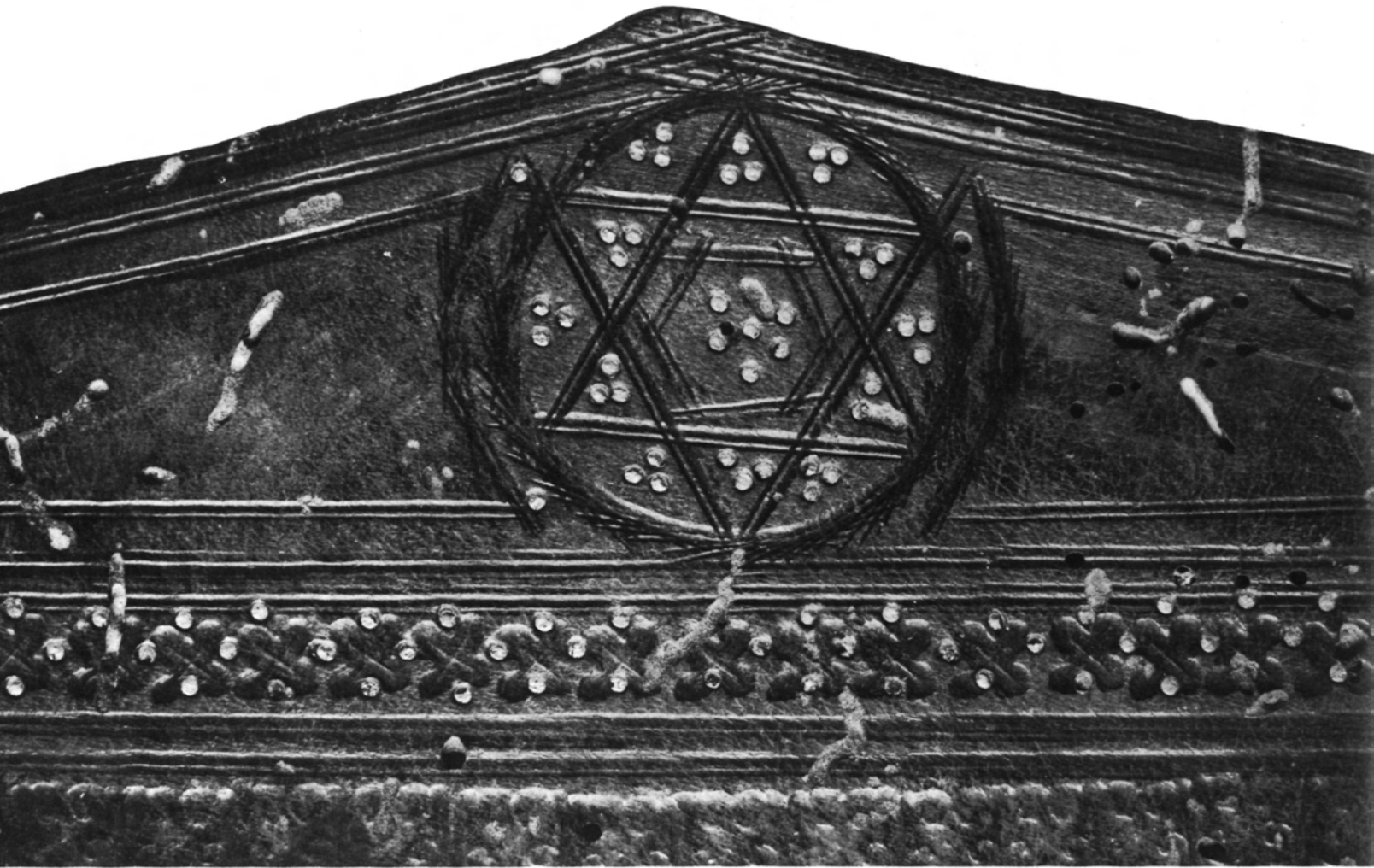
The inner panel is dominated by a large central mandorla-like motif with

substantial tapered extensions in the vertical axis. The principal curvilinear elements of this design are formed of bands of untooled leather outlined by successive tangential strokes creating an illusion of shimmering radiance. At points on the outline are radiating flecks based in gold dots. The middle part of the motif is a roundel surrounded by shallow scallops. The points extending from this form in the vertical axis terminate in pendant lozenges of X-shaped stamps with interstitial gold dots. Each point contains a small triangle of untooled leather. The flanking compartments and those of the scallops are filled with gold dots. The inner roundel is outlined with a broad band, as described above, and contains a pentagram formed by triple fillets. The centre compartment of the pentagram is outlined by an additional row of triple fillets. The compartments forming the arms of the pentagram are tooled with loosely placed groups of four or five gold dots and the surrounding compartments are filled with such dots.

The simple triangular corners are de-



51. book cover



51. *envelope flap*

marked by two rows of multiple fillets and contain gold dots. The outer perimeter of the inner panel is delineated by a double fillet with flecks based on gold dots pointing inwards from its angles.

Spine The spine is untooled.

Envelope Flap The frames of the envelope flap at head, tail and fore-edge and the corners and defining lines of the inner panel are tooled similarly to the corresponding areas of the upper and lower covers. At the point of the flap is tooled a roundel outlined with tangential fillets in the manner of the central motifs of the upper and lower covers. The roundel contains a six-pointed star formed by double fillets with an inner hexagon at its centre outlined in the same way. At its core is a circular group of five gold dots around a centre one. The compartments of the points of the star and those outside it are tooled with clusters of three gold dots.

The adjacent panels flanking the roundel are defined by double fillets

with gold dots placed at the angles towards the head and tail of the flap.

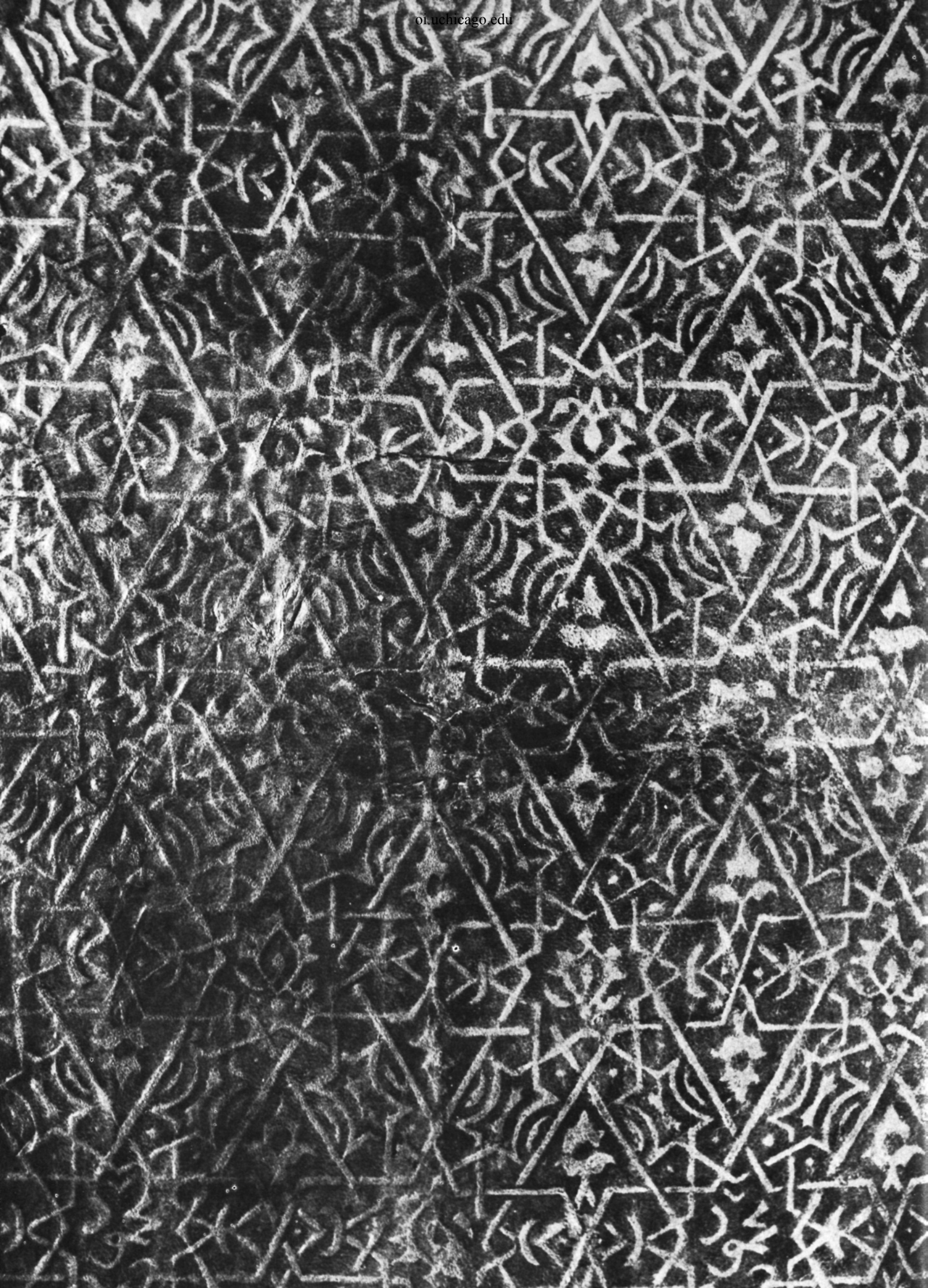
Doublure (Envelope Flap) Only the block-pressed doublure of the envelope flap survives. These have a bold pattern of large diamonds formed by the intersection of diagonal bands containing undulating vines with three-lobed leaves. Circles enclosing eight-petalled double rosettes mark the intersections. The diamond-shaped panels alternately are occupied by a simple cordiform motif enclosing a three-sepalled calyx against a leafy bed, and by a motif of similar outline and background but filled with seeds or segments suggesting a pineapple, a pine cone, or possibly a pomegranate. Only a small part of the design can be seen in this example. It is closely related to those of 9, 29, and 50.

G. Bosch, (1952); pp. 132–133, 134, 136, 144, 160, 161; Pls. XLVII & XVIII.

M. Weisweiler, (1962); Abb. 53, Handschrift 371, 1478 A.D., Deckeltyp 88, Klappentyp 10.



51. envelope flap doublure and spine



52 A COVER of a bookbinding; exterior covering brown leather (goat).

Chester Beatty Library Moritz Collection 20 Egypt/Syria, 14th century A.D.

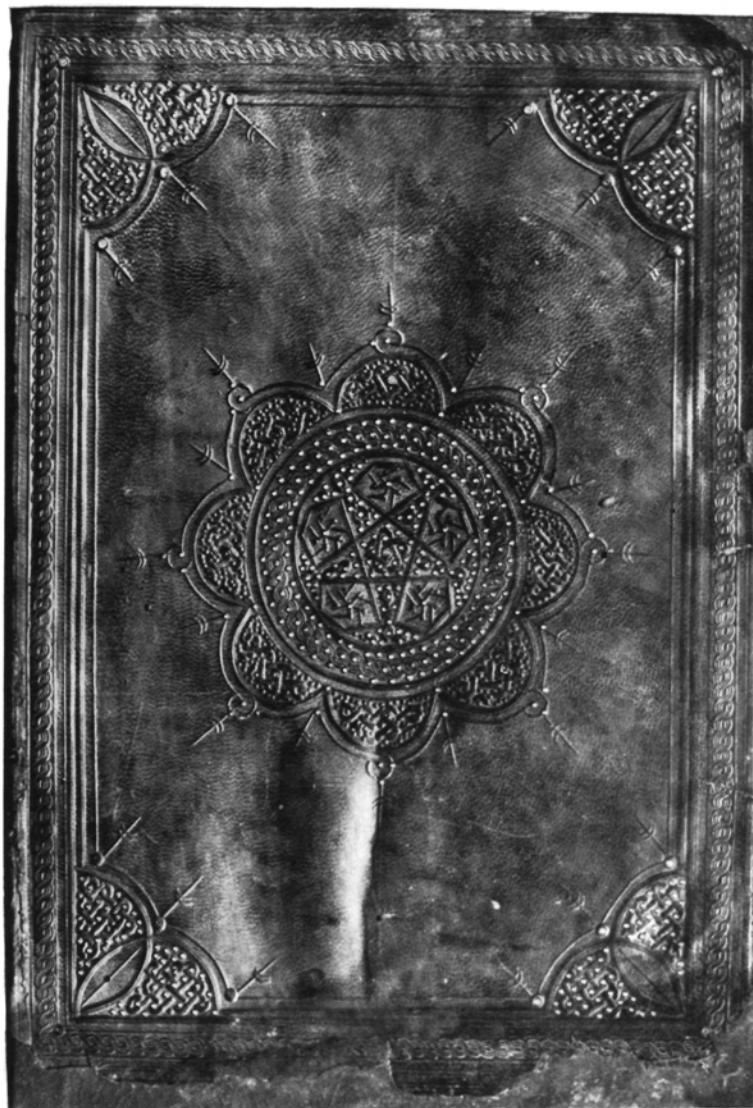
Only the exterior leather of this cover survives, the pasteboards and doublure having been removed. The cover is edged by two rows of tripartite fillets. A thin outer border of interlocking hatched reverse S-shaped stamps is defined by single fillets. At each corner of its inner defining fillet is placed a centred annular gold dot.

The rectangular inner panel is defined by a double fillet. At the centre of the panel is a medallion with a looped scallop outline. The loops are centred by dots. From the outer edges of the loops and the spandrels of the scallops radiate flecks with cross crescents. The scallops are filled with knots of hatched bars, arcs and small dots around a centred annular gold dot. The roundel has an outer ring, defined by fillets, filled with a guilloche pattern similar to that of the border but here it has interstitial gold dots. The circular central field is occupied by a pentagram with a centre pentagon around which are five pentagonal compartments. The inner pentagon is filled with a whirling five-lobed star of hatched arcs and small gold dots around a centred annular gold dot. The outer pentagonal compartments are tooled with five-armed swastika-like forms. The perimeter compartments are filled with gold dots.

The corners of the inner panel are delineated by two intersecting semi-circular double fillets, creating a corner ovoid left untooled except for a single median fillet. The two flanking compartments are filled with knotwork with interstitial gold dots.

The perimeter of the inner panel is delineated by a single fillet leaving an untooled band. At its angles are placed single centred annular gold dots from which cross-crescented flecks point inwards.

Although the doublure of this cover has been removed, that of a closely related binding Chester Beatty Library



52. cover

MS 1465 has survived. This is of particular interest in that included in the block-pressed pattern is the name Maḥmūd.

*K. B. Gardner, (1963); p. 137, Fig. 4.
D. James, (1980); pp. 47–49; Pls. 31–33.
B. van Regemorter, (1961); pp. 9, 14; Pl. 15.
M. Weisweiler, (1962); Abb. 44, Handschrift 9, Cairo 1394 A.D., Deckeltyp 64; Abb. 40, Handschrift 254, Täbris 1341, Deckeltyp 54; Abb. 41, Handschrift 284, Aleppo 1403, Deckeltyp 56.*

- 53 THE ENVELOPE FLAP of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublures block-pressed leather (sheep).

Height 385mm

Oriental Institute A12154

Dr. B. Moritz

Egypt/Syria, 14th–15th century A.D.

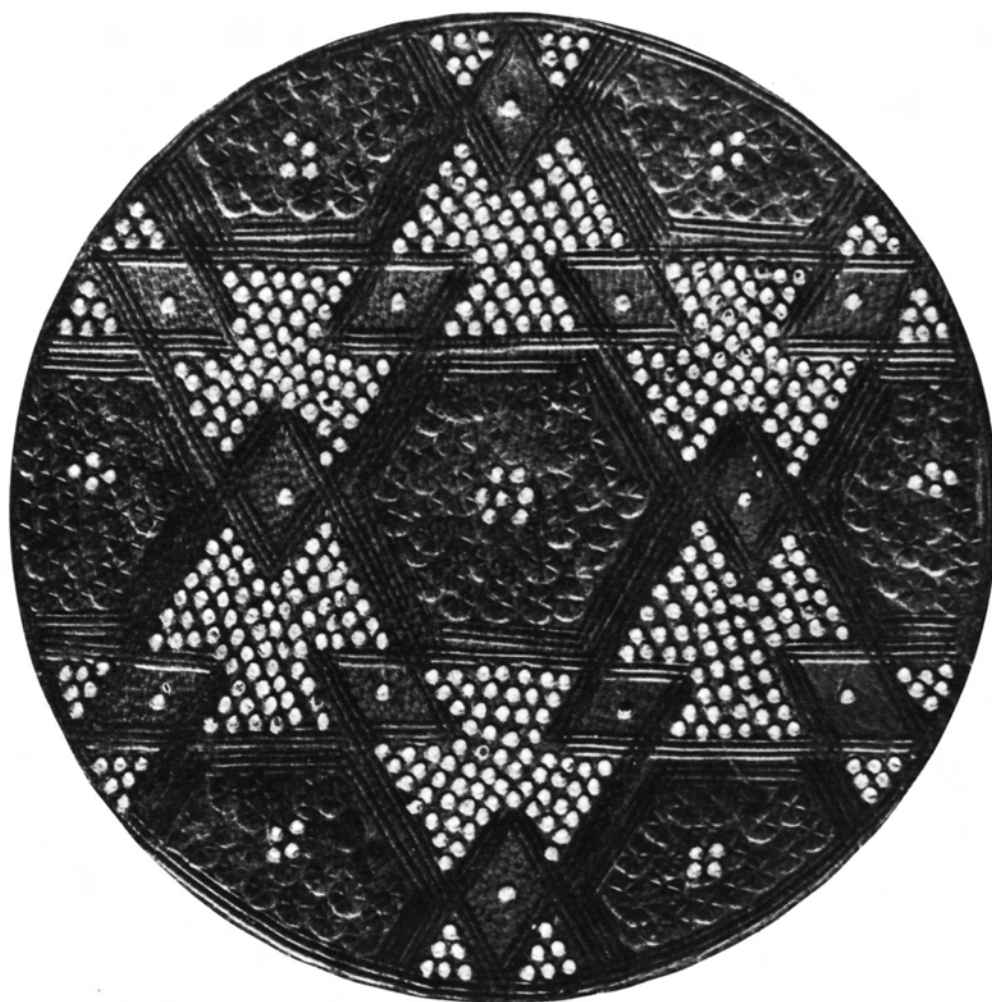
COLOUR PLATE J

Envelope Flap The inner and outer frames are defined by multiple fillets. The outer frame has a running pattern of impressions of a square format single-axis stamp forming alternately inverted cordiform scrolls issuing from, and enfolding, small three-sepal calices. The continuous pattern intended with this stamp design is not realised as the individual impressions are not perfectly contiguous.

The inner frame is composed of a running pattern of impressions of an X-shaped stamp with gold dots placed between them.

The point of the flap is occupied by a large roundel defined by a double fillet. Its inner field has a splendid six-pointed star which is a section of a pattern of infinite extension based on hexagons and overlapping equilateral triangles. These elements are outlined by double fillets. The central hexagon and the sections of hexagons are filled with impressions of a six-petalled rosette stamp. The inner hexagon is centred by a cluster of six small gold dots around a central one and the part hexagon compartments are centred by clusters of three gold dots. The small rhombs formed by the overlapping of the triangular elements of the pattern are untooled except for a central gold dot. The remaining areas of the triangles are filled with a mass of gold dots.

The corners of the panels flanking the roundel are demarcated by double fillets of sickle shape forming three compartments. The corner compartment has an additional outlining double fillet



53. detail



53. envelope flap



53. detail

and is filled with gold dots. Those on either side are untooled but for a central lozenge-shaped cluster of four gold dots. The perimeter of these panels is delineated by a single fillet which leaves a continuous band of untooled leather enclosing both the roundel and its adjacent panels.

Doublure The doublure has a block-pressed pattern of an overall geometric interlace, of rather imprecise construction, of extended hexagons and pentagons. The compartments formed by the overlapping of these basic forms are centred by a dot.

G. Bosch, (1952); pp. 130, 132, 134, 136, 147; Pls. XXIII & XXVI.

J. Michelet, (1932); pp. 14, 15.

D. Miner, (1957); p. 30, No. 65.

54 A BOOKCOVER; exterior covering brown leather over paper pasteboards; upper cover blind tooling, gold tooling, gold paint; lower cover blind tooling, gold tooling; envelope flap blind tooling, gold paint.

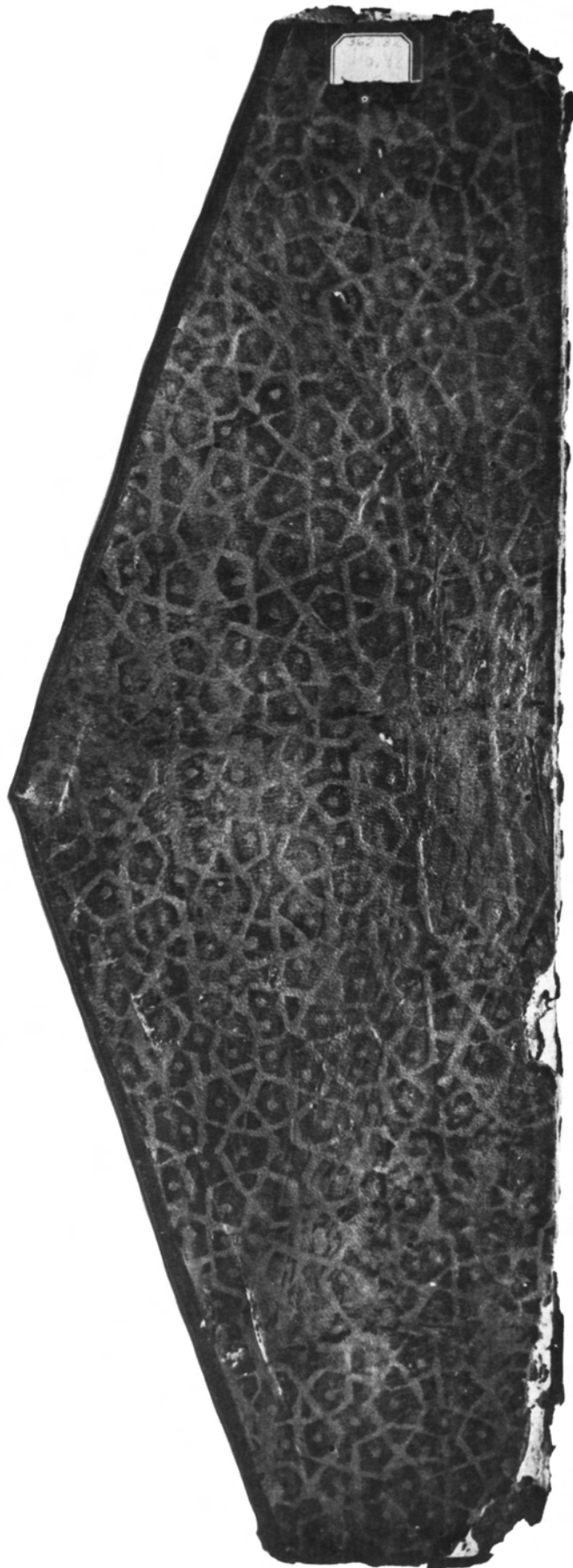
Islamic Museum East Berlin I.853

Dr. B. Moritz

This case is a later assemblage of three cover fragments from different books.

Lower Cover This cover seems to be from the same workshop as that of the upper cover of Islamic Museum East Berlin I.855 which has similar tooling (this is also part of a later Islamic book-cover made from parts of dismembered covers).

The original frame is obscured by the

53. *doublure*

leather of the later casing which has a simple border tooling of fillets. The inner panel is centred by a scalloped medallion with a double outline of which the outer scalloped curves are shallower. From their spandrels radiate flecks based in gold dots. The scalloped compartments are filled with arcs and dots. The central roundel is ringed by a band defined by fillets and its inner field occupied by a hexagram based on a central six-pointed star. This star and the compartments on the periphery of the hexagram are filled with gold dots. The star has an additional emphasizing fillet outline. The arms of the hexagram are filled with arcs and centred by clusters of four gold dots.

On the vertical axis above and below the central medallion are lozenges formed by hatched X-shaped stamps with interstitial gold dots and radiating flecks. The simple triangular corners are demarcated by two rows of multiple fillets and each contain a cluster of three gold dots. A single blind fillet with flecks based on gold dots at its angles marks the perimeter of the inner panel, leaving an untooled band.

Upper Cover and Envelope Flap The upper cover and envelope flap are described as Catalogue No. 69.

- 55 A BOOKCOVER; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublures green block-pressed leather (sheep).

238 × 172mm

Oriental Institute A12108

Dr. B. Moritz

Egypt/Syria, 14th–15th century A.D.

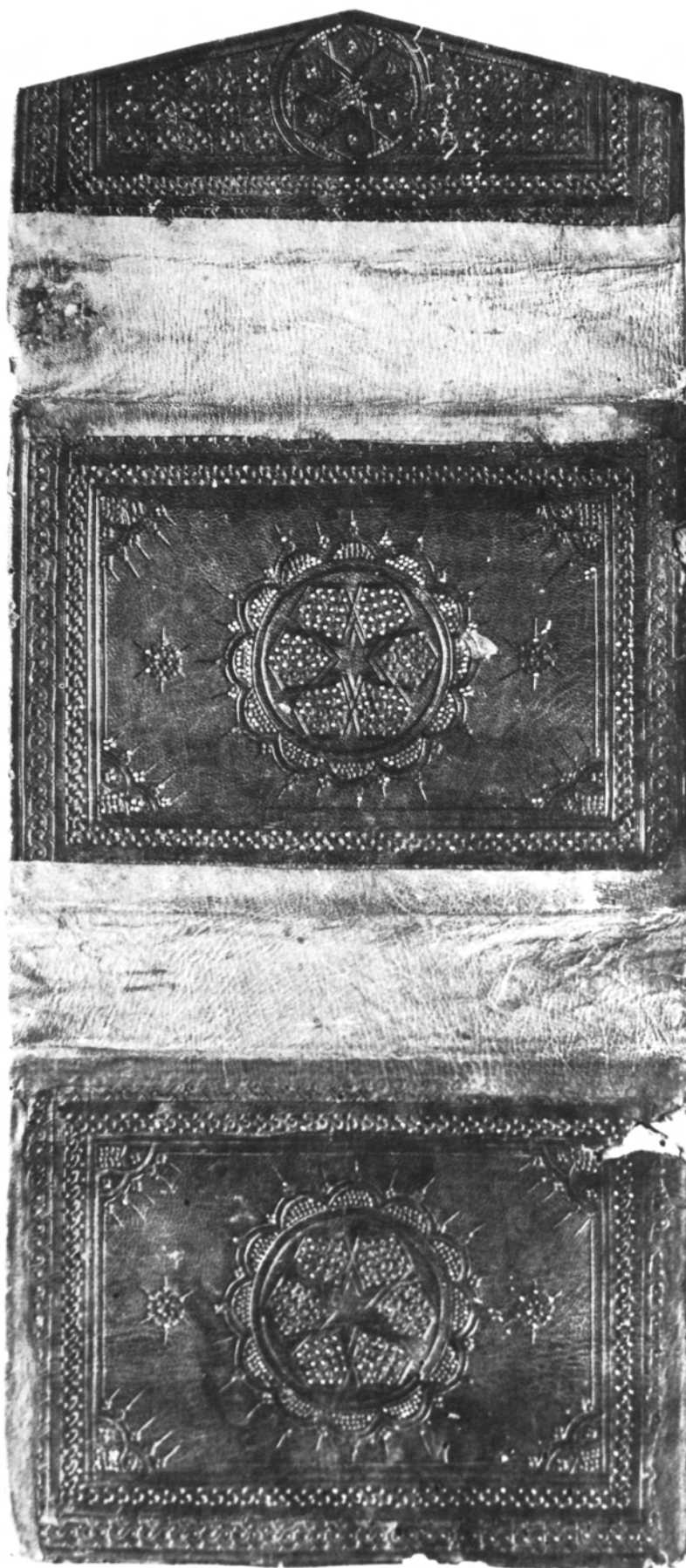
The upper cover, lower cover and envelope flaps have been joined at a later date by crude repairs which obscure some of the detail of their ornament.

Upper and Lower Covers Both the upper and lower covers are similarly decorated, both in their decorative schema and in the tooling of the individual stamps. An inner and an outer frame are defined by double rows of tripartite fillets. The outer frame has a running pattern of blind impressions of a rectangular format single-axis tool depicting a complex hatched braidwork with interstitial gold dots. The inner frame has a guilloche pattern of interlocking reverse S-shaped stamps with interstitial gold dots.

A thin band of untooled leather within the inner frame, defined by fillets, outlines the inner rectangular panel. This is dominated by a large central medallion whose twelve-scalloped outline is defined by fillets. At the apices of these scallops small six-lobed rosettes are placed with flecks based on a gold dot radiating from each. The scallops are filled with gold dots and at their spandrels a cluster of four gold dots is tooled with a radiating fleck. These scallops outline a roundel defined on the outside by a single fillet and on the inside by a tripartite fillet. Within this circular band is a hexagram interlace formed by tripartite fillets enclosing a six-pointed star. This star has a double outline of tripartite fillets but an untooled centre. The compartments of the hexagram are filled with hatched arcs with interstitial gold dots.

On the vertical axis, above and below the central medallion, are placed roughly circular complexes of six-lobed rosettes with gold interstitial and bordering dots with radiating flecks.

The corners are demarcated by a double outline of intersecting sickle-shaped fillets creating three small compartments. The corner one is filled with gold dots and the others with a combination of gold dots and the six-lobed rosette. The outer curvilinear line de-



55. book cover

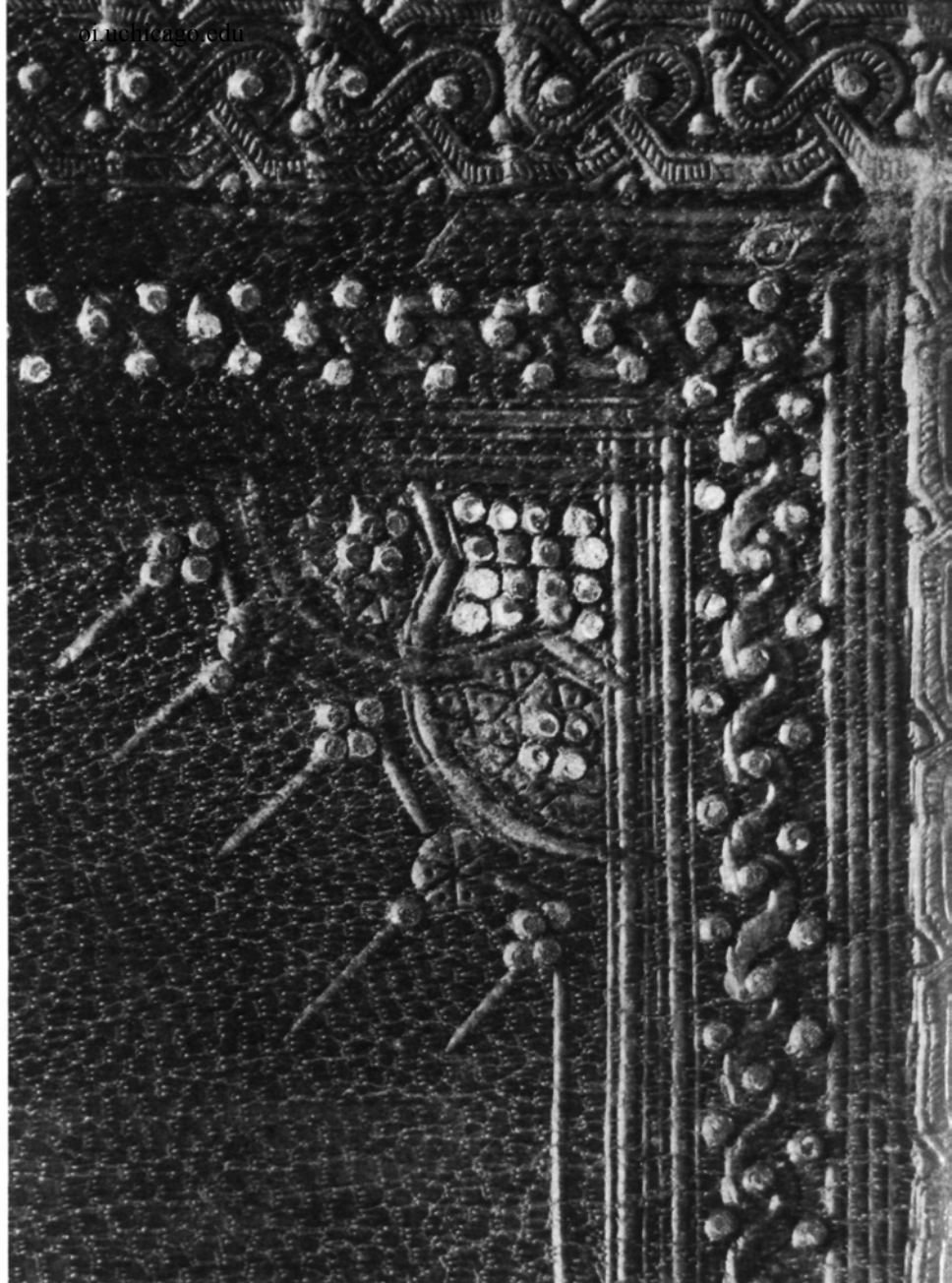
marking the corners continues around the outer confines of the inner panel forming an untooled band. At its corners, clusters of four gold dots with a radiating fleck are placed, alternating with a six-lobed rosette from which radiates a fleck based in a gold dot.

Envelope Flap The envelope flap has inner and outer frames at head, tail and spine tooled in the same way as the corresponding areas of the upper and lower covers. The focal point of the envelope flap is a roundel, of smaller radius than those in the centre of the upper and lower covers, enclosing a hexagram interlace of similar construction. Its centre six-pointed star and flanking compartments are filled with gold dots, and the hexagram compartments with six-lobed rosettes with central clusters of four gold dots. The fields adjacent to the roundel are outlined as for the inner main panel of the upper and lower covers, with the fillets tooled in such a way as to emphasize the layout of the flap by leaving a band of untooled leather which continues to include the periphery of the roundel. These fields are filled with the same braidwork stamp and interstitial gold dots as the outer frames of the upper and lower covers.

Doublure The doublures are of block-pressed leather with a dense bisymmetrical arabesque pattern. Its module is based on an eight-pointed star around which an eight-pointed star interlace develops into a larger eight-petalled flower with alternating extensions of unfolding inner petals. This lies as against a bed of leafy twisted vine scrolls. The plant forms alternating with the points of the main flower are based on calices formed by two addorsed split calices with indentations along their outer edges. These contain vine and leaf plant fillings that continue to terminate in interlacing leaves.

G. Bosch, (1952); pp. 132, 135, 144, 167; Pl. LXIV.

M. Weisweiler, (1962); Abb. 41, Handschrift 284, Aleppo, 1403 A.D., Deckeltyp 56.



55. detail

- 56 THE LOWER COVER, FORE-EDGE FLAP AND ENVELOPE FLAP of a bookbinding; exterior covering light brown leather (goat) over paper pasteboards; blind tooling and gold inlays; doublure light brown leather (goat); blind tooling.

248mm × 158mm

Oriental Institute A12129

Dr. B. Moritz

Egypt/Syria, late 14th–15th century A.D.

This binding fragment has coarse leather patch repairs at head and tail of the fore-edge flap area and at the tail of the lower cover.

Lower Cover The lower cover is edged by multiple fillets bordering a frame of a guilloche pattern formed by interlocking reverse S-shaped stamps. The inner edge of this frame is defined by

multiple fillets which also outline the inner panel.

At the centre of the inner panel is a large medallion. It has a looped scalloped double outline with flecks radiating from the loops and spandrels of the scallops. On the vertical axis the outline forms ogival points which develop into two-tiered three-sepal calices. The scallop compartments are filled with hatched arcs and dots. The centre roundel is ringed by a thin band within which is a tripartite fillet in a radiance formation. The inner field of the roundel is occupied by a six-pointed star overlapping a hexagram. The points of the latter touch the inner circumference of the roundel. These forms are defined by tripartite fillets. The centre compartment and the outer compartments of the hexagram are tooled with quadruple ovoids formed of hatched arcs with interstitial and flanking dots. The points of the small inner star formed towards the centre of the hexagram and those of the larger star are left untooled and

the spaces between them dotted. The compartments along the periphery of the hexagram are tooled with ovoids and dots.

Fore-edge Flap Large areas of the fore-edge flap at head and tail are obscured by leather repairs. It appears that the flap is divided into four rectangular panels defined by multiple fillets with a horizontal row of guilloche tooling using interlocking reverse S-shaped stamps. At the centre of each panel is a lozenge-shaped knot of hatched bars, arcs and dots with flecks projecting along the horizontal and vertical axes. The corners are tooled with a triangular disposition of three hatched bars with interstitial dots.

Envelope Flap The borders of the envelope flap at head, tail and fore-edge, and the corners and defining lines of its inner panel, are tooled similarly to the corresponding areas of the lower cover. At the point of the flap is a small looped scalloped medallion, similar in its components to that of the lower cover, but with a simpler inner field. This is tooled with a small hexagon, formed by tripartite fillets, whose centre compartment has a single dot and its outer ones groups of five dots.

The outline of the medallion has a truncated single-calyx version of the finials of the lower cover medallion. This is situated on the horizontal axis pointing towards the fore-edge.

Doublure (Lower Cover) The doublures lining the inner parts of this casing are of the same leather and have the same decorative status as the outer covers (cf. 27). That of the lower cover has a frame, defined by multiple fillets, with a running pattern of a square format single-axis tool forming linked knots of hatched braids.

The inner panel has a central medallion of finely-scalloped outline. These scallops are hatched arc stamps centred by dots. From between them flecks project. The inner roundel is defined by a tripartite fillet in a radiance formation. It is occupied by a hexagram, based on a small six-pointed star, which extends into a larger six-pointed star whose points are truncated by the outlining ring of the roundel. These are drawn with tripartite fillets. The central star has an additional tripartite outlining fil-



56. doublures



56. lower cover, fore-edge flap and envelope flap

let. It is tooled with a mass of gold dots. The compartments of the hexagram and its star extension are tooled with quadruple ovoids formed of hatched arcs with interstitial and flanking dots. The small compartments between the outer star and the roundel outline are tooled with gold dots.

Above and below the medallion on the vertical axis are placed small lozenges of quadruple ovoids. They are formed of hatched arcs whose centres are gold dotted. Flecks project on their horizontal and vertical axes.

The triangular corners are demarcated by two rows of tripartite fillets and contain three impressions of the hatched arc tool.

The perimeter of the inner field is delineated by a single fillet with flecks based on gold dots pointing inwards from its angles.

Doublure (Fore-edge Flap) The head and tail of the fore-edge flap doublure

are obscured by leather repairs. There may be under this layer framing bands similar to the frames of the corresponding areas of the lower cover and fore-edge flap. There is sufficient space. The rest of this doublure is divided into four panels defined by tripartite fillets. The inner compartment within each panel is additionally outlined by a single fillet. At the centre is a small lozenge of quadruple ovoids formed of hatched arcs with gold dots at their centres. The corners are marked by a single hatched arc tool with a single gold dot.

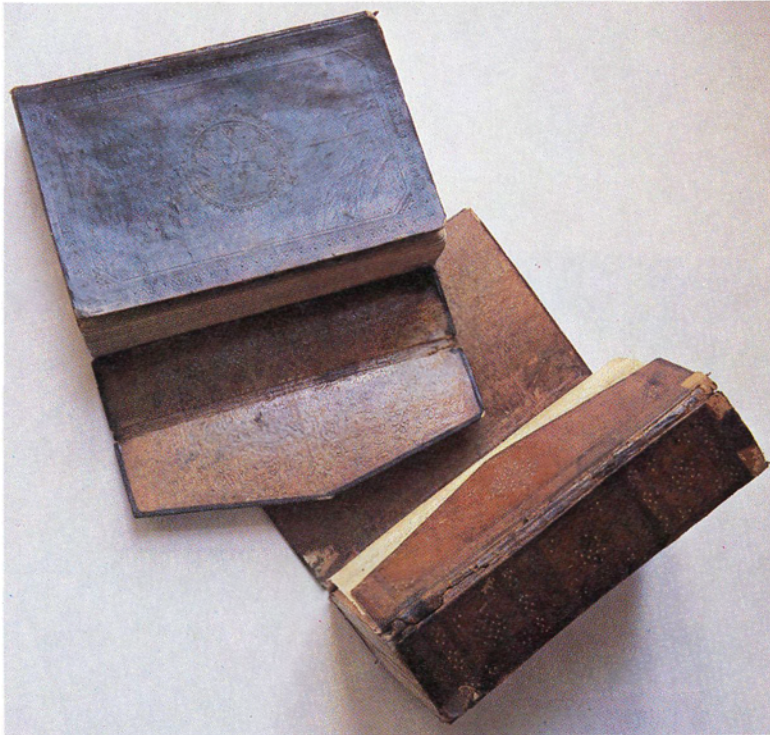
Doublure (Envelope Flap) The borders of the envelope flap doublure at head, tail and fore-edge and the corners and defining lines of the inner panel are tooled similarly to the corresponding areas of the lower cover. At the point of the flap is a medallion which is a simplified version of those on the exterior of the lower cover and envelope flap. At the centre of the roundel is a



COLOUR PLATE G 58.



COLOUR PLATE H 58.



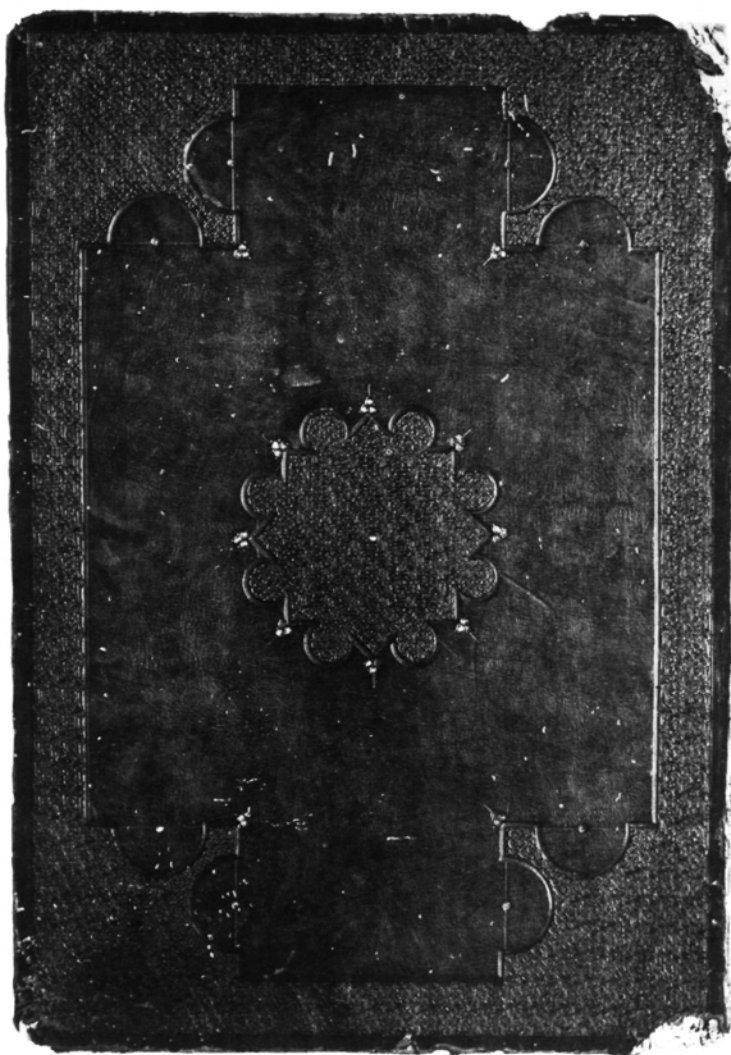
COLOUR PLATE I 40.



COLOUR PLATE J 53.



COLOUR PLATE K 12.



57. upper cover

six-pointed star whose inner compartment is tooled with gold dots and whose points have single gold dots. The small compartments along the perimeter of the star have single impressions of the hatched arc stamp. The loops of the scallops outlining the medallion are punctuated by single gold dots. A group of three gold dots fills the stem of the finial. This is a single-sepalled calyx, based on a bar-shaped vestigial ring, and pointing towards the fore-edge on the horizontal axis.

G. Bosch, (1952); pp. 116, 122, 127, 129-130, 144; Pls. XXI & XXII.

- 57 THE UPPER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; double salmon-pink silk tabby.

560mm × 398mm

Oriental Institute A12171

Dr. B. Moritz

Maghrib, 15th century A.D.

Upper Cover A broad burnished band edges the frame whose field merges with that of the corners of the inner panel. The frame and corners are filled with a rich, dense, and carefully tooled knotwork with a pronounced diagonal grid constructed with hatched bars, arcs and dots. The inner edge of the frame/corners is defined by a tripartite fillet.

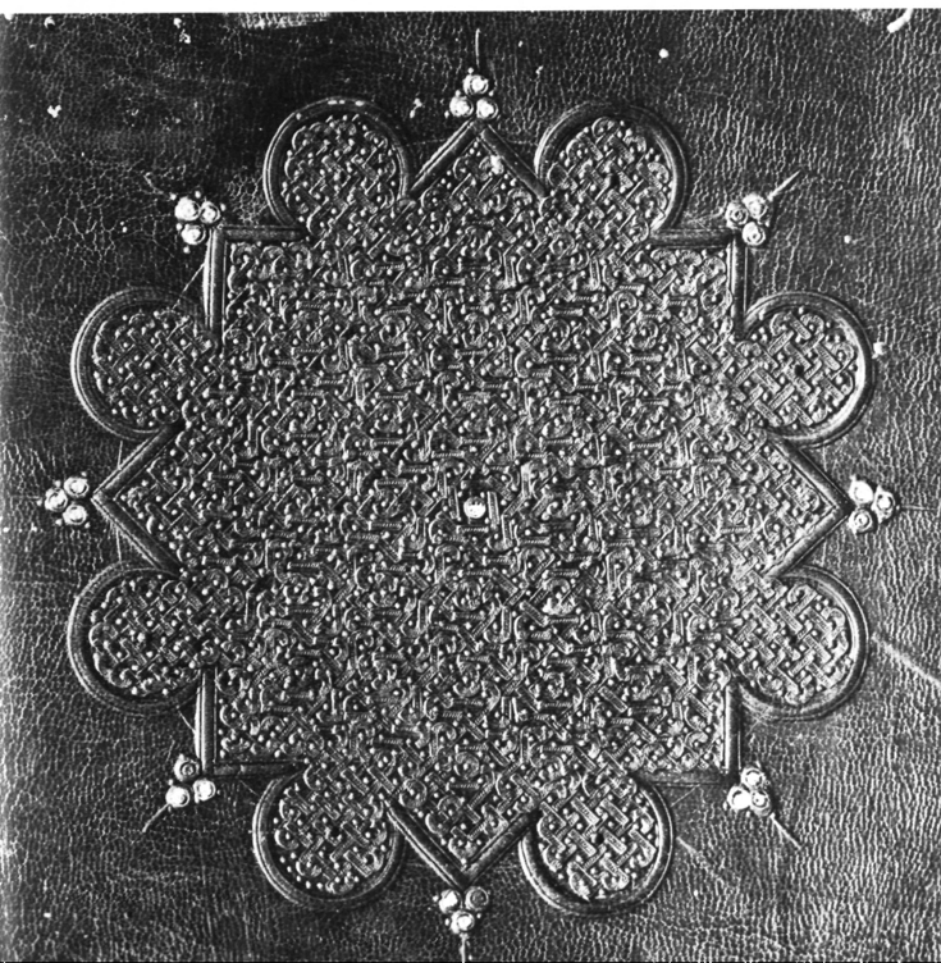
At the centre of the inner panel is a motif, outlined by tripartite fillets, based on the geometry of a Solomon's seal (of two overlapping squares) with circles at its angles. The points are marked by clusters of three large gold centred annular dots with single radiating flecks. The inner field is a continuation of the knotwork field of the frame and corners and is centred by a large gold centred annular dot.

The corners can be conceived as square forms (the guiding scribed outlines can be seen) impinged on by semi-circular extensions of the grainy field of the inner panel so as to form inward-pointing arrow-like forms. These points are stressed by clusters of three large gold centred annular dots. The centres of the semi-circular intrusions are marked by similar dots.

G. Bosch, (1952); pp. 114, 116, 117, 118, 124, 128, 133, 149, 150; Pl. XXVII.

R. Ettinghausen, (1959); p. 123; Pl. 5.

D. Miner, (1957); p. 26; Pl. XVI, No. 54.



57. detail

- 58 A BOOKCOVER; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublures block-pressed leather (sheep).

267mm × 188mm
 Oriental Institute A12118
 Dr. B. Moritz
 Maghrib, 15th century A.D.

COLOUR PLATES G, H.

Upper and Lower Covers and Envelope Flap The lower and upper covers and envelope flap have the same decorative schema. In the envelope flap, the pointed shape of the envelope flap cuts into the full design. The spine and fore-edge flap are untooled.

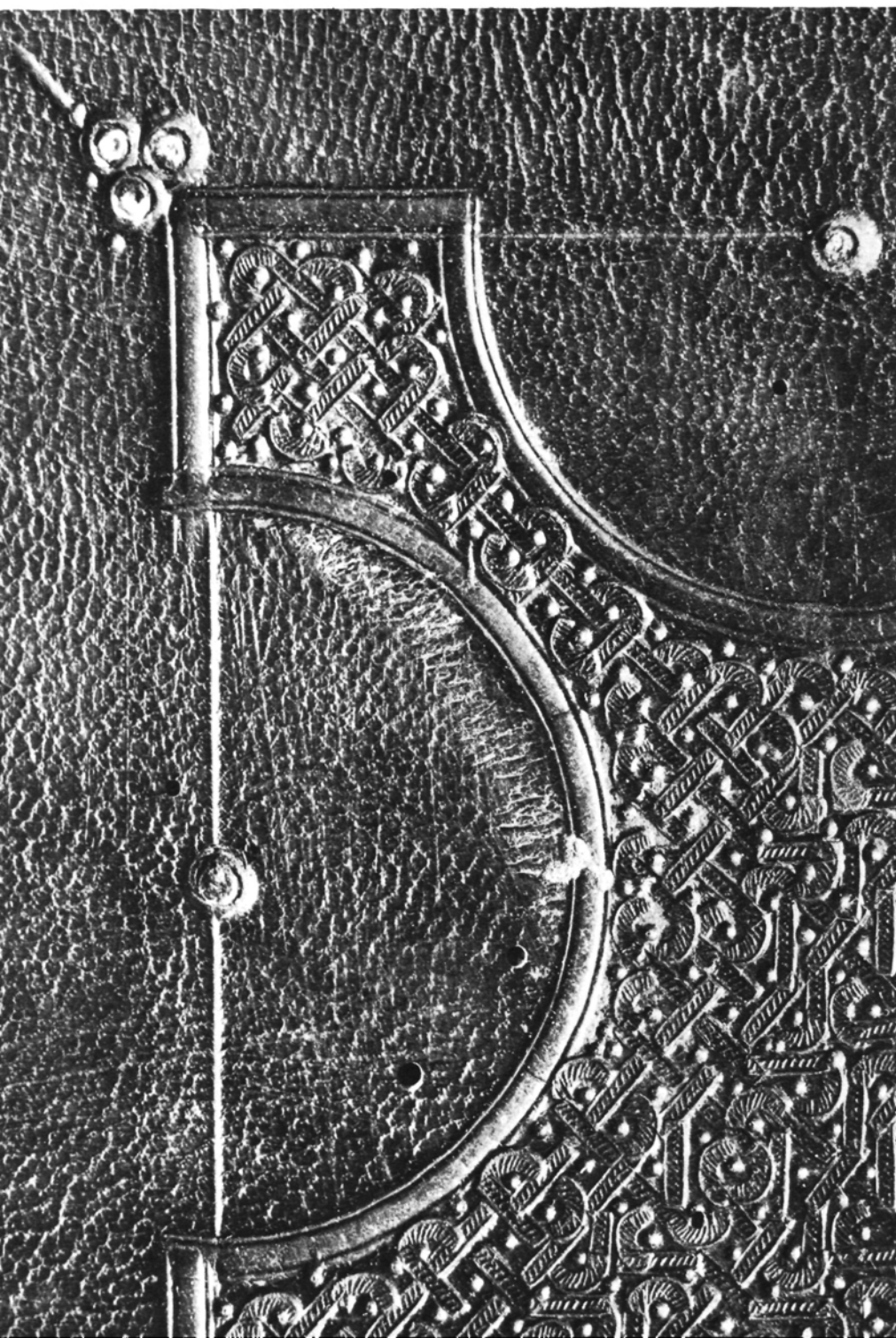
A broad, highly burnished band edges the decorated areas of the cover. Although the overall design is of the centre and corner-piece category, in this case the corner-pieces merge with the frame. This is tooled with a complex geometric interlace of knotwork, the linear elements of which are formed using a small hatched bar and a small hatched arc. These tools are placed so as to pivot around an interstitially placed centred dot tool. The inner edge of the frame and corner pieces is defined by a thick tripartite fillet which leaves a burnished line.

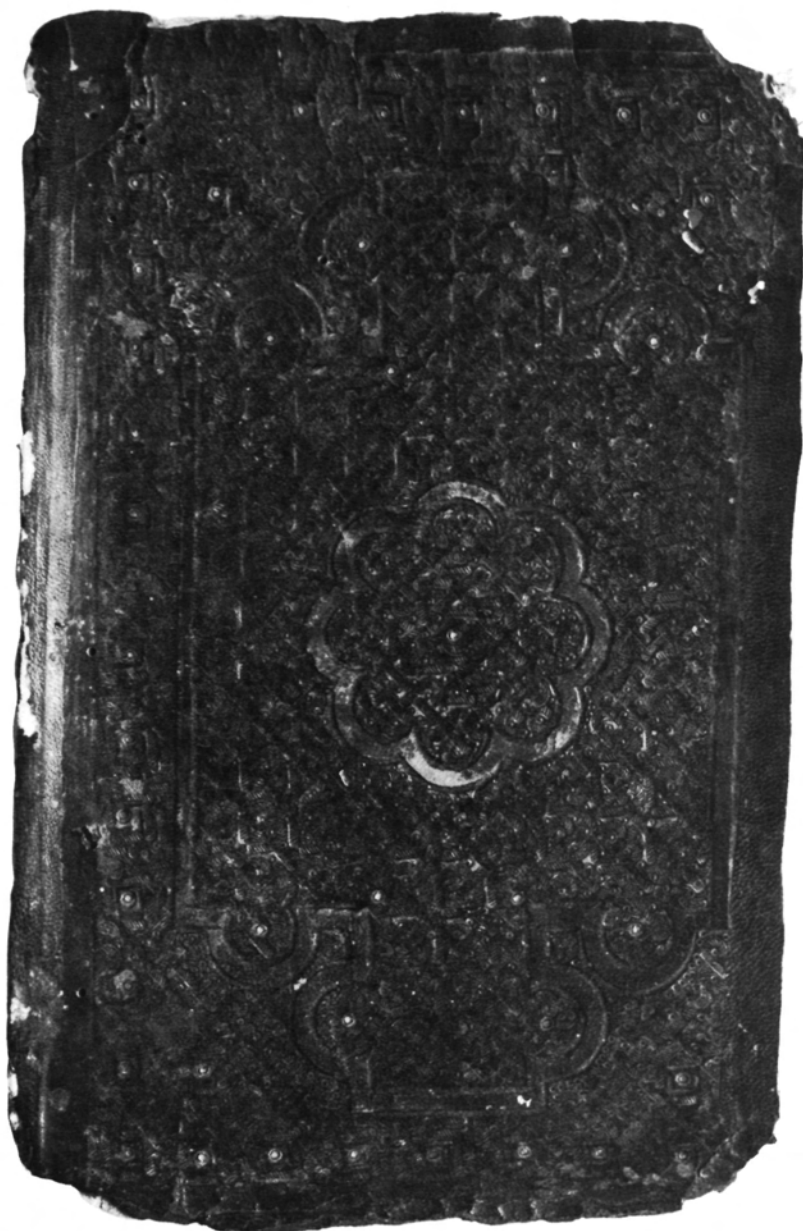
The field of the inner panel, exploiting the lighter-colored grained texture of the untooled leather in contrast to that of the tooled areas, impinges on the square corners with semi-circular intrusions which leave an arrow-like corner form pointing inwards. These semi-circles are centred by a large centred annular gold dot and a cluster of three similar dots with a radiating blind fleck is placed at the point of each corner "arrow." A single such gold dot is placed in each corner of the frame.

The centre of the inner panel gives the illusion of having been cut away to reveal the same field as used in the frame and corners. A ten-scalloped roundel, defined by the broad tripartite fillet, has clusters of four tiny centred annular gold dots with a radiating fleck in its spandrels. The centre of the knot-work field of the roundel is marked by a single large centred annular gold dot.

Doublure The doublure leather is printed with a densely patterned block which seems to have been a small, narrow oblong in shape. The complex interweaving scroll work creates an alternation of a unit roughly circular in outline (in which the scrolls (vines) make a double bulbous curvilinear form with a calyx growing on either end of the main axis with loops in between to a crossed lozenge), with a four-petalled unit whose defining interweaving scroll or vine work crosses at the centre to form a lozenge. The scrolls/vines which continue into the areas between these alternating flattened circles and four petalled forms produce small leaves.

G. Bosch, (1952); pp. 114, 116–118, 124, 128, 130, 132, 149, 150, 163–164; Pls. XXVI & LV.
J. Michelet, (1932); pp. 16, 17.
D. Miner, (1957); p. 26, No. 54; Pl. XVI.





59. cover

- 59 A COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards.

Islamic Museum East Berlin I.873
Dr. B. Moritz
Maghrib, 15th century A.D.

Only one cover of this binding survives. Its outer edges are either broken away or obscured by later leather repairs. It has an overall background tooling of a diagonal knotwork mesh with untooled bands, defined by fillets, outlining the border and corner elements as well as a central eight-scalloped medallion (this has an annular gold dot at its centre). The knotwork is constructed using hatched bars and arcs and small centred

dots. That of the frame moves around a succession of small untooled squares with gold annular dots at their centres. The field of the frame continues uninterrupted to fill the corners of the inner panel. The field of the inner panel impinges on the corners with semi-circular intrusions which leave arrow-like forms pointing inwards. The semi-circles are centred by a large annular gold dot and a single such dot is placed at the point of each corner "arrow." The other cover of this binding may be C. A. Chiesa 3.

Chiesa catalogue, No. 3.

- 60 A COVER of a bookbinding; exterior covering brown leather (goat); blind tooling, gold tooling.

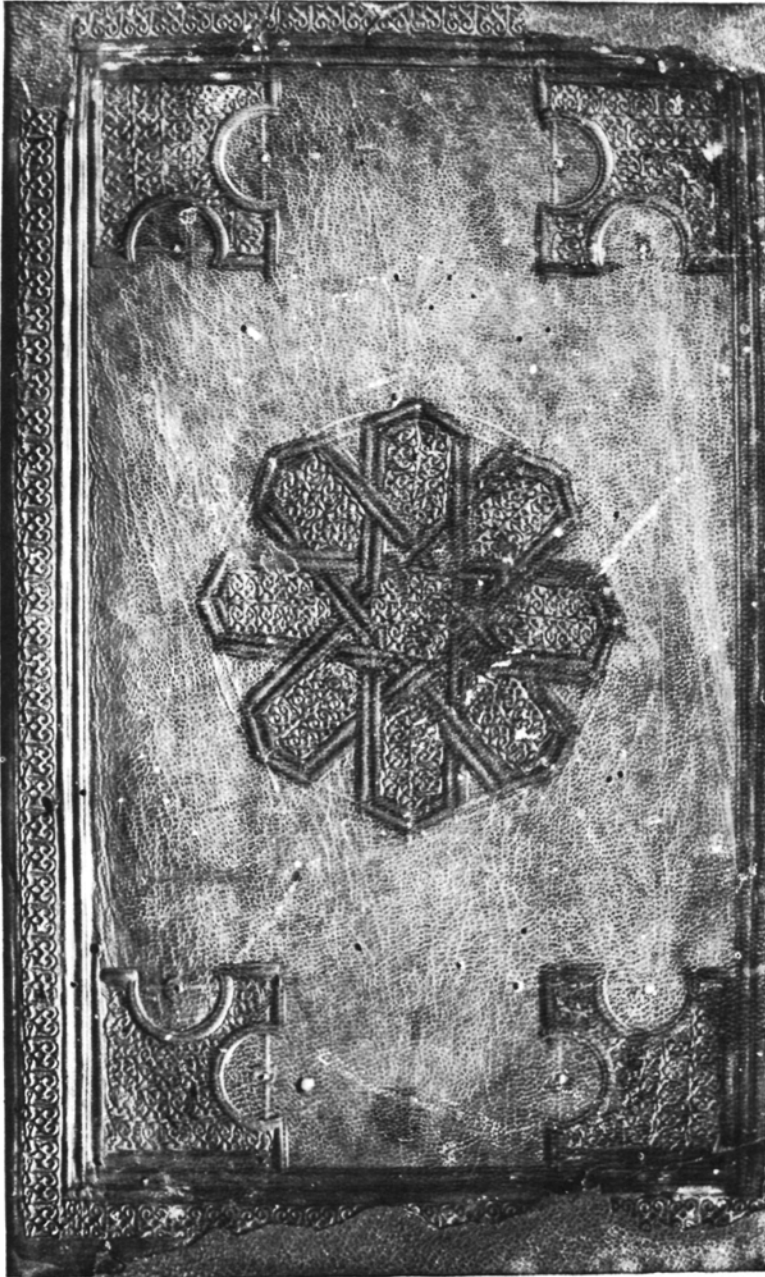
250mm × 160mm (original dimensions c. 255mm × 170mm)

Chester Beatty Library Moritz Collection 17
Dr. B. Moritz
Maghrib, 14th–15th century A.D.

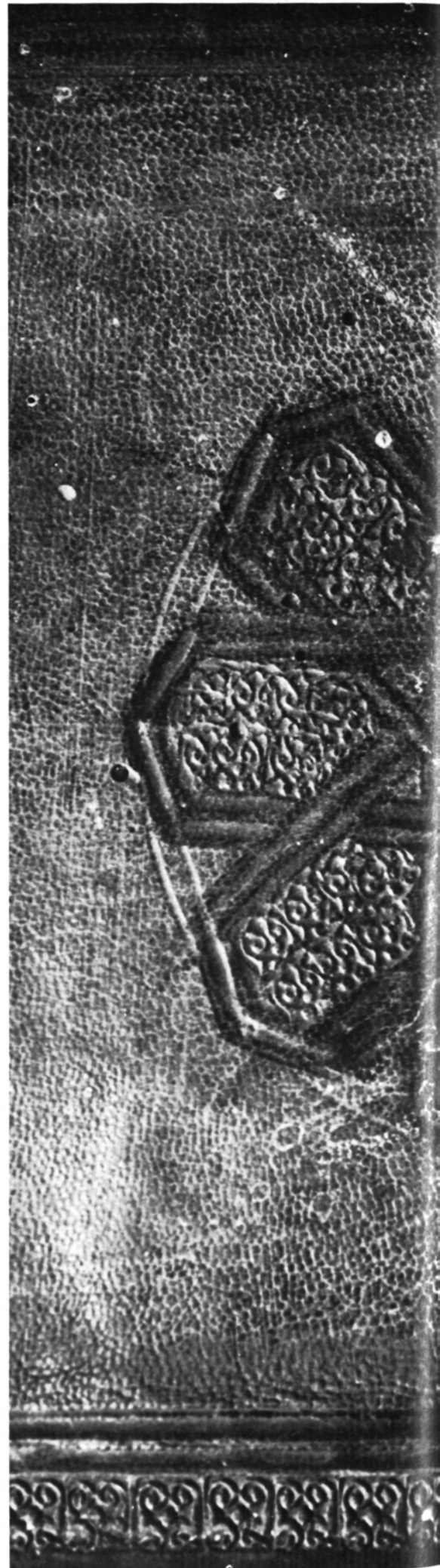
Islamic Museum East Berlin I. 854 may be the other cover of this bookbinding. Only the exterior leather of this cover survives, the pasteboards and doublure having been removed. It has a running border, defined by tripartite fillets, of impressions of a rectangular format single-axis stamp depicting two opposed three-sepal calices sharing a central sepal. The outer sepals of each calyx are of different shape, a spiraled volute in one case and a flattened one in the other.

A further broad tripartite fillet defines the inner panel which has at its centre a strapwork octagram formed by tripartite fillets and enclosing an eight-pointed star at its centre. Its compartments are filled with impressions of a square format two-axis stamp depicting a small trefoil issuing from, and enfolded in, a heart-shaped scroll with pairs of leaves projecting from its upper part.

The corner outlines are marked by tripartite fillets and are filled with impressions of the same stamps as fill the centre octagram. They can be conceived as square panels whose field is impinged on by semi-circular extensions of the untooled inner panel so as to create an arrow-shaped form. A single gold dot is placed at the centre of these semi-circular intrusions.



60. cover



- 61 THE UPPER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublures block-pressed leather (sheep).

256mm × 172mm

Oriental Institute A12143

Dr. B. Moritz

Maghrib, 15th century A.D.

Upper Cover A broad burnished band edges a running frame of blind impressions of a rectangular format single-axis tool depicting alternately inverted cordiform scrolls issuing from the bases of small trilobed calices which they enfold. The inner edge of the frame is defined by multiple fillets.

At the centre of the inner panel is a large roundel whose encircling band, defined by tripartite fillets, becomes within an interlace based on a Solomon's seal, the sides of whose squares are the extensions of an octagon defining an eight-pointed star at its centre. Its compartments are filled with knots of hatched bars, arcs and centred dots. The latter fill those areas of the compartments not filled with the knotwork. A single large gold tooled annular dot is placed at the centre of the roundel.

The corners are demarcated by tripartite fillets and are filled with knotwork. They can be conceived as square panels whose field is impinged on by semi-circular extensions of the untooled inner panel so as to create an arrow-shaped form. The corners are marked by a large gold annular dot. A single such dot is placed at the centre of the semi-circular intrusions into the corner panels and clusters of three dots at the points of the arrows so formed.

Doublure This and 74 are the only doublures in the collection assembled by Moritz with the block-pressed design cut in the block not in intaglio. Though the design is symmetrical in two axes, one is dominant. The stems of double-based three-sepal split calices cross as lozenges at the centre of the design. Their tips become spirals. Small three-sepal split calices or three-lobed leaves overlap into the spirals. The loz-



61. upper cover



61. doublure

enges in the dominant axis are linked by bars of vestigial annular forms. The overall design is clear and compact.

G. Bosch, (1952); pp. 122, 127, 128, 136, 150, 165, 169; Pl. XXVIII.

M. Weisweiler, (1962); Abb. 34, Handschrift 269, Kairo? 1339, Deckeltyp 32.

- 62 A COVER AND ENVELOPE FLAP of a book-binding; exterior covering brown leather (goat); blind tooling, gold tooling, gold paint.

418mm × 294mm

Chester Beatty Library Moritz Collection 37 Dr. B. Moritz

Egypt/Syria, 14th–15th century A.D.

Only the exterior leather of the cover and the envelope flap survives, the pasteboards and the doublures having been removed.

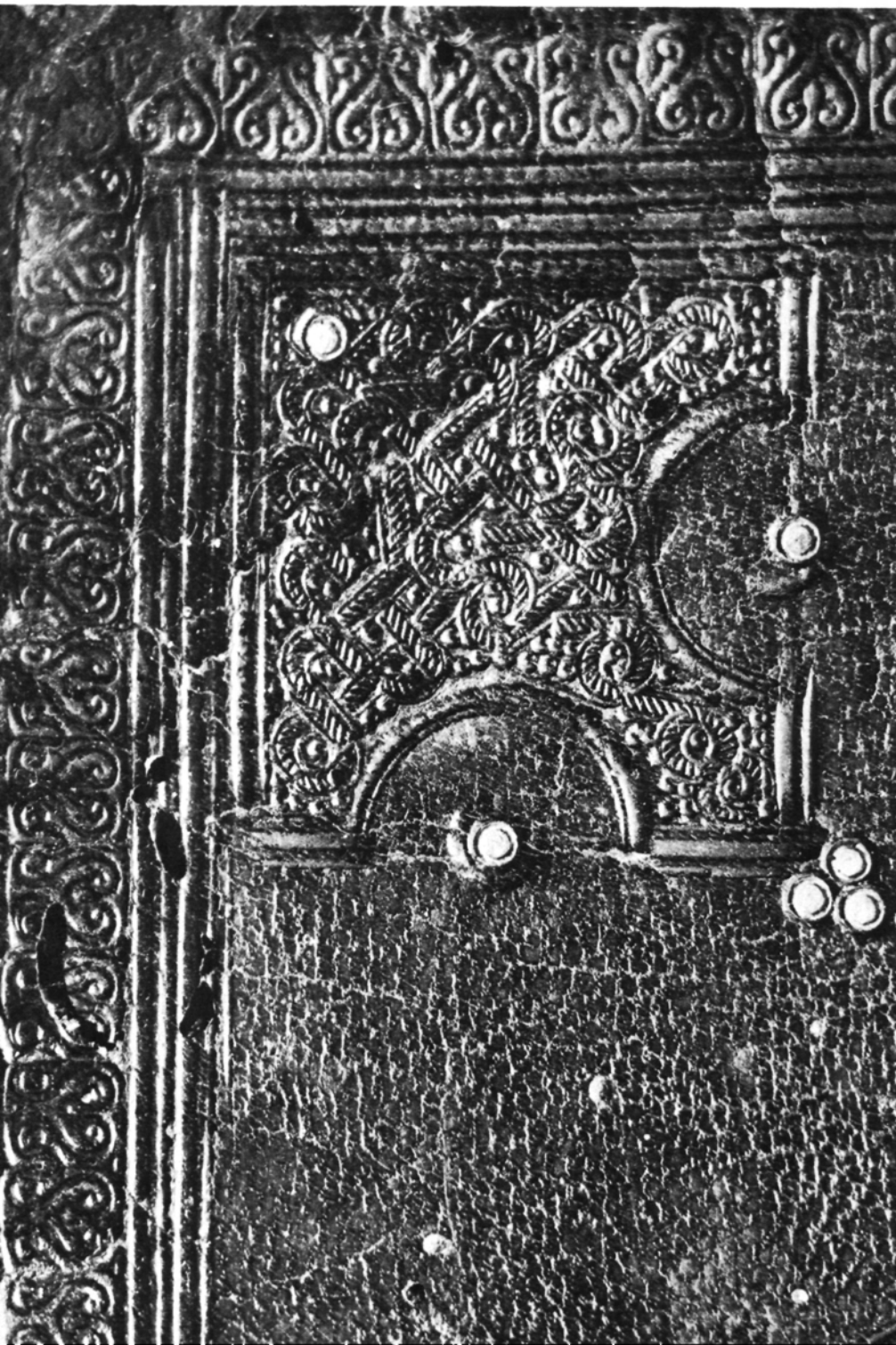
Cover This cover has three frames, each defined by multiple fillets. The outer frame has a running pattern of blind impressions of a square format single-axis stamp depicting a complex hatched braidwork. The middle frame has a guilloche pattern of interlocking hatched reverse S-shaped stamps with interstitial gold dots. The inner frame has a smaller and simpler version of the same pattern with the stamps painted in gold.

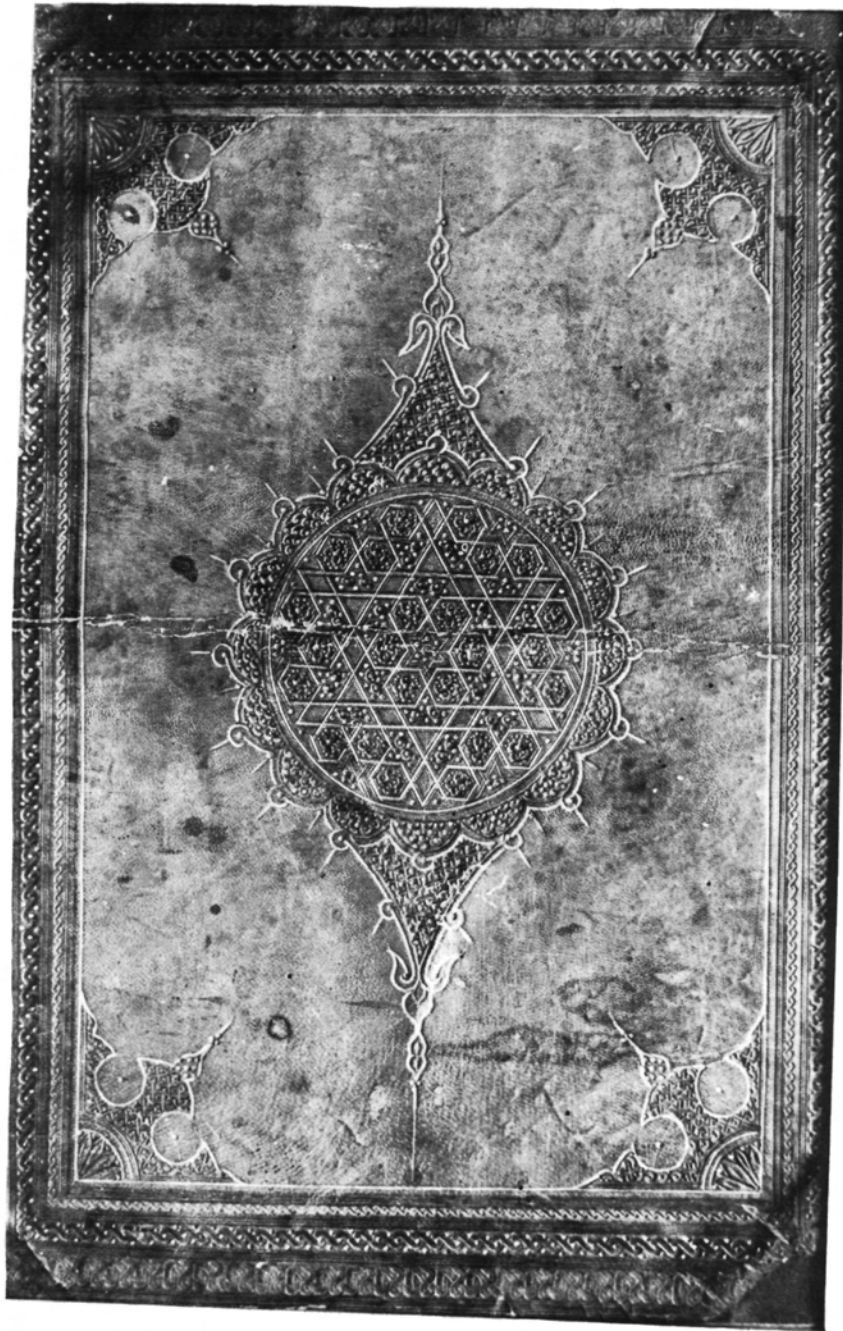
The perimeter of the inner panel is marked by a single gold fillet. The panel is dominated by a magnificent medallion with a multiplicity of formal elements and textures. From a central looped scalloped roundel grow extensions in the vertical axis which end in three-sepal calyx finials. Their centre sepals develop into a double seed-like form with a fleck based on two small dots projecting from it.

The compartments enclosed by the thick tapering stem of the finials are filled with a mesh of X-shaped stamps with interstitial gold dots.

The scalloped edge (of double outline—the outer line being painted in gold) completely encircles the roundel. The scallop compartments are filled with arc-shaped stamps and interstitial gold dots. The roundel itself, outlined by double fillets of which the innermost is painted gold, is filled with a geometrical interlace of infinite extension of expanding, six-pointed stars. The centre star is emphasized by tripartite fillet outlines and a centred annular gold dot surrounded by smaller dots. Six similar stars are cut by the roundel at the perimeter of this field. This star is enclosed by a hexagram which in turn is enclosed by another star whose point compartments are untooled and whose other compartments alternate between untooled and scattered tooling of arcs and gold dots. The compartments at the very periphery which alternate with the sections of the small stars of the interlace are tooled with a single gold dot.

61. detail





62. cover

The remaining compartments are filled with hatched bars and interstitial gold dots.

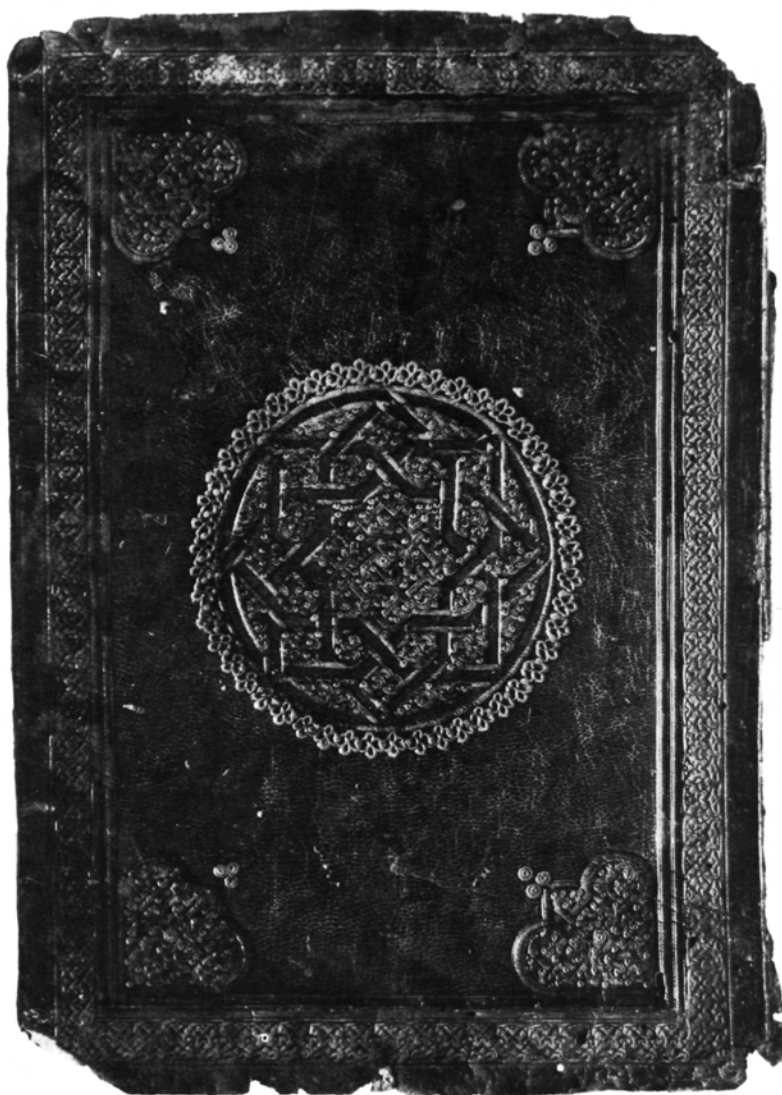
The corners of the inner panel are of elaborate silhouette. They are conceived as quadrants of medallions centred on large sixteen-petalled rosettes from whose circular outline radiate calyx- or pagoda-like shapes with a bulbous pointed cupola central projection. The base of these shapes is produced by circular intrusions of the untooled field of the inner panel into the corner quadrants. The cupola-shaped



62. envelope flap

points are filled with gold dots and the curvilinear base compartments with X-shaped stamps with interstitial gold dots. The corners are outlined in gold.

Envelope Flap The borders and frames of the head, tail and spine of the envelope flap are similar to those of the corresponding areas of the cover. Its main panel also has similar corners. The central medallion has its longest extension in the vertical axis rather than in the horizontal. It has a double gold outline of looped scallops with radiating



63. upper cover

flecks. On the vertical axis ogival outlining fillets grow into the straight base of three-sepal calyx forms with drop-shaped receptacle. These forms are also outlined in gold and from the centre sepals project flecks based in two small gold dots.

The organic inner field of the roundel, quite different from the rectilinear geometry of the central cover ornament, is bisymmetrical and has a central flower with four inner petals on the major horizontal and vertical axes and four outer leaves or petals between them on the diagonal axes. A cusped filleted outline circumscribes the flower. Large three-sepal calices with a double volute stem have the tip of their large central sepal meeting the tips of the inner petals of the central flower. Three even-sepal calices have their receptacle

growing from the outer petals of the central flower in the opposite orientation and are enfolded in single-lobed leaves whose outer curve conforms to the shape of the scalloped outline. The vegetal elements have a gold painted scribed outline and the detailing of their internal anatomy is scribed in blind. Otherwise their surfaces are left untooled to contrast with the closely pecked background.

The cover design and tooling is very similar to that of the upper and lower covers of Oriental Institute A12068 and is probably from a companion volume and definitely from the same workshop. This book has been rebound fairly recently at which time the envelope flap, which seems to be foreign to the upper and lower covers, may have been attached.

- 63 THE LOWER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind and gold tooling; doublures light brown leather (goat).

276mm × 198mm

Oriental Institute A12156A

Dr. B. Moritz

Maghrib, 15th century A.D.

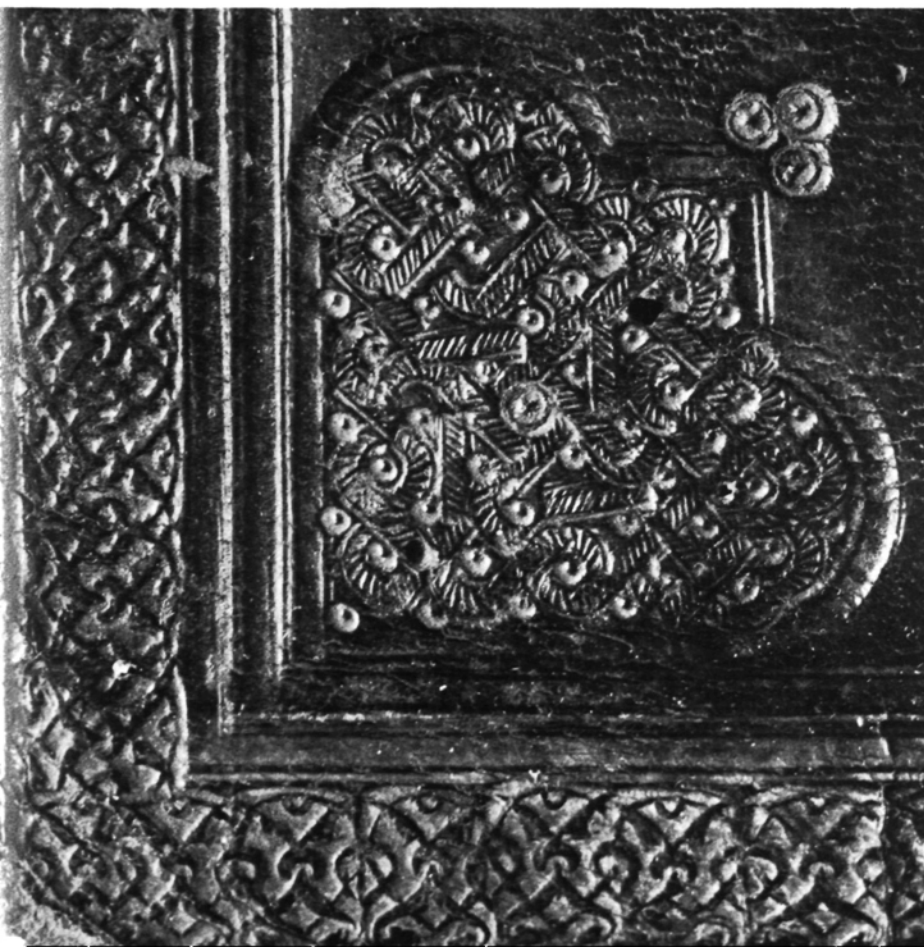
Chester Beatty Library Moritz Collection 19 appears to be the other cover of this bookbinding.

Lower Cover A broad burnished band, defined on its inner edge by a fillet, edges a frame with a running pattern of impressions of a rectangular format single-axis tool forming continuous interweaving scrolls of leafy vines passing through rings. The inner edge of the frame is defined by a tripartite fillet.

The inner panel is defined by another adjacent line of the same tool. At its centre is a large medallion garlanded by three-sepal calices with receptacle and intervening gold dots. The roundel is defined by a ring of untooled leather defined by single fillets. This band leaves the circumference of the roundel at eight points to form an inner strapwork Solomon's seal. This develops from an eight-pointed star at the centre of the roundel. The background of this interlace is filled with knotwork of hatched bars, arcs and centred dots. The knotwork of the central star pivots around a single larger centred annular gold dot.



63. detail



Tripartite fillets demarcate the corners which are crown-shaped with a central point flanked by two half circles. They contain knotwork centred by a centred annular gold dot. The point of the crown is marked by a cluster of these larger gold dots.

G. Bosch, (1952); pp. 136, 150.

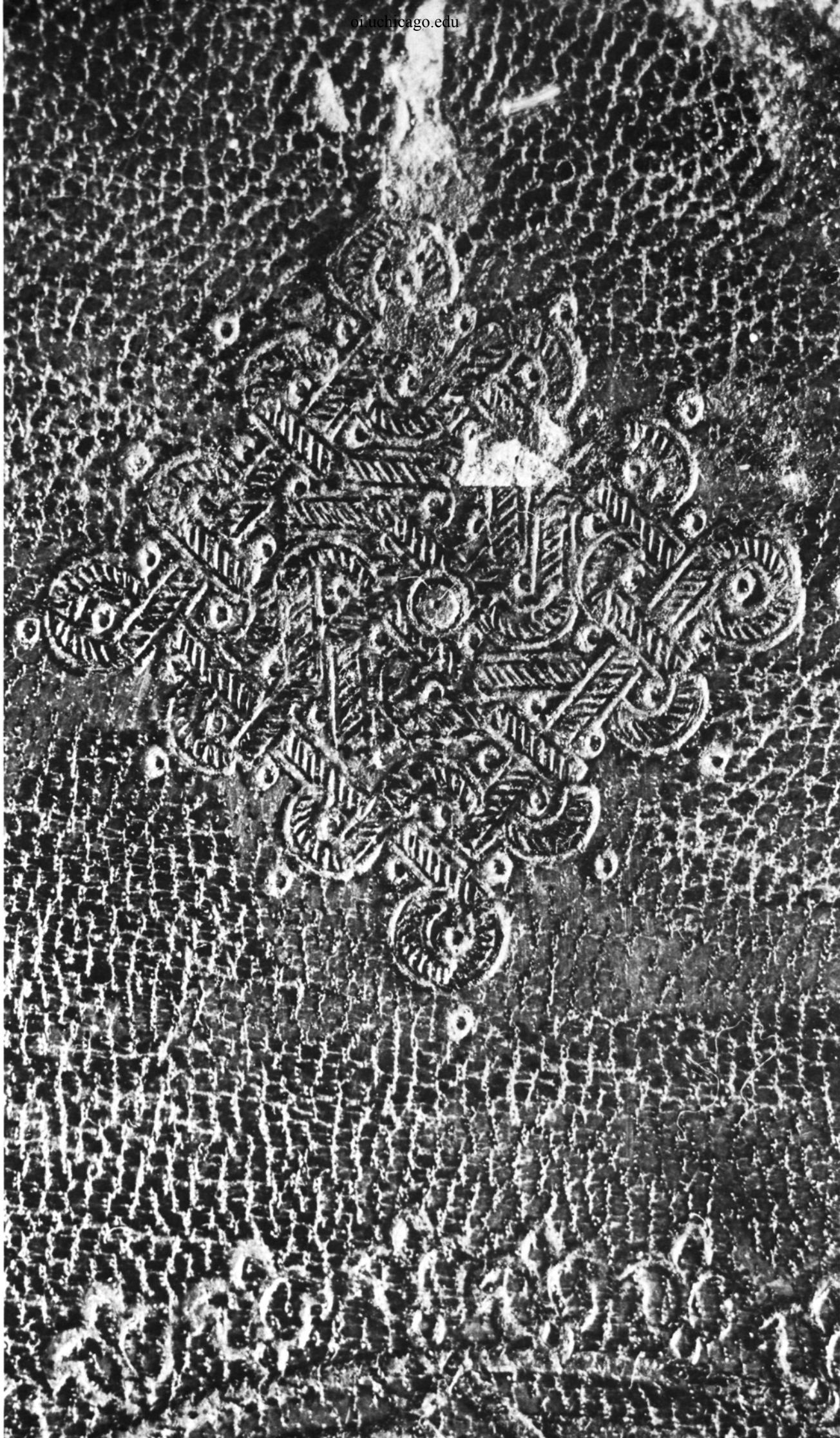
- 64 THE LOWER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling; doublures block-pressed leather (sheep).

280mm (approximate original height as the cover is eroded away at the tail) × 198mm
Oriental Institute A12142

*Dr. B. Moritz
Maghrib, 15th century A.D.*

Lower Cover Crude later repairs obscure the frame at head, fore-edge and

63. detail



spine. A broad untooled band edges a running frame of impressions of a rectangular format tool, depicting alternately inverted cordiform scrolls issuing from the bases of small trilobed calices which they enfold. The outer edge of the frame is defined by a single fillet and the inner by a double row of tripartite fillets.

At the centre of the inner panel is a large roundel which is garlanded by three-sepalled calices with cleft base and small receptacle. The roundel is formed of a circular strap, defined by broad single fillets, which becomes within a strapwork interlace based on a Solomon's seal whose squares are linked by overlapping arches. The compartments of the interlace are filled with knotwork formed from hatched bars, arcs and centred annular dots. At the very centre of the roundel is a single large centred annular gold dot.

Above and below the central medallion on the vertical axis are two large lozenges of knotwork of hatched bars, arcs and knots with interstitial and bordering annular dots and a central large centred annular gold dot.

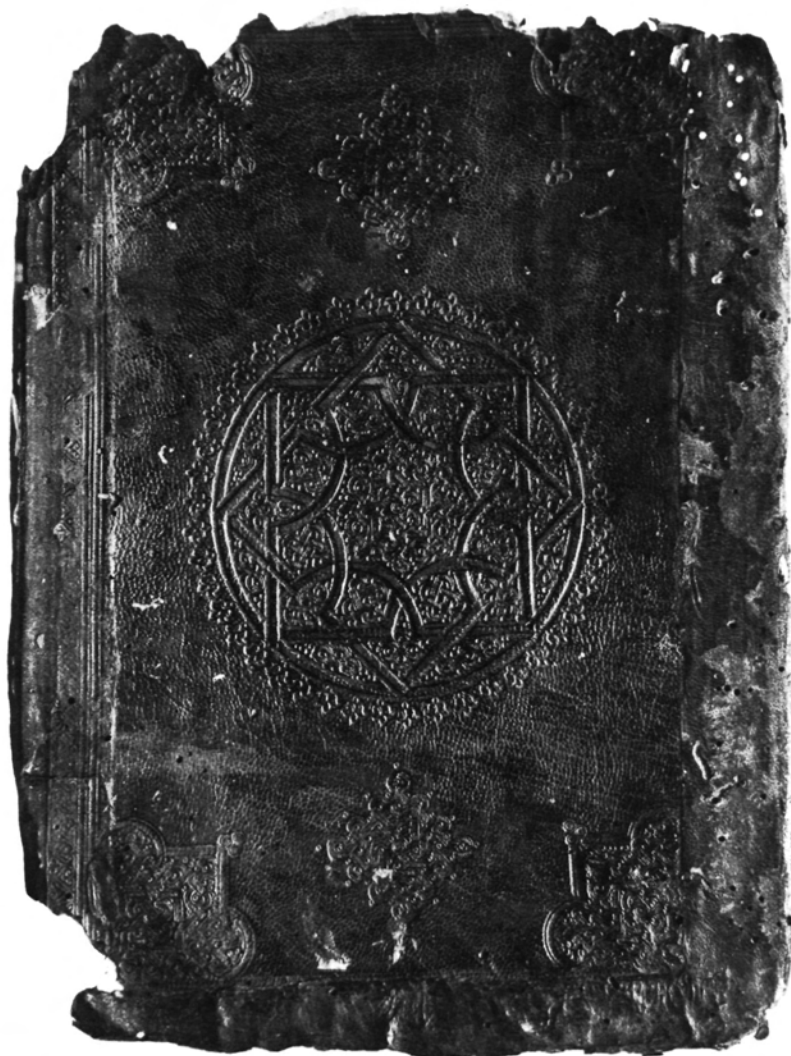
The "crown" shaped corners are demarcated by a broad tripartite fillet and their fields filled with knotwork. The central point has a cluster of three large centred annular gold dots and a single such dot is placed at the centre of each corner field.

Doublure The doublure is of block-pressed leather and has a bisymmetrical pattern of cordiform vine scrolls issuing from the points of a four-lobed form of which the lobes on the axis parallel to the fore-edge and spine of this cover are longer than those on the axis at right angles to it. These lobes contain three-petalled calices and develop from a central crossed diamond.

G. Bosch, (1952); pp. 127–128, 134, 136, 150, 164–165, 169; Pls. XXIX & LVI.

D. Miner, (1947); p. 27, No. 55.

M. Weisweiler, (1962); Abb. 34, *Handschrift* 269, Kairo?, 1339 A.D., *Deckeltyp*.



64. lower cover

- 65 THE UPPER COVER AND 21 FOLIOS of a manuscript; Arabic, *Qur'ān*, 15th century A.D.; textblock Oriental hand-made laid paper, upper endleaf (a later addition) European hand-made laid paper; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint; doublure block-pressed leather (goat).

265mm × 185 mm.

Oriental Institute A12032B

Egypt/Syria, 15th century A.D.

The fore-edge flap and envelope flap of this bookbinding are missing.

Upper and Lower Covers The upper and lower covers are similarly decorated. A frame, defined by fillets, has a running pattern of impressions of a rectangular format single-axis tool depicting trilobes whose bases split and become interconnecting loops.

The inner panel is dominated by a splendid scalloped medallion. The scallops are looped and defined on the outside by a single fillet and on the inside by a tripartite fillet. Each is centred by a dot and flanked by three dots from the uppermost of which a fleck radiates. In the spandrels of the scallops are tooled clusters of four dots with a projecting fleck. The fields of the scallops are centred by large gold dots and filled with impressions of a hatched arc tool.

On the vertical axis the scallops become ogival in form and their points pass through vegetal ring bars to develop into three-sepalled calices. At the point of the central sepals a fleck based in a cluster of three gold dots continues in the vertical axis. The scallops surround a roundel whose ringed outline

is defined by tripartite fillets. The roundel is occupied by a twelve-pointed star interlace formed by fillets developing from a hexagram with a small six-pointed star at its centre. This star has an additional outlining fillet and is centred by a flower-like arrangement of dots. The compartments of the hexagrams are filled with hatched arcs centered by gold dots. The compartments in the surrounding zone are tooled with dots. The compartments of the points of the outer star are alternately tooled with hatched arcs and dots, and with single dots. The areas beyond the periphery are tooled with hatched arcs and centered by dots.

The corners of the inner panel are marked by quarter arches demarcated by a band defined by fillets. Their fields are tooled with gold dots. These corner quadrant circles are framed by tooling related to the outlines of the central medallion of the inner panel. Two parallel single fillets form ogival points flanked by scallops. The ogival forms develop into full three-sepalled calices marked by dots. At the point of the central sepals flecks based in three dots point inwards. In the spandrels are tooled clusters of four small dots from which flecks radiate. The fields created between the outlining frame and the quadrant circles are tooled with hatched arcs and centred by large gold dots.

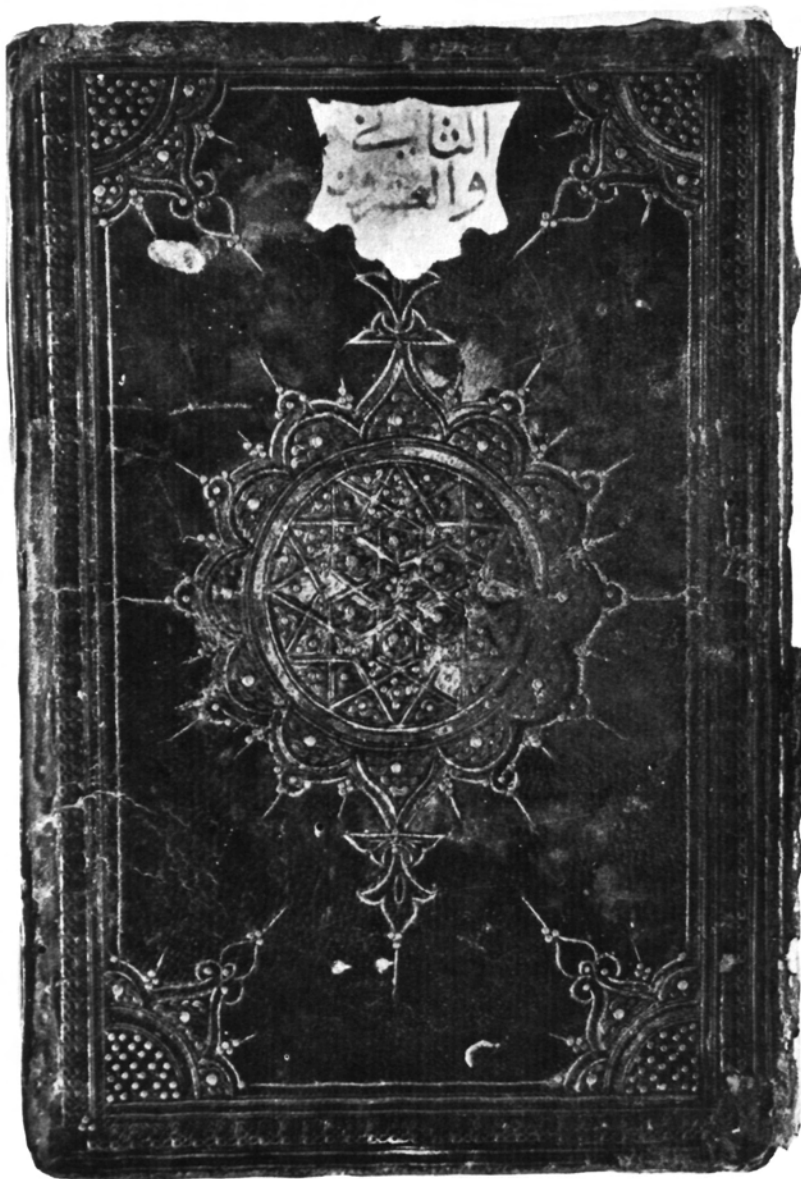
The outer defining fillet of the corner motifs continues to delineate the perimeters of the inner panel.

At the head of the covers papers are pasted with curvilinear cut outlines and numbered in Arabic.

Doublure This block-pressed leather doublure has a pattern in which a dense interweaving of vine spirals moves out from ogivally-pointed quadrilobes, with vegetal filling and calices of different forms at their points, along a single dominant axis (in this case parallel to the spine and fore-edge of the cover). The vines develop in their spiral paths into graceful single- and bilobed leaves and buds.

Bosch, G., (1952); pp. 127, 141, 143, 144, 145, 165, 166; Pl. II.

N. Abbott, (1939); p. 83.



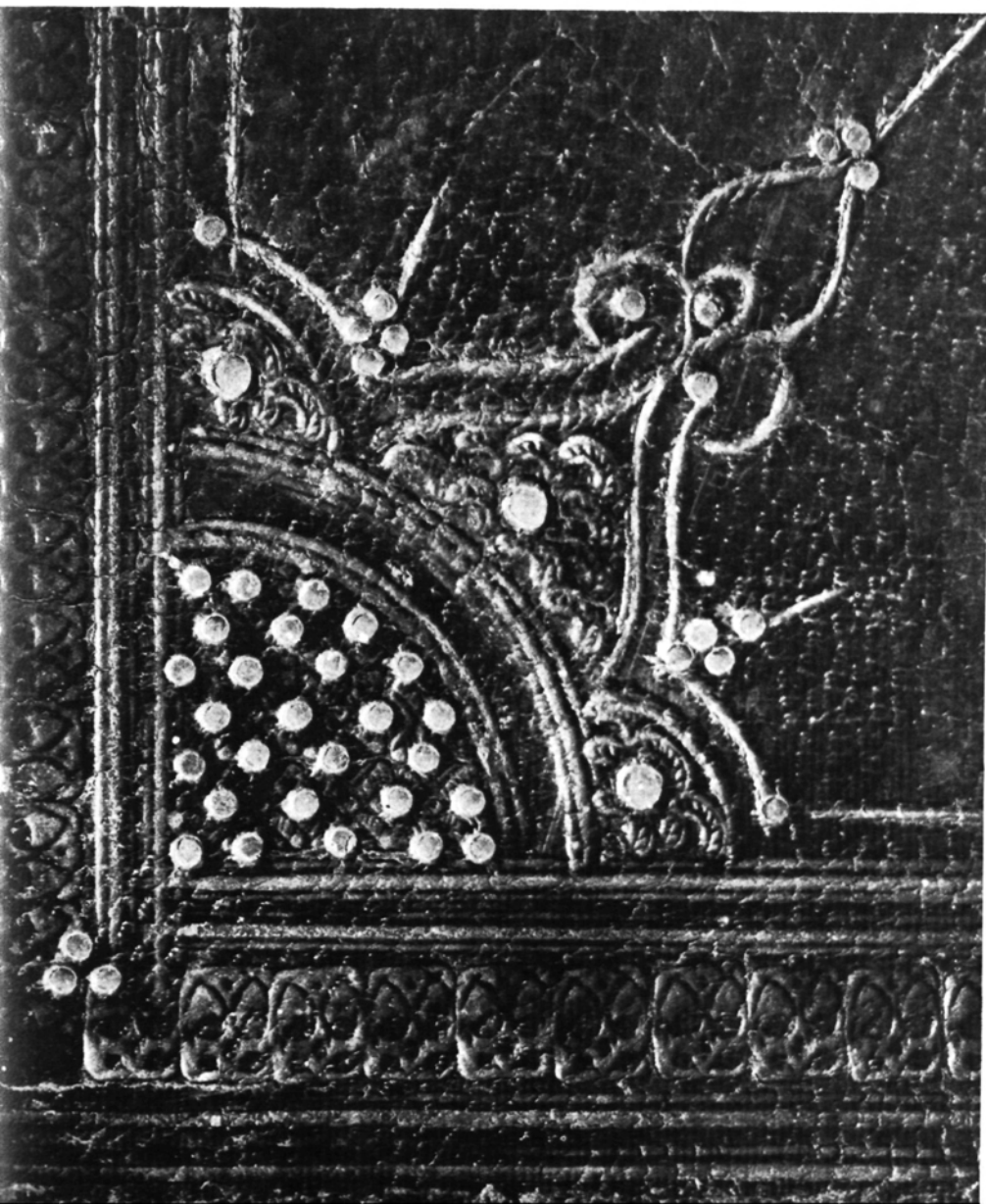
65. upper cover

- 66 THE FORE-EDGE FLAP of a bookbinding; exterior covering brown leather over paper pasteboards; blind tooling, gold paint.

Islamic Museum East Berlin I.833
Dr. B. Moritz
Egypt/Syria, 14th–15th century A.D.

Only this fore-edge flap survives of a large volume. It has substantial repairs (one end being obscured by a large piece of leather) and its original decorative layout is difficult to reconstruct accurately as the existing fragments have been displaced and now overlap one another. Originally blind fillets edged a series of seven orthogonal panels with squares ones alternating with rectangular ones. The latter are outlined by

a gold fillet with small triangular knotted corners. At their centres are gold impressions of a delicate foliate medallion stamp of biaxial symmetry depicting a light interlace scrollwork of small three-petalled calices and leaves radiating from, and pointing towards, its centre. On either side of the medallions on the vertical axis are placed gold impressions of elaborate three-sepalled calices with cleft base and complex plant infill. The square panels have a double outline, the outer being a fine gold guilloche pattern defined by tripartite fillets, and the inner a gold fillet with corners like those of the rectangular panels. The square panels have an inner gold knotwork lozenge with stepped outline.



66. spine

65. detail

- 67 A BOUND MANUSCRIPT; Arabic; 1469–70 A.D.; textblock paper Oriental hand-made laid; later (Islamic) endleaves of yellow-dyed European hand-made laid paper with lion watermark; link stitch sewn at two sewing stations; spine lining missing; endbands missing; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold paint, blue paint; doublures brown leather (goat); blind tooling, gold paint.

274mm × 181mm.

Chester Beatty Library MS 3571

Egypt/Syria, 15th century A.D.

Upper Cover Upper and lower covers are similarly decorated except for the interiors and finials of the mandorlas of the inner panels. All tooling except for the outer frames of the exterior covers and the frames of the doublures is in-painted gold (with some blue in-painted fillets). A broad outer frame, defined by fillets, has an elaborate running pattern formed by a square format single-axis stamp of alternately inverted niches outlined by complex curved elements with vegetal infilling. A middle frame, also defined by fillets (which it shares with the inner and outer frames), has a running pattern of a rectangular format single-axis stamp of interlaced meanders weaving through diamonds. A thin inner frame, defined by fillets, is formed of interlocking S-shaped stamps.

The central motif of the inner panel is a scalloped mandorla outlined by double fillets. Within the mandorla is a complex bisymmetrical arabesque which develops in the vertical axis to culminate in three-sepal calices framed by bi- and trilobed leaves. At the points of the mandorla are tooled single impressions of a stamp depicting a large three-sepal calyx with elaborate plant infilling. The corners of the inner panel are tooled with a related corner-piece stamp. The perimeter of the inner panel is demarcated by a single fillet.

Lower Cover The outline of the scalloped mandorla in the centre of the lower cover is similar to that of the upper cover. Within, however, is a circularly moving wreath with various leaf forms, lotuses and sweet pea-like flowers. At the centre of the wreath is a full rose-like flower. The points of the mandorla pass through rings to become leafy sprays and perimeter culminating in three-sepal buds. The corners of

the inner panels are tooled as for the upper cover.

Fore-edge Flap The head and tail of the fore-edge flap have framing similar to the corresponding areas of the upper and lower covers and envelope flap. The spine and fore-edge zones are marked by single fillets. The area within these framing elements is divided into three panels, separated by lines of interlocking S-shaped stamps defined by fillets. Each of the panels is outlined by single fillets. The centre rectangular panel has a scribed inscription, reading:

*al-thānī min al-tajrīd lil-Qudūrī 'alā
madhhab Abī Hanīfa*
(i.e., the second volume of Qudūrī's
Tajrīd)

Smaller rectangular panels on either side contain a knotwork diamond.

Envelope Flap The head, tail and fore-edge areas of the envelope flap have framing similar to the corresponding



67. lower cover, fore-edge flap and envelope flap



67. upper cover detail

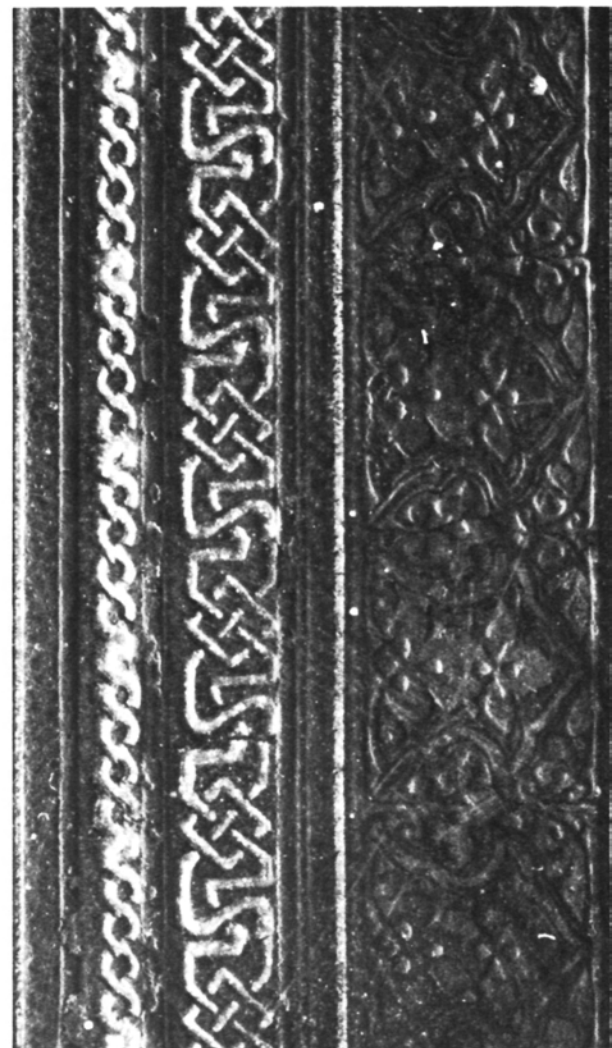
areas of the upper and lower covers and fore-edge flap. The point is tooled with a large arabesque-filled form of cloud collar outline. This has segments of bud-like finials with ribbed bases to head and tail. The whole envelope flap panel is demarcated by a single fillet and its corners occupied by impressions of the same stamps used for the corners of the inner panels of the upper and lower covers.

Doublures The doublures of all cover elements are framed. The frames are defined by double rows of tripartite fillets and show a running pattern formed

by a rectangular format single-axis stamp depicting alternately inverted trilobed niches containing three-sepal buds with ringed base. The inner panel of the upper and lower cover doublures is demarcated by a single fillet. At the centre of each panel is tooled a knotwork diamond with small cross-shaped knotwork pendants above and below on the vertical axis. The corners of the inner panel are tooled with small knotwork triangles.

The doublure of the fore-edge flap has similar framing and is divided within into two long rectangular panels marked by fillets. The centre of each of these panels is tooled with a small knotwork lozenge.

The envelope flap doublure has tooling similar to that of the upper and lower covers but has a centre knotwork diamond with a single cross-shaped knotwork pendant in the horizontal axis.



67. detail



68 A COVER of a bookbinding; brown leather; blind tooling.

Islamic Museum East Berlin I.827

Dr. B. Moritz

South Arabia, 15th century A.D.

This cover has recently been re-mounted. The tooling is in blind. The outer frame, defined on the inside by double fillets has a running pattern of impressions of a rectangular format single-axis tool. Each stamp shows two interlinked groupings of lotus roses entwined in curling stems. The inner frame is separated from the outer by an untooled band. It is defined by double fillets and has repeated impressions of a bold epigraphical stamp whose floriated inscription, difficult to read, is presumably a variation of the *basmala*. The inner rectangular panel is separated from the inner band by another untooled band and is defined by a double fillet. At its centre is a roundel, without an enclosing circular fillet, made up of closely juxtaposed eight-petalled rosettes with dots at their centre. The corners are tooled with an elaborate single corner piece tool. Within a quadrant circle outline, a palmette is enfolded in a heart shape whose point projects beyond the quarter circle outline to end in a pointed calyx finial. It is flanked by curling stems with leafy buds and tendrils. From the finial points of these corner piece stamps are scribed lance-like flecks which cross one another. To the sides of the ends of each fleck and between the corner stamps are placed circular impressions of an epigraphical stamp with ringed outline. These bear the name:

Muhammad

68. detail



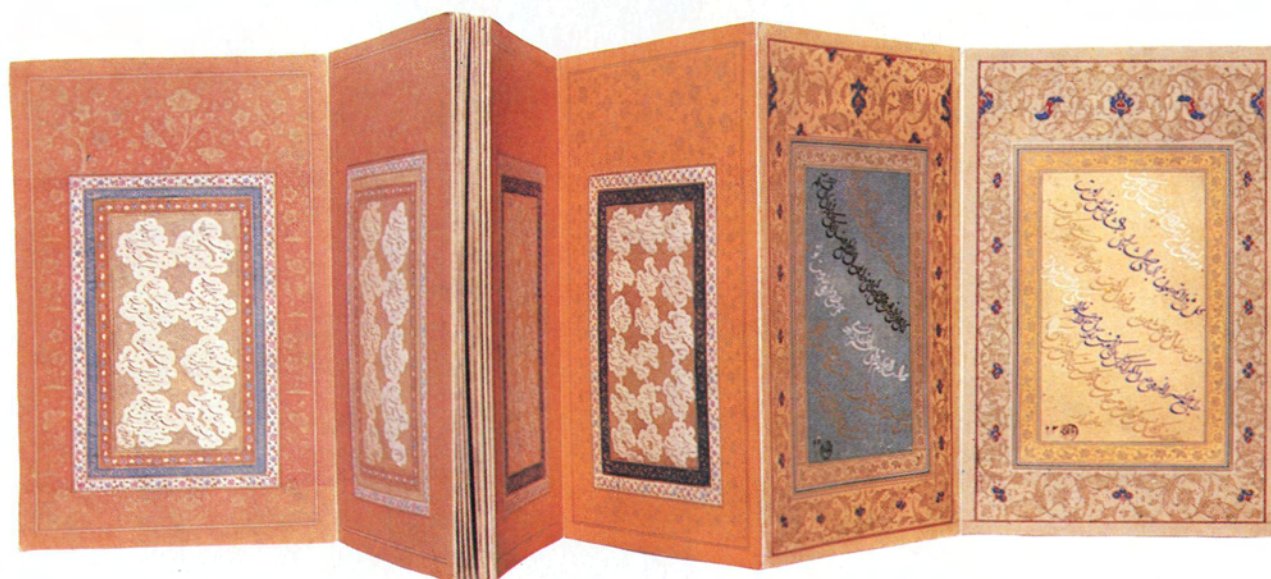
COLOUR PLATE L 86.



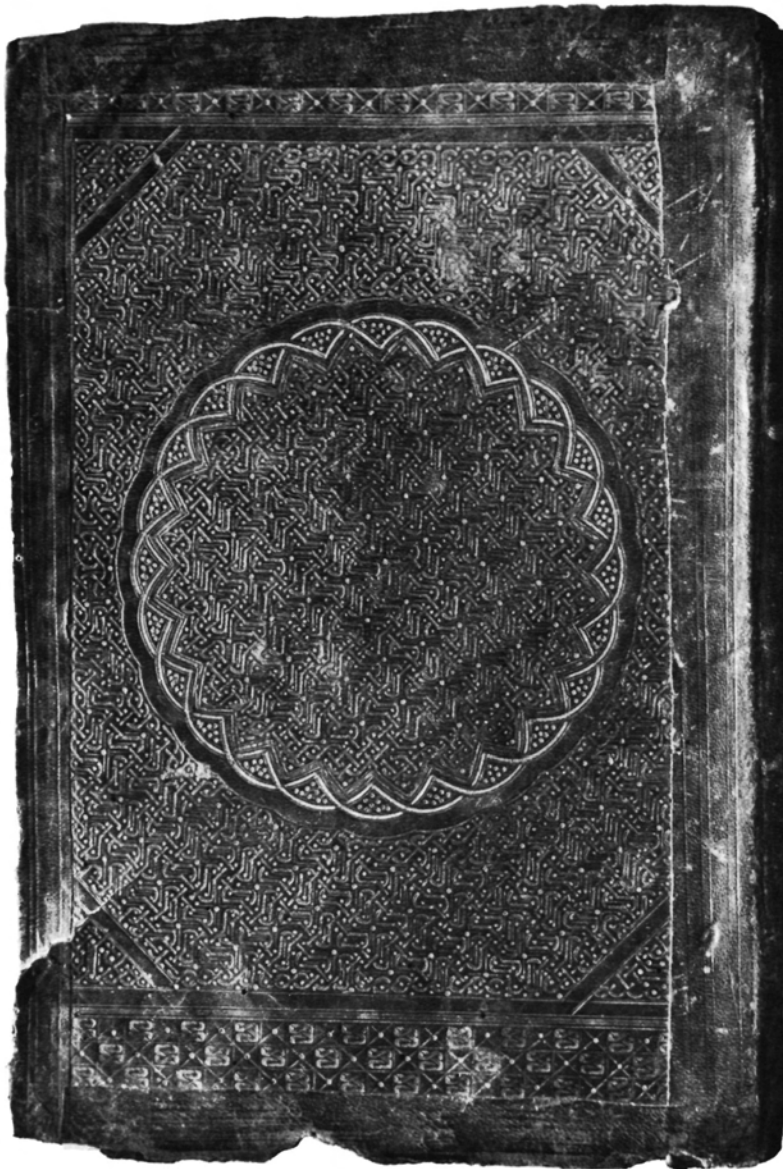
COLOUR PLATE M 17.



COLOUR PLATE N 94.



COLOUR PLATE O 94.



69. upper cover

- 69 A BOOKCOVER; exterior covering brown leather over paper pasteboards; upper cover blind tooling, gold tooling, gold paint; lower cover blind tooling, gold tooling; envelope flap blind tooling, gold paint.

*Islamic Museum East Berlin I.854
Dr. B. Moritz*

This case is a later assemblage of three cover fragments from different books.

Upper Cover The upper cover has its borders obscured by the leather of the later casing phase. As in the lower cover, this leather is tooled with bordering fillets. At head and tail are still visible parts of a beautifully worked frame of a very regular grid composed of alternating rectangular compartments centred by a gold dot and crossed by diagonal fillets, and impressions of a small rectangular format tool showing a twisted loop. A broad tripartite fillet defines the inner edge of this frame.

The perimeter of the inner panel is delineated by an untooled band, defined on its inner edge by a single fillet. A similar band outlines the triangular corners and the large central scalloped medallion. Within the outlining band, interlaced gold scallops create a wavy edge. The outer scallop compartments are picked out with gold dots. Tripartite fillets outline the field within the scalloped outline which, like that surrounding the medallion, is tightly filled with simple crosses with dots at their centres and at the ends of their arms around which knotwork of bars and arcs interweaves.

The corners are filled with a triangular knotwork pattern.

Envelope Flap The head, tail and fore-edge borders of the envelope flap are obscured by the later leatherwork. The flap has a large field tooled with adjacent impressions of a quadrilobe stamp with four small eight-petalled rosettes stamped inside. One of these quadrilobes has its outline painted in gold. A small roundel with a ringed outline appears at the point of the flap.

Lower Cover The lower cover is described as Catalogue No. 54.

- 70 A BOOKCOVER; exterior covering brown leather over paper pasteboards; blind tooling, gold tooling, gold paint; doublures block-pressed leather.

*Islamic Museum East Berlin I.881
Dr. B. Moritz
Egypt/Syria, 14th–15th century A.D.*

The upper and lower covers and envelope flap survive with crude later repairs connecting them at spine and fore-edge flap. The upper and lower covers, although appearing to derive from the same workshop, with similar centre and corner motifs as well as overall workmanship, have very different borders and may be from two separate books. The upper cover (of the present assemblage) has been trimmed down at the head and the lower cover (of the present assemblage) has been trimmed at the head and tail. Their original dimensions were approximately the same.

Upper Cover The upper cover has a burnished border edging a broad frame, defined on the outside by tripartite fillets, and on the inside by a tripartite fillet, the centre line of which is painted gold. It is divided into sixteen compartments, the ornamentation of which is of regular alternating sequence so that those directly opposite one another are different and those diagonally opposite the same. One of the two compartment designs is based on octagon interlaces of infinite extension, formed by tripartite fillets of which the centre line is gold painted. The rectangular panels with these designs in the sides of the frame have two complete octagons with an additional outline of tripartite fillets with half octagons between them on either side. Their centres are filled with quadrilobes formed by hatched arcs centred by, and surrounded by gold dots. The L-shaped corner panels are filled with an extension of this octagon interlace pattern.

The alternating compartments are filled with a pattern which is also used for the field of the inner rectangular panel (and might be considered as an extension of it). Arms of simple crosses (with dots at their centre and at the ends of the arms) provide a grid around which plait- or knotwork of striated bars and arcs interweaves.

The rectangular inner panel has a large central roundel with a gold scalloped double outline which extends on the vertical axis into a double tier of three-sepal calices. The lower of these has a double outline. The central sepals of both calices have a median vein. The base of these extensions has three striated compartments surrounding a central untooled triangle with a double gold outline. Each of the twenty four looped scallops of the central round-

del is centred by a gold dot with blind hatched arcs and dots. The central circle is circumscribed by a tripartite fillet whose outer lines are painted gold. It contains a floral and foliate pattern, symmetrical along its horizontal, vertical and diagonal axes, radiating from the points of a central eight-petalled flower. The points on the horizontal and vertical axes meet the central sepal of a three-sepal calyx whose base, in turn, touches the straight base of a smaller three-sepal calyx outlined in gold. The diagonal axes grow in a similar way but with simpler floral elements. The outer zone has an interlacing bed of leaves with pointed blades. The leaves and petals of all these forms are left untooled, their outline only being drawn with a pointed tool. Their background is filled with a dense peckwork.

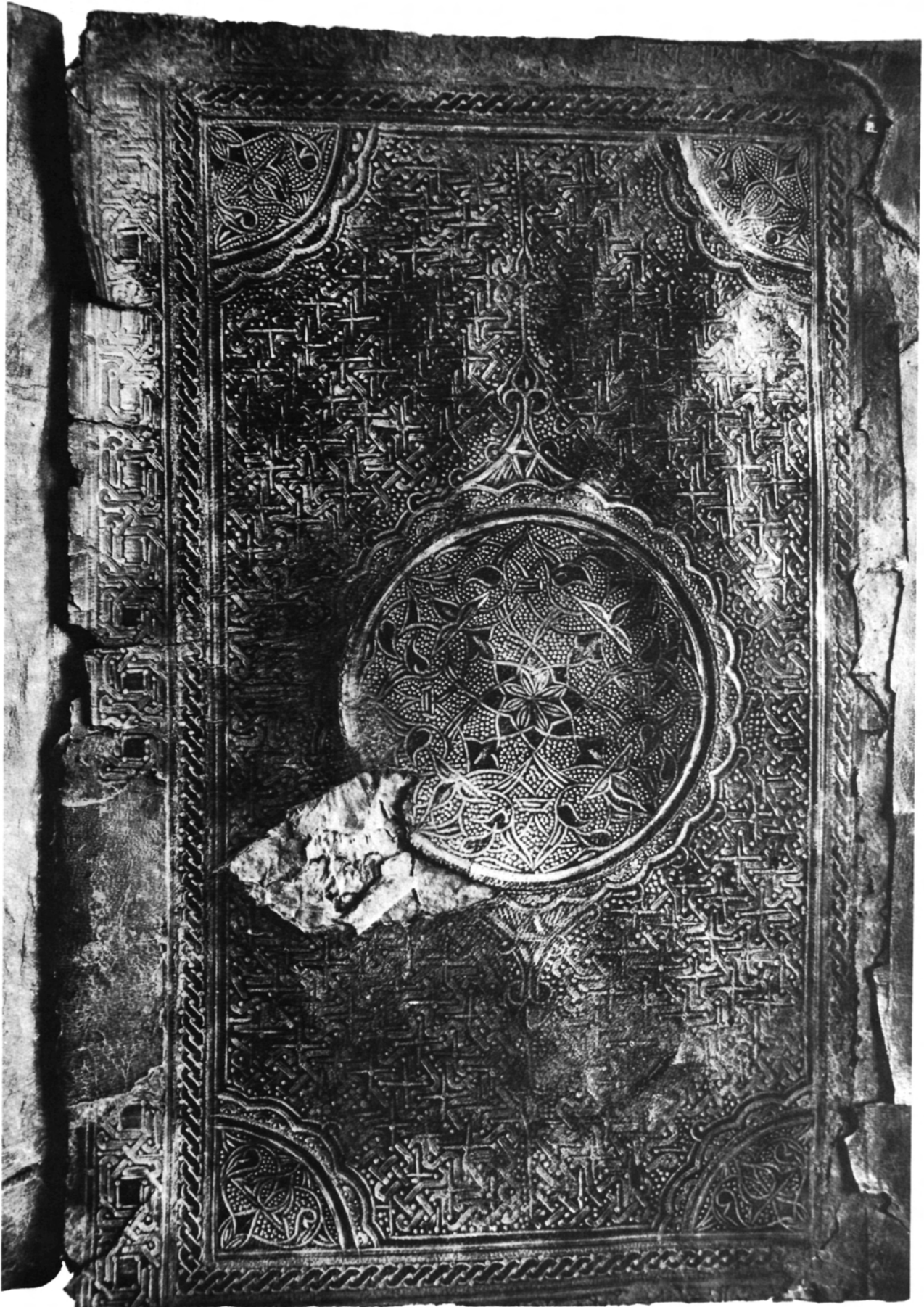
The corners are demarcated by a looped scalloped outline and quadrant circular fillet similar to that of the central medallion. The inner quarter circle field contains a complex three-sepal calyx, with an open central sepal through which grows a double stem springing from a bulbous base to become two flanking leaf forms. This foliate design has a pecked background.

Lower Cover The lower cover has an inner rectangular panel tooled similarly to that of the upper cover but its frames differ. The outer frame, defined on the outside by multiple fillets in a thin meander and on the inside by multiple fillets, contains rows of interlinked knotwork squares of striated bars, arcs and dots centre by squares left untooled except for outlining simple fillets with corner dots. A thinner inner frame (similar to that of 71) is formed of impressions of an S-shaped stamp so placed as to leave a central guilloche pattern of untooled leather with interstitial gold dots.

Envelope Flap Not described or photographed.

Doublures (Upper and Lower Covers) In this block-pressed doublure large nature-inspired floral forms are set amongst leaves and vines. Lotuses opposed symmetrically base to base, six-petalled rosettes and other flowers are connected by curling leafy vines.

Related patterns of lotuses and associated smaller flowers found in the doublures of 48 and 12 envelope flap.



70. lower cover

71 THE UPPER AND LOWER COVERS AND ENVELOPE FLAP of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold tooling, gold paint, filigree, green silk textile; doublure green silk textile.

371mm × 271mm

Oriental Institute A12159

Dr. B. Moritz

Egypt/Syria, 14th century A.D.

Only the upper and lower covers and envelope flap of this binding survive.

Upper and Lower Covers The upper and lower covers are similarly ornamented. A burnished outer border, defined by fillets, edges a thin gold painted meander border constructed of fillets. An outer frame is composed of linked knotwork squares built around tiny circular stamps depicting a six-pointed star with a centre dot. The knotwork is formed using thin hatched bars, arcs and gold dots. The inner edge of this frame is separated from the inner frame by three rows of tripartite fillets, the central groove of the inner fillet being painted gold.

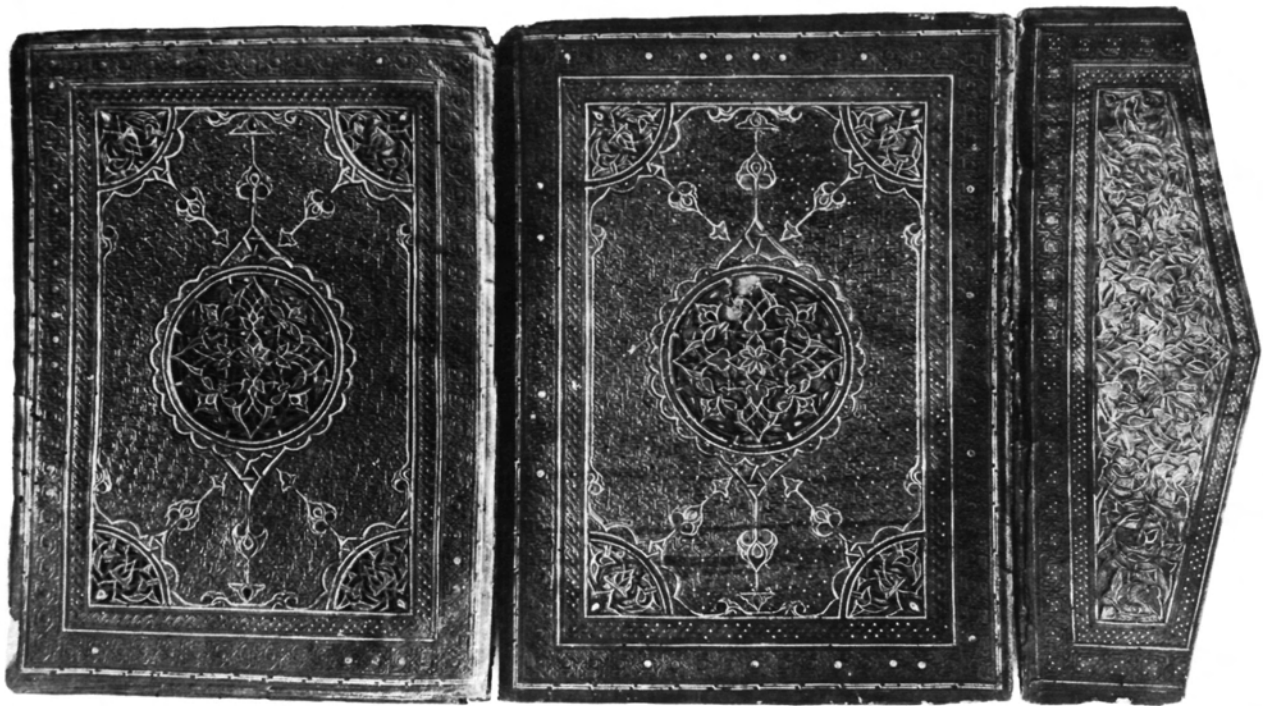
The inner frame is stamped with gold S-shaped tools placed so as to create a guilloche pattern of untooled leather with interstitial gold dots.

Double tripartite fillets, the inner one of which is gold painted, define the inner panel. Its ground is tightly filled with small cross motifs with dots at

their centres and at the ends of their arms around which weave hatched bars and arcs. The elaborate centre medallions and corner quadrant medallions have the leather at their centres cut out in filigree with further small cut-out areas in the finials of the medallion's extensions. The centre medallion has an outer looped scalloped outline and an inner gold one. The scalloping completely encircles the inner roundel and its compartments are filled with arc and dot work. The outline continues along the vertical axis towards three-sepal calyx finials from which a further extension ends in smaller three-sepal calices with straight bases whose centre sepals are cut out. The pointed bases or stems from which the finials project are striated leaving a central triangular cut-out compartment outlined in gold. The central roundel is ringed by multiple fillets with an inner and outer circle painted gold. The floral field is of cut-out leather underlaid by a green silk, which is also used as the doublures of these covers, and has a bisymmetrical pattern with dominant horizontal and vertical axes and minor diagonal axes centred on an eight-petalled gold outlined flower. From this centre interweaving scrolls form an outer zone of ogival-pointed petals or double stems which in the horizontal and vertical axes form the bases of three-sepal calices. A complex interweaving of scrolls continues to the perimeter of the

71. detail





71. upper cover, lower cover and envelope flap

roundel from which single-lobed leaves develop and which, on the diagonal axes pass through bar-shaped ties to become gold outlined three-sepal calices of different form with paired leaves at their bases.

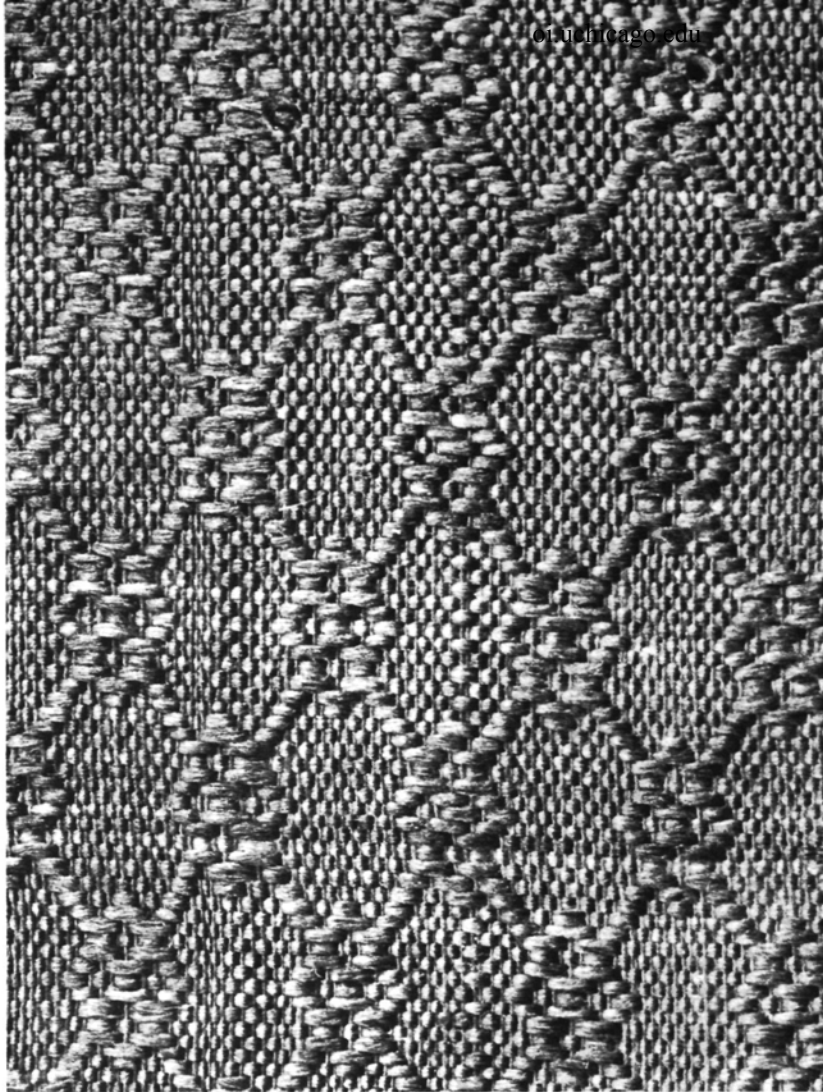
The corner motifs are based on quadrant circles outlined similarly to the central roundel and containing a field with cut out background which combines the decorative elements of both the inner field of the central roundel and the finials of the central medallion. The outer edges of the corner motifs are elaborated by a gold fillet forming an outline related to the scalloping, points and finials of the centre medallion, but with simpler calices on the upper tier of its finials. The gold fillet outline continues around the perimeter of the inner panel and forms half finials of the corner quadrants against the inner frame (the medallions of which the corners are quadrants are conceived as having finial projections in the diagonal as well as in the horizontal and vertical axes).

Envelope Flap The head, tail and fore-edge borders and frames of the envelope flap are decorated in the same way as the corresponding areas of the upper and lower covers, except that the linked knotwork squares of its outer frame are centred by small squares left untooled except for a centre and corner gold

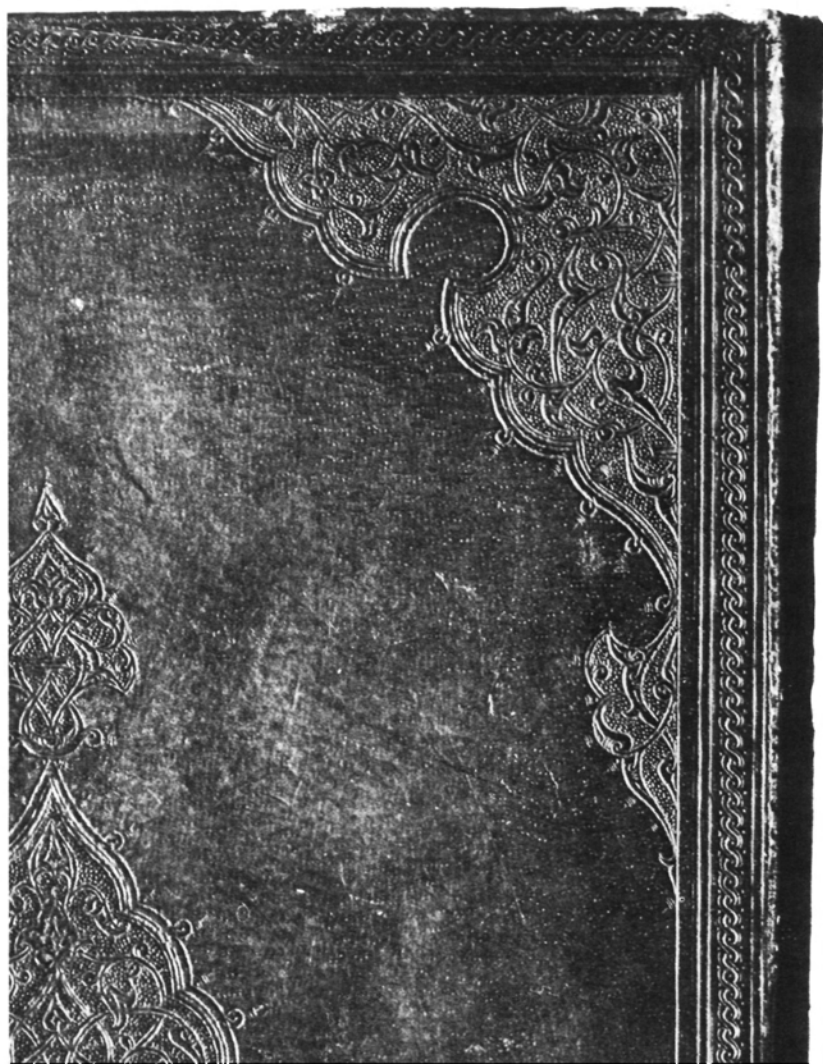
dots. The inner guilloche frame continues to border the pointed edge of the flap. The inner panel has a field of rolling interweaving scrolls with leaves and three-sepal calices issuing from a large central three-sepal calyx with an open centre sepal. The design is symmetrical along the horizontal axis. The elements of this foliate design are outlined with gold fillets and the background is cut out and underlaid by the same green silk used in the upper and lower covers and for the doublures.

Doublure (Upper and Lower Covers and Envelope Flap) The doublures are of a green silk textile. The textile historian, Mrs. Anna Muthesius, has kindly examined photographs of this silk and from this evidence has suggested that it is of the 14th century A.D., probably Near Eastern but possibly Chinese, and has similarities with a red silk strip of the same technique (tabby with weft floats) in the Church of St. Servatius, Maastricht (m. no. 18.6) (the keepers of this treasury, Father S. Tagage and Mr. Schouten, are gratefully acknowledged). A similar binding with silk of similar weave and design, but blue rather than green in colour, is illustrated by Sarre.

P. Adam, (March 1905); p. 180.
A. J. Arberry, (1967); No. 77.



71. doublure detail



G. Bosch, (1952); pp. 114, 116, 119, 125, 130, 145–146, 166; Pl. XVI.

E. Kühnel, (1925); p. 67.

J. Michelet, (1932); pp. 13–15.

D. Miner, (1957); p. 31; Pl. XVIII, No. 68.

F. Sarre, (1923); pp. 13, 14; Pls. VII & VIII.

- 72 A BOUND MANUSCRIPT; Arabic; *Nasāyikh-Iskandar*, signed Jaafar al-Baisunkary, 829 H./1425 A.D.; textblock Oriental hand-made laid paper; this volume has undergone a discreet rebinding to the spine and the fore-edge/envelope flap joint from which repair phase also date green silk-lined endleaves; link stitch sewn at two sewing stations; endbands missing, exterior covering brown leather (goat) (varnished) over paper pasteboards; blind tooling; doublures brown leather (goat); blind tooling.

198mm × 119mm.

Chester Beatty Library MS 4183

Herat, c. 829 A.H./1425 A.D.

Upper and Lower Covers The tooling of this binding is extremely fine in scale and meticulously executed with blind scribed outlines and peckwork. Upper and lower covers have similar layouts and central motifs but their corners differ. The border of each cover is formed by minute closely-placed S-shaped stamps with interstitial and flanking dots and is defined by fillets.

The central motif of the covers is an elongated scalloped mandorla whose points pass through rings to become elaborate bud-like forms with small three-sepal calices as finials. The scalloped outlines are formed by parallel fillets with loops at their outer edges from which flecks project. These flecks have triple cross bars. The field within the mandorla is filled with a complex bisymmetrical arabesque springing from its centre. This arabesque is composed of sinuous interweaving lines with single- and bilobed leaves. The background is filled with dense peckwork. The bud-like finials to the mandorlas are filled with related forms dominated by a three-sepal calyx with elaborate internal detailing.

The corners of the inner panel of the lower cover are also related in the tooling used for the outline and the arabesque filling, but have a more exuberant contour and resemble segments of cloud collars with bud-like finials. The corners of the upper panel and of the envelope flap differ in their outlining contours from those of the lower cover

72. detail upper cover

having cusped rather than scalloped edges. The points of the cusp become small three-sepal calices.

Envelope Flap The tooling of the frames of the head, tail and spine of the envelope flap is as for the corresponding areas of the upper and lower covers. At the point of the flap on its horizontal axis is tooled a scalloped ovoid with a single bud-like finial. The tooling of these motifs uses elements similar to those on the other parts of the outer covers as do the corners of the envelope flap.

Doublure The doublures have minute central motifs of a whirling form within a multiscalloped medallion with radiating crossed flecks. In the vertical axis extensions form a stem passing through rings supporting sharp three-sepal calices. At their points are four-cusped sided forms topped by three-sepal calices.

- 73 THE LOWER COVER of a bookbinding; exterior covering light brown leather (goat) over paper pasteboards; blind tooling; doublure light brown leather (sheep).

280mm (approximate original measurement—cover is now eroded away at head and tail) × 180mm

Oriental Institute A12124

Dr. B. Moritz

Egypt/Syria, late 14th–15th century A.D.

Lower Cover A thin frame, defined by two rows of widely spaced tripartite fillets on either side, has a guilloche pattern of interlocking reverse S-shaped stamps.

At the centre of the inner panel is a medallion with a looped scalloped double outline. The outer defining fillet (drawn with preliminary fillets to guide the binder in the placing of the decoration) extends on the vertical axis to form scribed finials of large three-sepal calices with a pair of small circular leaf buds half way up their stems. In the base of each stem is stamped a single small crescent. The scallops are filled with multiple impressions of this tool.

The roundel of the central medallion has an outer thin ring of untooled leather defined on the outside by a single fillet and on the inside by a tripartite fillet. Within is a wider ring tooled with the same guilloche pattern as found in

the frame of this cover. The inner circle is defined on the outside by a tripartite fillet and on the inside by a single fillet separated by an untooled ring. Its field is filled with a reticulated pattern interwoven with close rows of small fillets resembling diagonal textile floats. This complex is formed using small straight fillets and the little crescent tool.

The simple triangular corners of the inner panel are underemphasized in scale. They are demarcated by a tripartite fillet which continues around the perimeter of the panel and contains a simple knotwork formed by the same tools used to infill the centre medallion.

The perimeter of the inner panel has an additional delineating single fillet.

G. Bosch, (1952); p. 144; Pl. XXII (represented by Oriental Institute A12111).

M. Weisweiler, (1962); Abb. 43, *Handschrift* 55, 14th or 15th century A.D., *Deckeltyp* 58; Abb. 44, *Handschrift* 9, Cairo, 1394 A.D., *Deckeltyp* 64.



73. lower cover



74. lower cover, fore-edge flap and envelope flap

- 74 THE LOWER COVER, FORE-EDGE FLAP AND ENVELOPE FLAP of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling and gold paint; doublures block-pressed leather (sheep) (lower cover), light brown leather (goat) (envelope flap original doublure obscured by applied hand-made laid paper).

260mm × 168mm
 Oriental Institute A12111
 Dr. B. Moritz
 Egypt/Syria, 15th century A.D.

The borders and fore-edge flap are partly obscured by crude later leather repairs. The upper cover of this binding may be C.A. Chiesa 23.

Lower Cover A broad burnished band edges a running border of impressions of a square format single-axis tool depicting three-sepal calices or tulips within encircling scrolls and with intervening small double bud forms. The inner edge of this border is defined by multiple fillets which also define the inner panel.

The inner panel is centred by a small roundel with substantial extensions in the vertical axis. Within a gold outlining fillet, the roundel has an outer ring, defined by double fillets, containing impressions of a reverse S-shaped stamp. A thin ring of untooled leather, defined on its inner edge by a single fillet, en-

closes a centre field of rows of impressions of the square border tool.

The gold painted outline of the roundel has small projecting loops, and in the vertical axis tapers to points from which develop large three-sepal calices with small circles at the bases of their outer sepals and a pair of circular leaf bud forms on their stems. The tapering bases of these finials have inner defining double fillets enclosing small gold outlined triangles, each enclosing a single impression of the simple crescent tool used to construct the loops along the periphery of the roundel.

The triangular corners of the inner panel are demarcated by double fillets and contain three gold painted impressions of the small crescent stamp.

Envelope Flap The borders of the envelope flap at head, tail and fore-edge, and the corners and defining lines of the inner panel, are tooled similarly to the corresponding areas of the lower cover. The perimeter of the inner panel is delineated by a single fillet. At the middle of the fore-edge side of the panel this line develops into the undulating base of a vegetal form which is the centre piece of the flap. This is circumscribed by a single fillet with three axially po-

sitioned loops (from which project flecks). Within, a double fillet forms a roundel with a pointed base enclosing a small triangle. The roundel represents a flower whose petals are formed by a band of impressions of the reverse S-shaped stamp. This band is defined on the inside by another double fillet which encloses a small inner circle centred by a lozenge-shaped group of four gold painted ovoids possibly indicating pistils or stamens. These are formed by impressions of the small crescent stamp. At the base of this vegetal motif two small sepals are scribed.

Doublure (Lower Cover) Only the badly disfigured doublure of the lower cover survives. Its condition makes it difficult to describe but it has interweaving vine scrolls and associated calices related to those of 5, 11 cover B, and 38. Like 64 it is printed from a block in which the part forming the design has been left in relief.

G. Bosch, (1952); pp. 130, 136, 144, 162; Pls. XXIV & LI.

M. Weisweiler, (1962); Abb. 43, Handschrift 55, 14th or 15th century A.D., Deckeltyp 58. Chiesa catalogue, No. 23.

74. detail



- 75 THE UPPER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling and gold paint; doublure block-pressed leather (goat).

260mm (approximate original height—cover worn away at tail) × 175mm
 Oriental Institute A12110
 Dr. B. Moritz
 Egypt/Syria, 15th century A.D.

Upper Cover Its border is defined by multiple fillets (the one closest to the border on each edge being gold painted) and has a running pattern of impressions of a very finely-engraved square format single-axis tool forming a delicate symmetrical double-tiered calyx form within a cloud collar frame which alternates with symmetrical upright leafy stems in a field formed by the outlines of the cloud collars. This is a case where the full realisation of the design depends on the placing of the stamps, not immediately adjacent to one another, but rather a short distance apart so that the intervening tiny strip of unstamped leather can become a vegetal stem intervening between the cloud collar frames.

A thin inner frame is defined by multiple fillets and has a gold painted guilloche pattern formed by a twisted S-shaped tool.

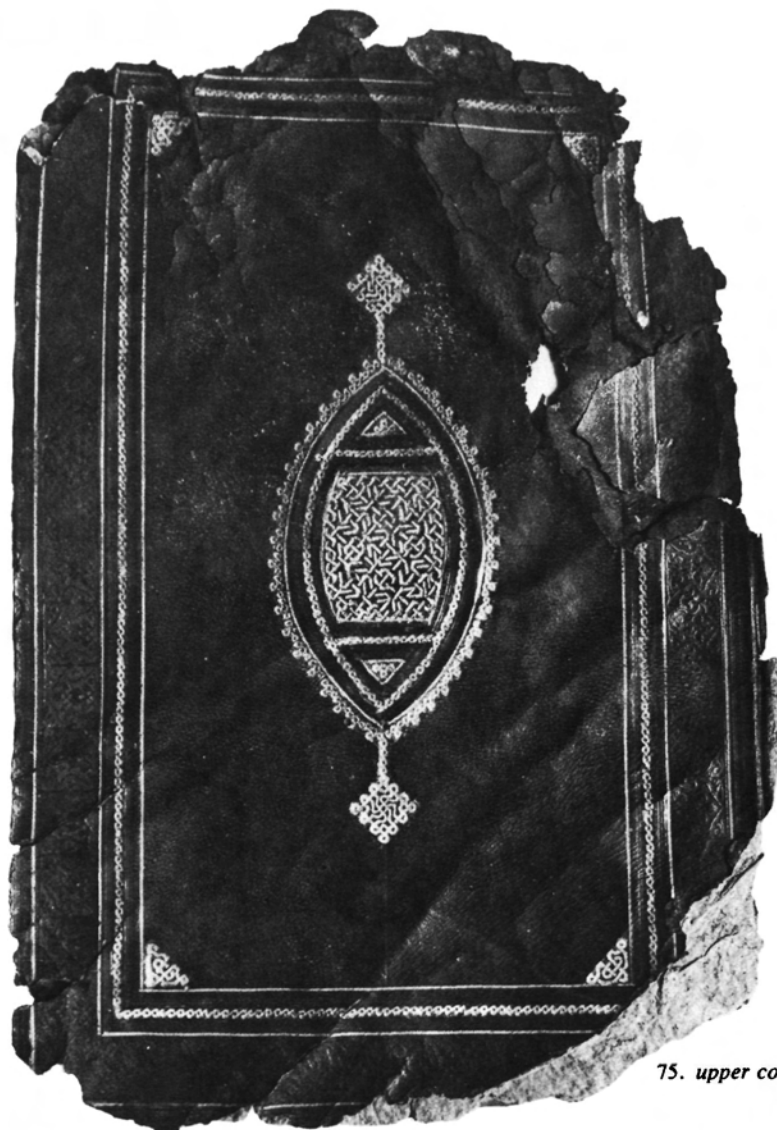
The inner panel is defined by a gold fillet. At its centre is a glowing mandorla with pendants on the vertical axis. The outer edge has a gold painted crocheted outline formed with the tool used for the inner frame and minute rosette stamps. The pendants are attached with gold painted chains made of the twisted stamp. The pendants themselves are filigree-like diamonds formed by small bars and arcs.

The mandorla is defined by an outer gold painted fillet and band of multiple fillets. Within these, a gold chain pattern outlines an inner mandorla with two chains in the horizontal axis near the points which divide it into three compartments. These are defined on the inside by multiple fillets. The small triangular inner compartments at either end are outlined in gold and contain a small gold dot. The dominating central compartment has a gold painted pattern like a textile weave. Intersections of a diagonal grid pass through rings and the spaces in between are filled by horizontal and vertical elements.

The corners of this panel are under-emphasized and are occupied by small triangular groups of knotwork.

Doublure The block-pressed doublure has a flimsy pattern of interlacing curved lines forming floral compartments filled with various flower forms of different sizes. A large part of the doublure is missing so that it is difficult to reconstruct exactly the design module, but it seems that its centre is a large eight-lobed compartment centred by an eight-petalled form (each petal being trilobed). Each lobe of the main compartment is occupied by a five-petalled flower on a slender stem. Where the lobes of the outline meet they form inward pointing arrows. The interlace continues to form the compartments of the surrounding zones. These are alternately a quadrilobe with three-sepalled or arrow-like forms arranged on the axes of a small central dish-sided cross, and a smaller compartment with six concave sides containing a six-petalled flower.

G. Bosch, (1952); pp. 114–115, 126, 136, 144, 162; Pls. XIX & LII.



75. upper cover

- 76 A COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold paint; doublures light brown leather (goat); blind tooling.

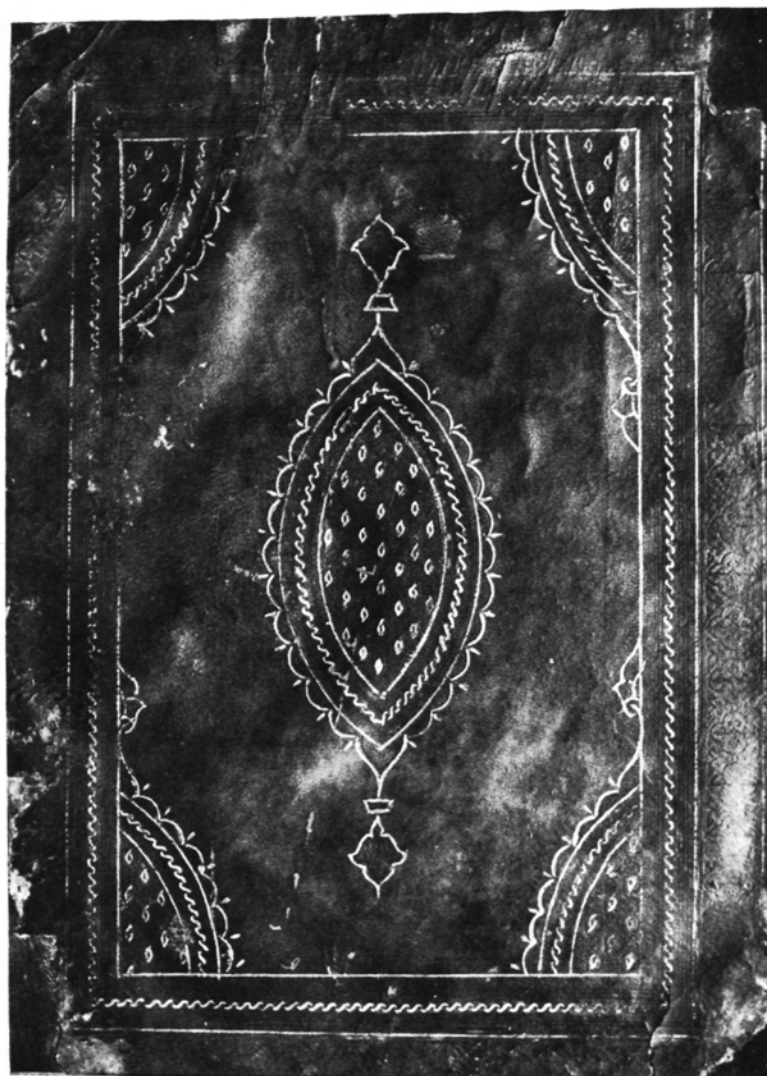
334mm × 254mm (original dimensions c. 350mm × 260mm)

Chester Beatty Library Moritz Collection 58

Dr. B. Moritz

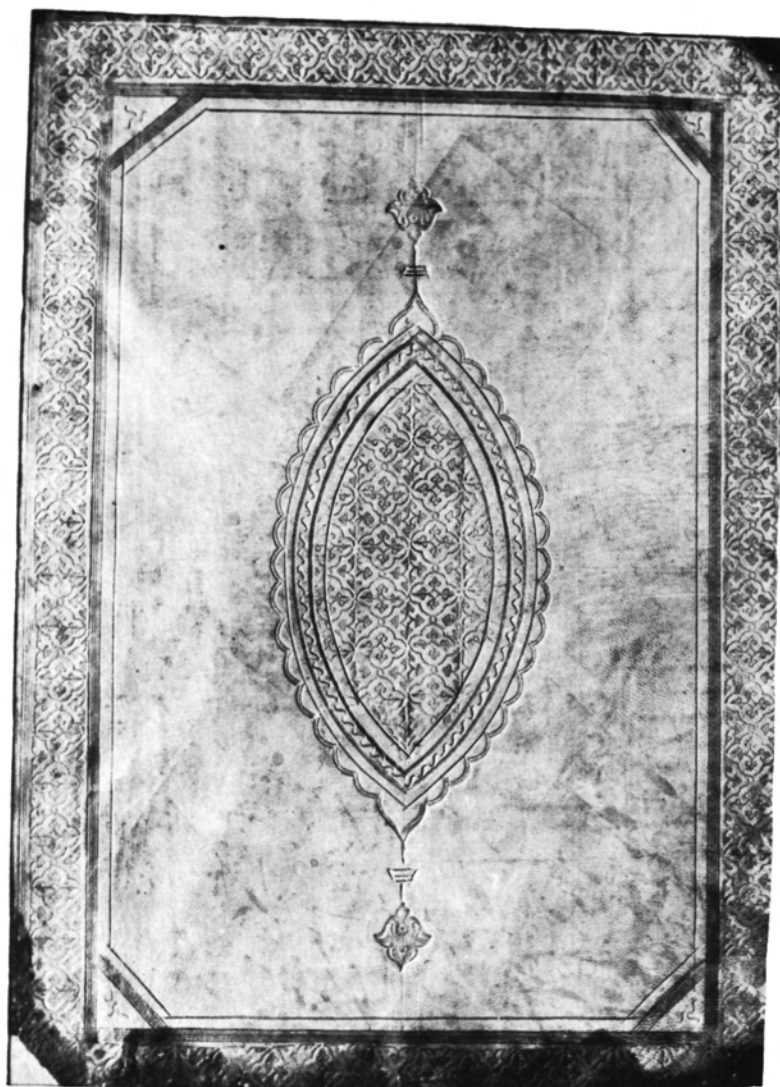
Egypt/Syria, 14th–15th century A.D.

The pasteboard of this cover has been removed. Multiple gold fillets define its border, one fillet on each side being painted gold. A running pattern is made of impressions of a large, square format two-axis tool depicting linked convex quadrilobes enclosing a cross-shaped formation of four small trilobes issuing from a central diamond. The spaces alternating between the convex quad-



76. cover

75. detail

76. *doublure*

rilobes thus have concave sides and contain halves of similar vegetal crosses.

An inner frame, also defined by multiple fillets has a gold painted guilloche pattern of small interlocking S-shaped stamps.

The ornamentation of the inner rectangular panel is conceived as a repeating pattern of finialed mandorlas, one of which is positioned at the centre of the panel and four others cut by the frame into quadrant mandorlas. The mandorlas have a gold painted outline

of shallow scallops with flecks radiating from their spandrels. Their points are ogival in form and pass through a bar-shaped vestigial ring (omitted from the corner quadrants) to end in very finely made finial stamps depicting a three-sepal calyx with hollow base and receptacle and containing plant filling with indentations. These are outlined in gold.

Within the mandorlas two gold fillets and multiple blind fillets enclose a gold painted guilloche pattern of interlocking S-shaped stamps as used in the inner frame. Their inner fields are filled with alternating stamps of linked diagonal loops and gold painted drop or seed shapes formed by two arcs. The latter dominate the design.

Doublure The *doublure* is completely blind tooled and has an outer border similar to that of the exterior of the cover. Within the expanse of the inner rectangular panel is a mandorla, similar in most respects to that of the exterior, but without the radiating flecks and with an inner field which is an overall pattern exploiting the two-axis qualities of the border stamp. The corners are under-emphasized in size and are demarcated by multiple fillets. They contain three impressions of the small S-shaped stamps tooled so as to appear to revolve around a common centre. The outer confines of the inner panel are marked by a single fillet leaving an untooled band.

- 77 A COVER of a bookbinding; exterior covering brown leather (goat): blind tooling, gold paint.

258mm × 170mm

Chester Beatty Library Moritz Collection 60

Dr. B. Moritz

Egypt/Syria/Persia, 15th century A.D.

Only the exterior leather covering of this cover survives, the pasteboard and *doublure* having been removed. The border, defined by fillets (one on each side being painted gold), is a running pattern of impressions of a square format two-axis tool, very finely made, depicting eight-pointed strapwork star interlaces of two four-pointed stars with a small eight-pointed star or eight-petalled floret at the centre.

The inner panel, defined like the border with fillets, one of which is painted

The field within the mandorla has a bisymmetrical formation of interlacing two-sepalled split calices and leaves with a three-sepalled calyx with straight base at the ogival points. The outlines of these positive elements are scribed with the inner parts left untooled. Their background is patterned with rows of peck marks. The corners are related in decorative conception to the finials of the central mandorla and are the impression of a single tool. The outline is a gold painted cloud collar form with triple gold painted radiating sprigs. Within is a delicate leafy stemmed symmetrical lotus form. The base of the flower is picked out in gold. The gold fillet outlining the corners continues around to mark the outer confines of the inner panel.

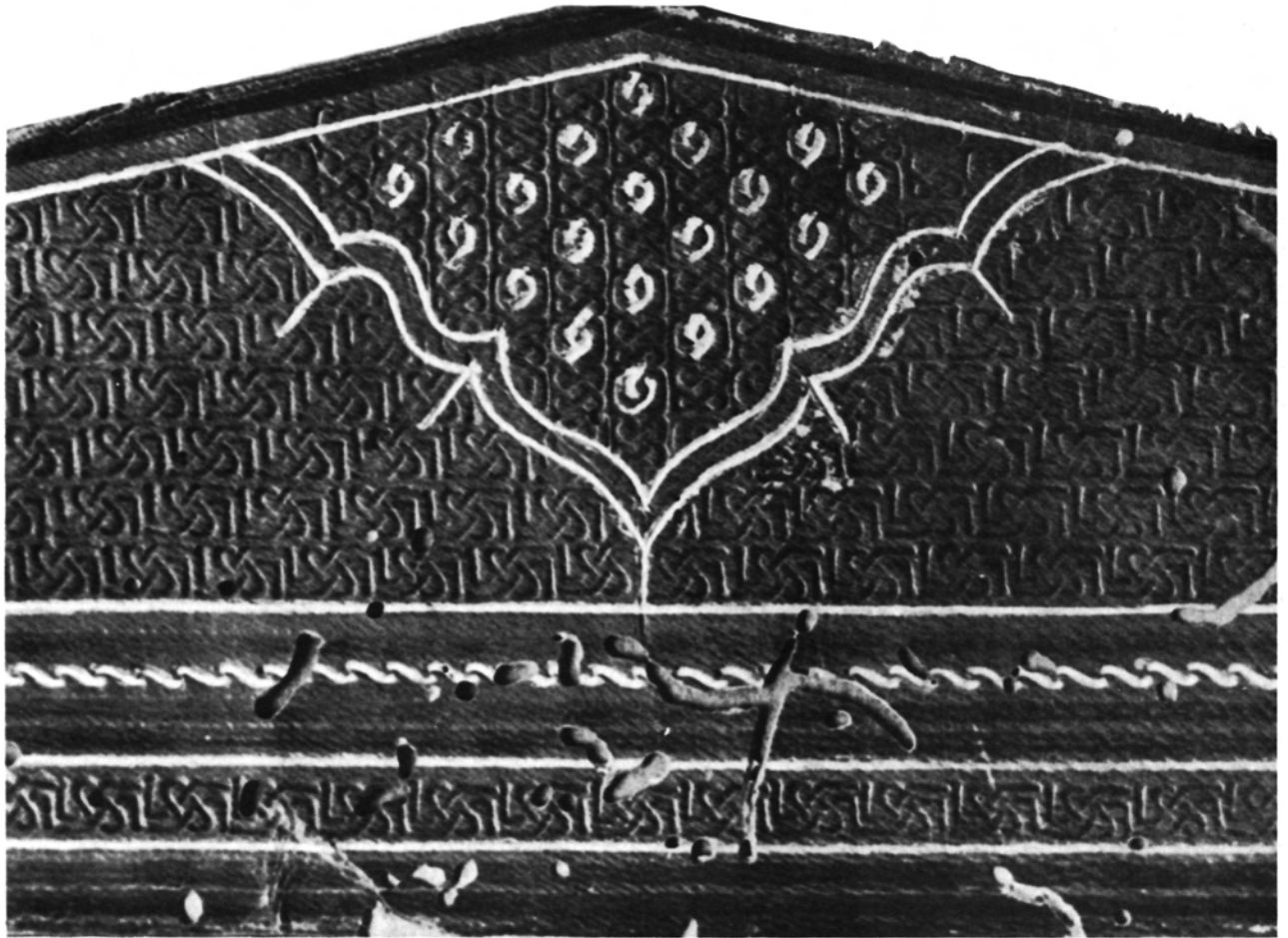


77. cover

gold, has a central attenuated scalloped mandorla. The shallow scallops have a double gold painted outline. The ogival points of the mandorla move through a ring into a voluptuous three-sepalled calyx with downward-curling outer sepals and elaborate plant filling. This calyx is the impression of a single tool which was then inpainted with gold. From the spandrels of the scallops project short radiating gold painted sprigs.



78. envelope flap



78. detail

- 78 THE ENVELOPE FLAP of a bookbinding; exterior covering brown leather (goat); blind tooling, gold paint.

Height 269mm

*Chester Beatty Library Moritz Collection
40A*

Dr. B. Moritz

Egypt/Syria, 14th–15th century A.D.

Only the exterior leather of the envelope flap survives. A running border at head, tail and fore-edge, defined by multiple fillets of which one on either side is gold painted, is formed of blind impressions of a rectangular format single-axis stamp depicting a knotwork meander. An inner frame of gold painted interlocking reverse S-shaped stamps is also defined by fillets.

At the point of the flap is tooled a section of a scalloped mandorla with an ogival point. It has a double gold painted outline with radiating flecks. Its inner field is filled with alternating blind stamps depicting linked diagonal loops and gold painted drop or seed shapes developed within a rectangular outline. The adjacent flanking fields are filled with an overall pattern of rows of blind impressions of the border knotwork meander stamp. The corners are simple triangles demarcated by fillets and contain three gold painted impressions of the reverse S-shaped stamp placed as though revolving around a common centre.

The perimeter of the main panel is marked by a gold fillet.



- 79 THE UPPER AND LOWER COVERS of a book-binding; exterior covering brown leather (goat); blind tooling, gold paint.

264mm × 176mm

Chester Beatty Library Moritz Collection 53

Dr. B. Moritz

Egypt/Syria, 14th–15th century A.D.

Upper and Lower Covers Only the exterior leather covering of the upper and lower covers survives, the pasteboards and the doublures having been removed. They are both similarly tooled. Multiple fillets define a running border of blind impressions of a large, square format two-axis tool depicting linked convex quadrilobes enclosing a cross-shaped formation of four small trilobed calices issuing from a central diamond. The spaces alternating between the convex quadrilobes thus have concave sides and contain similar vegetal crosses.

The centre panel has a large motif with scalloped outlines painted in gold with flecks radiating from loops at the apices of the scallops. Its ogival points on the vertical axis merge into a single gold painted fillet which passes through a bar-shaped vestigial ring to become a four-sepalled calyx with notched base. These finials are scribed and the lines painted in gold.

The field within the central form is filled with a cellular pattern of stamps of linked diagonal loops alternating with a drop or seed form produced by two overlapping ovoids. The shared ovoid thus framed is painted in gold, with the curve projecting to the left creating a little stem.

The simple triangular corners are demarcated by multiple fillets and each contains a gold painted triangular knot. The outer confines of the inner panel are defined by a single gold fillet leaving an untooled band.

79. detail

- 80 THE LOWER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling, gold paint; doublures block-pressed leather.

*Islamic Museum East Berlin I.861
Dr. B. Moritz
Egypt/Syria, 14th–15th century A.D.*

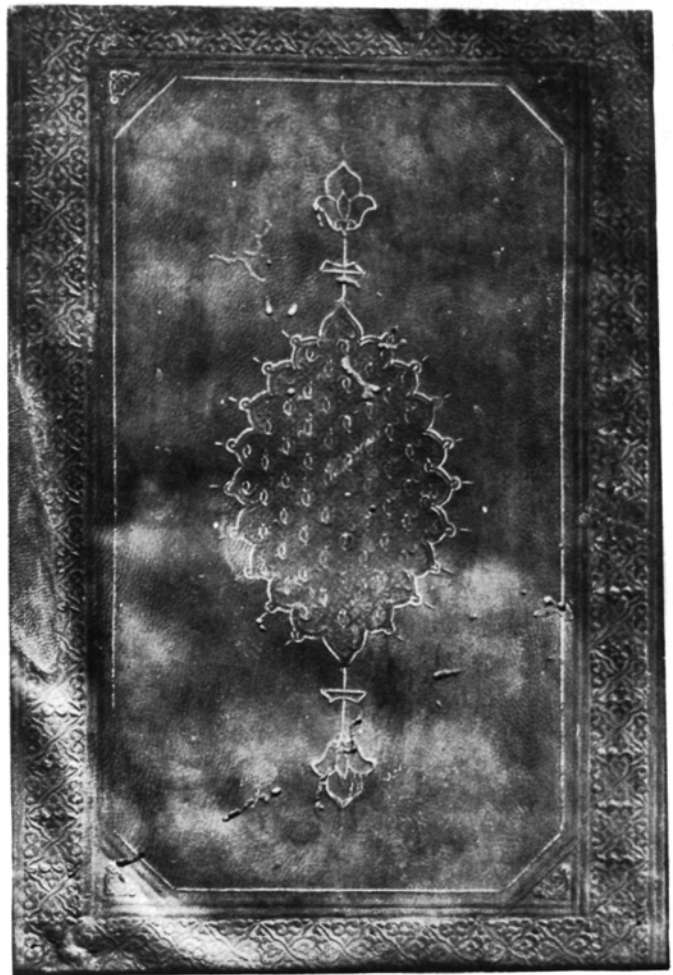
Lower Cover Spaced rows of fillets edge a frame of interlocking impressions of a simple S-shaped tool, defined on the inside by fillets.

More fillets define the rectangular inner panel. This is dominated by a mandorla, outlined by a gold painted fillet, which extends into twisted finials splaying into triple impressions of the S-shaped tool. The outline is sparsely scalloped by gold crescents of which a triple grouping appears on one side. From, and between, these scallops radiate small gold painted flecks. Within the outline, concentric mandorla fillets frame a central infill of a diaper pattern of rows of a square format two-axis stamp in which a small centred square has a half-hatched hexagon on either side.

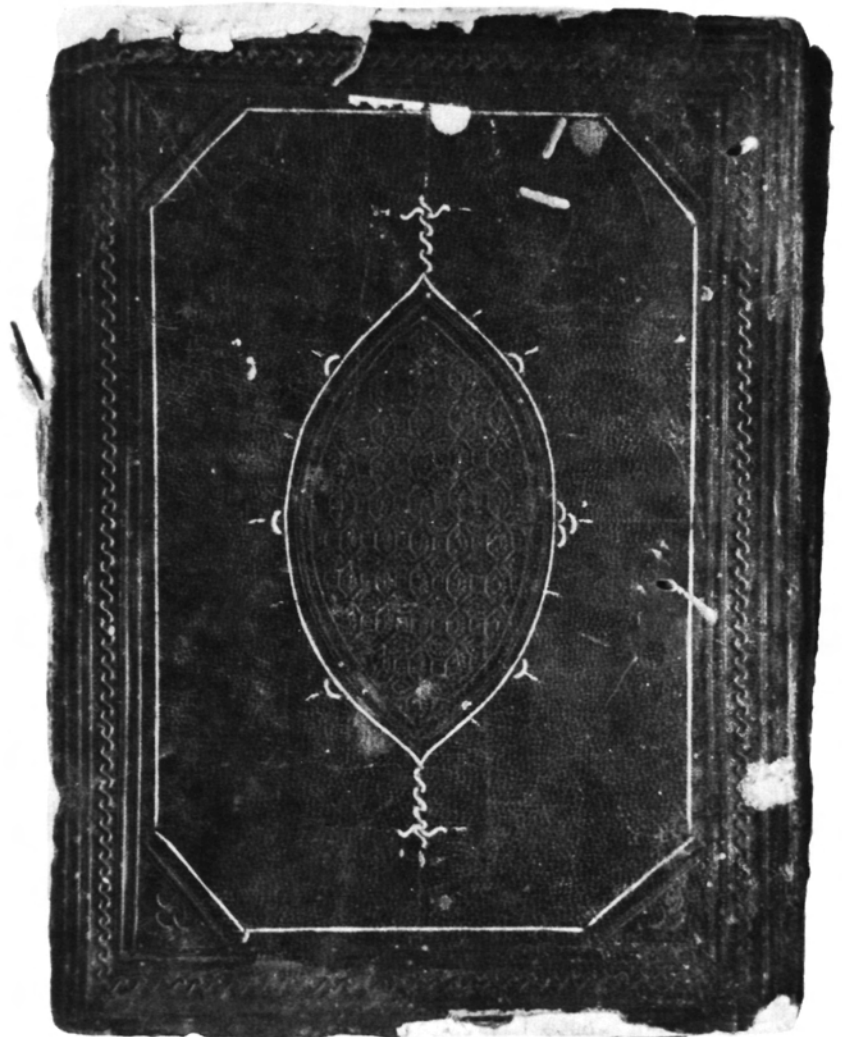
The triangular corners are demarcated by tripartite fillets and contain three impressions of the crescent stamp. The perimeter of the inner panel is marked by a single gold fillet.

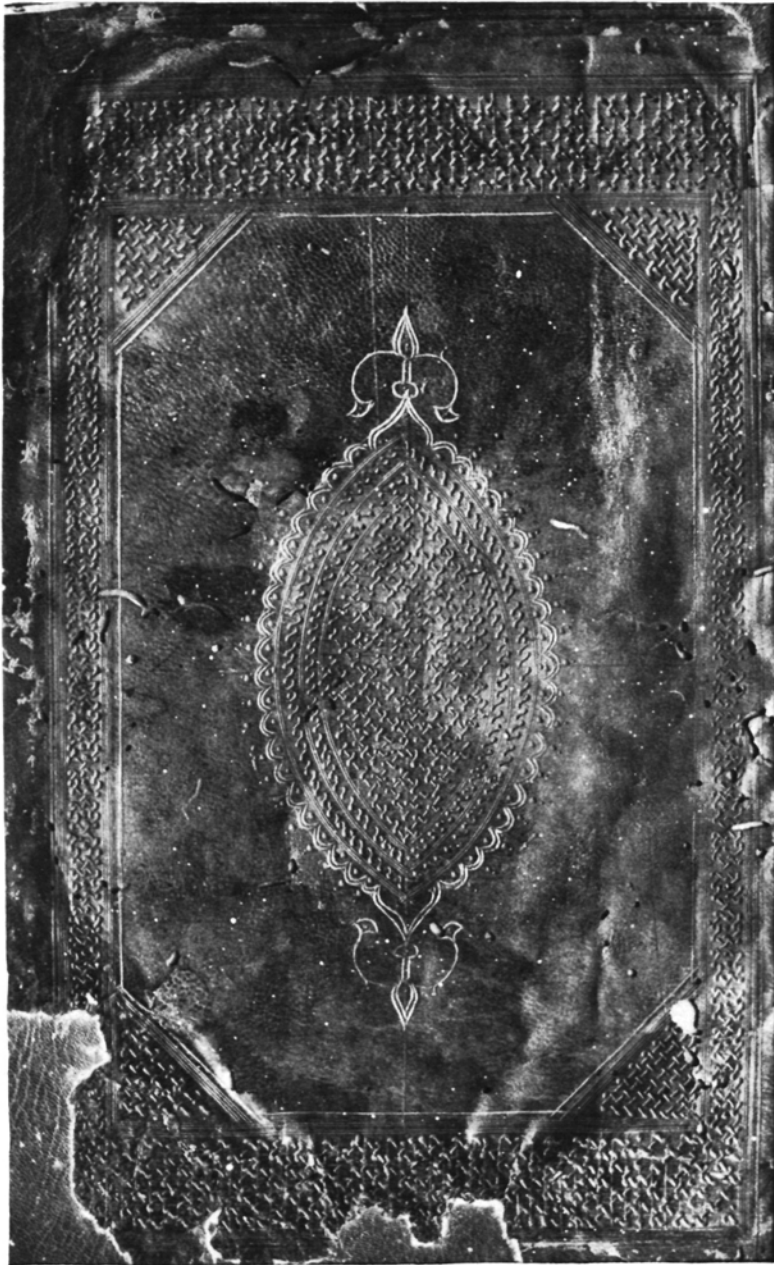
Doublure This block-pressed doublure displays only part of a larger biaxial pattern, the dominant motif of which has four large petals of double outline stemming through rings from a central diamond interlace. The lines defining the petals have two heart-shaped knots on either side. The inner field of the petals is filled with a symmetrical interweaving of calyx and leaf forms. From the centre, on the diagonal axes between the main petals, spring stemmed three-sepalled calices from whose points develops a symmetrical leaf interlace, flanked at its base by ball-like tufts, terminating in a large three-sepalled calyx with flat base.

80. lower cover



79. cover





81. cover

- 81 THE UPPER AND LOWER COVERS of a book-binding, exterior covering brown leather over paper pasteboards (the doublure and pasteboard of Chester Beatty Library 45 have been removed); blind tooling, gold paint; doublure Islamic Museum East Berlin light brown leather.

296mm × 192mm

Chester Beatty Library Moritz Collection 45 & Islamic Museum East Berlin I.852

Dr. B. Moritz

Egypt/Syria, 14th–15th century A.D.

Upper and Lower Covers Both covers are similarly decorated. It seems that the tooling of each cover is not by one hand. The paring and covering of the boards with leather and the blind tooling of the fillets defining the frame, corners and central mandorla are competently executed but the infilling knotwork and the calyx finials of the mandorla are obviously done by an unpractised hand, possibly of an apprentice. The tools used for this work are a simple bar tool and a simple reverse S-shaped stamp. A grid is scribed with a pointed tool to guide their placement.

The covers have a frame, defined by multiple fillets, with wider panels at head and tail. The central mandorla has a gold double-scalloped outline with schematic and roughly executed three-sepal calices developing from vestigial ties at the ogival points. Their outer sepals are stamen-like. The outlining scallops are centred by single dots and at each apex is placed a dot with a smaller one beyond it. The centre of the mandorla is enclosed by two outer bands, defined by double fillets which contain irregular repeats of the reverse S-shaped stamp. The centre is filled with a primitive knotwork mesh produced by the reverse S-shaped stamp, short fillets and dots.

The simple triangular corners, demarcated by multiple fillets, are tooled with a similar pattern. The outer perimeter of the inner panel is delineated by a single gold fillet.

- 82 THE FORE-EDGE FLAP AND ENVELOPE FLAP of a bound manuscript; *Qurʾān*; copied by Aḥmad ibn Bakht-Khojā al-Shāfi al-Ṭarabulsī, probably Tripoli (Syria), Ramaḍān 896 H./July 1491 A.D.; exterior covering brown leather over paper paste-boards; blind tooling, gold paint, blue paint.

480mm × 325mm.

Chester Beatty Library MS 1486
Syria, late 15th century A.D.

The upper and lower covers and spine of this bookbinding survive and the former are tooled similarly, both on the exterior and on the doublures.

Fore-edge Flap The fore-edge flap has a thin border, defined by fillets, of a link pattern of small interlocking S-shaped stamps inpainted blue. A second row of similar tooling at head and tail encloses a row of simple interlinked diagonal loops painted gold and defined on the inside by gold painted fillets. The long central panel is dominated by a cartouche with the panel-stamped inscription:

*innah qurʾān karīm fī kitāb maknūn
lā tamassuh illā al-muṭahharūn*

The cartouche has ogival ends. The compartments beyond have scribed symmetrical floral and foliage decoration inpainted in gold, depicting full flowers and buds on leafy double entwined stems. Leaves and petals have been depressed in the leather with a burnishing tool leaving a darker colour in these areas. A three-sepalled calyx

projects into this foliage from the points of the cartouche.

Envelope Flap The envelope flap has a broad border divided into two L-shaped corner compartments and one centre compartment outlined by the same combination of gold painted triple fillets and chain of small S-shaped blue inpainted stamps as border the fore-edge flap. Within are bands of the simple gold painted interlinked diagonal loops as are found at the head and tail of the fore-edge flap.

The main panel of this flap has panel stamp motifs at the point and corners. These are the same as used in the corners of the upper and lower covers. The panel stamp at the point has a pattern which is orientated horizontally and which is related to the larger central scalloped mandorla-shaped panel stamps of the upper and lower covers (these have pendant calyx stamps above and below on the vertical axis). This panel has a flattened medallion with an outline of large shallow scallops and an ogival point towards the fore-edge flap. Its contour is emphasized by a single gold line which becomes a pointed bud form at the ogival point. Within this gold outline is a blue painted fillet. The design within is a bisymmetrical vine and leaf pattern in relief whose surface has further tooling with gracious flowing gold painted lines picking out parts of the plant anatomy. The background is painted gold. At its centre is a large three-sepalled calyx with double base and gold vegetal inpainting. Its central sepal pierces a small heart-shaped bud.



82. doublure

82. *fore-edge flap and envelope flap*

The entwining vine scrolls have single-lobed as well as two-lobed leaves. The latter might also be interpreted as split two-sepal calices, with one sepal extended to a curving tendril tip. The corner-piece panel stamps have a related pattern in relief with the same gold background but contain no central three-sepal calyx. They have a sinuous quarter cloud collar outline of a thin gold outer fillet and a thick blue-painted inner fillet. The parts of the central fields between the centre and corner pieces are filled with foliate arabesque scrolls with naturalistic four-petalled flowers and buds and elaborately edged multilobed leaves. Their outlines are scribed with fillets painted gold. As in the fore-edge flap, the major flower petals are depressed by burnishing which has darkened the leather.

Doublure (Fore-edge) The leather linings of both the fore-edge flap and the envelope flap are tooled. The former is edged with gold painted multiple fillets with an additional row at head and tail, enclosing a chain of small interlocking S-shaped stamps which are gold painted. The panels enclosed by these bordering elements are four in number and separated by the double gold outlined ogival forms used at the ends of the cartouche on the outer face of the fore-edge flap. These are placed point to point. At the centres of these panel/car-

touches are tooled small blue painted lozenge-shaped knots with extensions and small projecting flecks in the vertical axis.

Doublure (Envelope Flap) A border similar to that of the fore-edge flap doublure outlines the head, tail and fore-edge of the envelope flap. In from the point is placed a roundel with a rich gold outer ring tooled with three rows of a small crescent-shaped tool interrupted by multiple rays which project beyond the ring. A broad circular inner band contains a gold chain of interlocking S-shaped stamps painted blue. At the centre a circle, defined by a single gold fillet, is filled with a basket weave mesh produced by the orderly interplacement of a small three-bladed propellor-like stamp. Simple triangular corners are demarcated by two rows of tripartite fillets (the inner row of which is painted blue) enclosing a field of impressions of the propellor tool. A single gold painted fillet marks the outer confines of the inner field.

The tooling of this doublure is in the same manner as those of the upper and lower boards, although the central roundels of the latter are somewhat larger.

A. J. Arberry (1967); No. 1015.

D. James, (1980); p. 57, No. 41.

M. Weisweiler, (1962); Abb. 39, *Handschrift 338, Aleppo, 1396 A.D., Klappentyp 4; Tafel 25.*

- 83 THE LOWER COVER of a bookbinding; exterior covering brown leather (goat) over paper pasteboards; blind tooling and gold paint; doublure red-brown leather (goat) with blind tooling and gold paint.

203mm × 139mm

Oriental Institute A12166

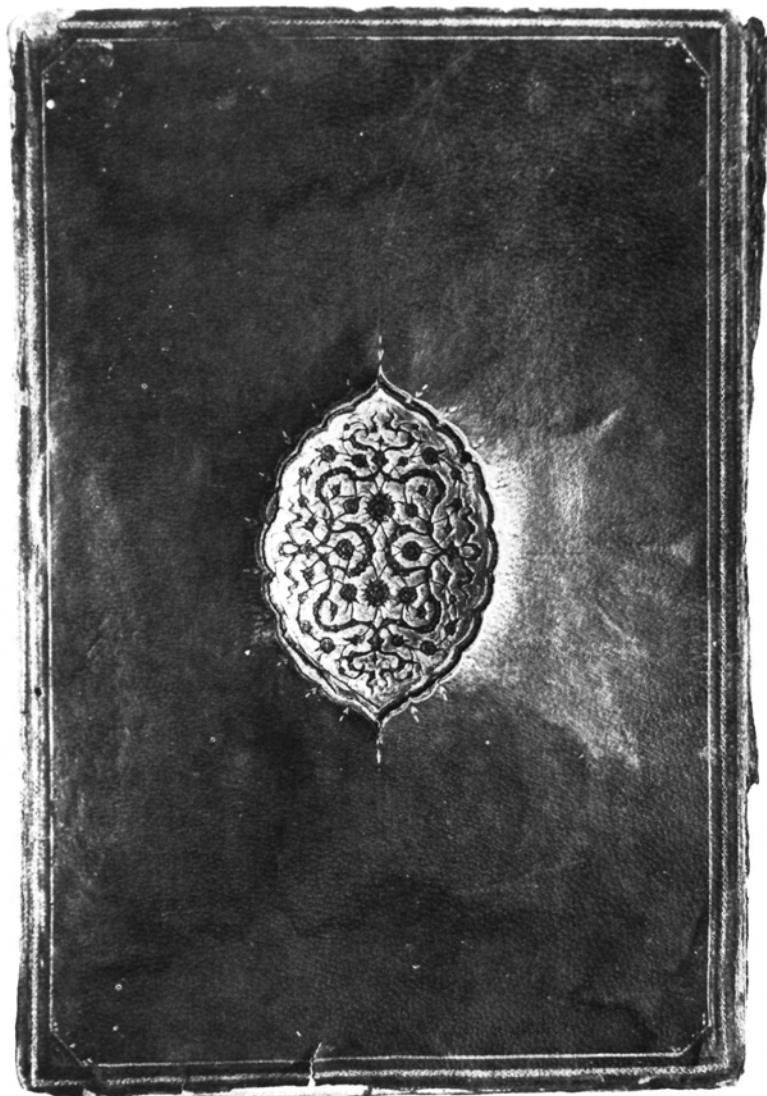
Dr. B. Moritz

Persia/Turkey, 16th–17th century A.D.

Lower Cover This lower cover has a delicate guilloche roll border overpainted in gold and defined by single blind fillets. Within is a single gold painted line which leaves tiny triangular vacant corner compartments. The centre has an exquisite panel stamp of shallow scalloped ovoid outline. It has a gold painted background with a bisymmetrical relief pattern, of twisted and tied cloud ribbon forms through which a secondary fine vine work moves from a central lozenge. The vine is studded with large and small carnation flowers and buds. The cloud ribbon pattern is orientated with its ends near the points of the medallion and its bows and knots along the sides. The scalloped outline of the panel stamp is emphasized by a gold painted line with gold bud flecks at the spandrels of the scallops.

Doublure The doublure is of similar leather to the exterior of the cover and is applied over its turn-ins. It is edged by double blind tooled fillets and a single gold painted line.

G. Bosch, (1952); pp. 115, 157, 158; Pls. XLII & LXIII.



83. lower cover

- 84 A BOUND MANUSCRIPT; Arabic; Abū 'Abd Allāh Muḥammad ibn Sulaimān ibn abī Bakr al-Jazūlī al-Simlālī, *Kitāb dalā'il al-khairāt wa shawāriq al-anwār fī dhikr al-ṣalāt 'alā al-nabiyy al-mukhtār*; copied by Aḥmad Ar-ḍarūmī in 1178 H./1764–65 A.D.; textblock paper burnished Oriental hand-made; final endleaf laminated with a gold flecked decorative paper; link stitch sewn at two sewing stations with fine red silk thread; Islamic endbands of red silk anchorage threads and decorative red and silver metallised yellow silk threads; spine lining/hinges unbleached linen tabby; fore-edge hinge green silk tabby; doublures of laid paper blind tooled with

gold overpainting overlaid by fore-edge hinge and later hinges attaching upper and lower covers to textblock of a white machine-made paper with embossed and printed gold and purple design; reinforcements to head and tail of spinefolds, sewing holes and to some tears of textblock leaves indicating that this is the second, and possibly the third, sewing phase of this manuscript; red-brown leather (goat) over paper pasteboards (with slight squares) (very skillful leather rebacking of spine and fore-edge probably contemporaneous with the last sewing and repair phase of the textblock and new hinges); blind tooling with gold overpaint.

183mm × 115mm

Oriental Institute A12048

Dr. B. Moritz

Persia/Turkey, 18th century A.D.

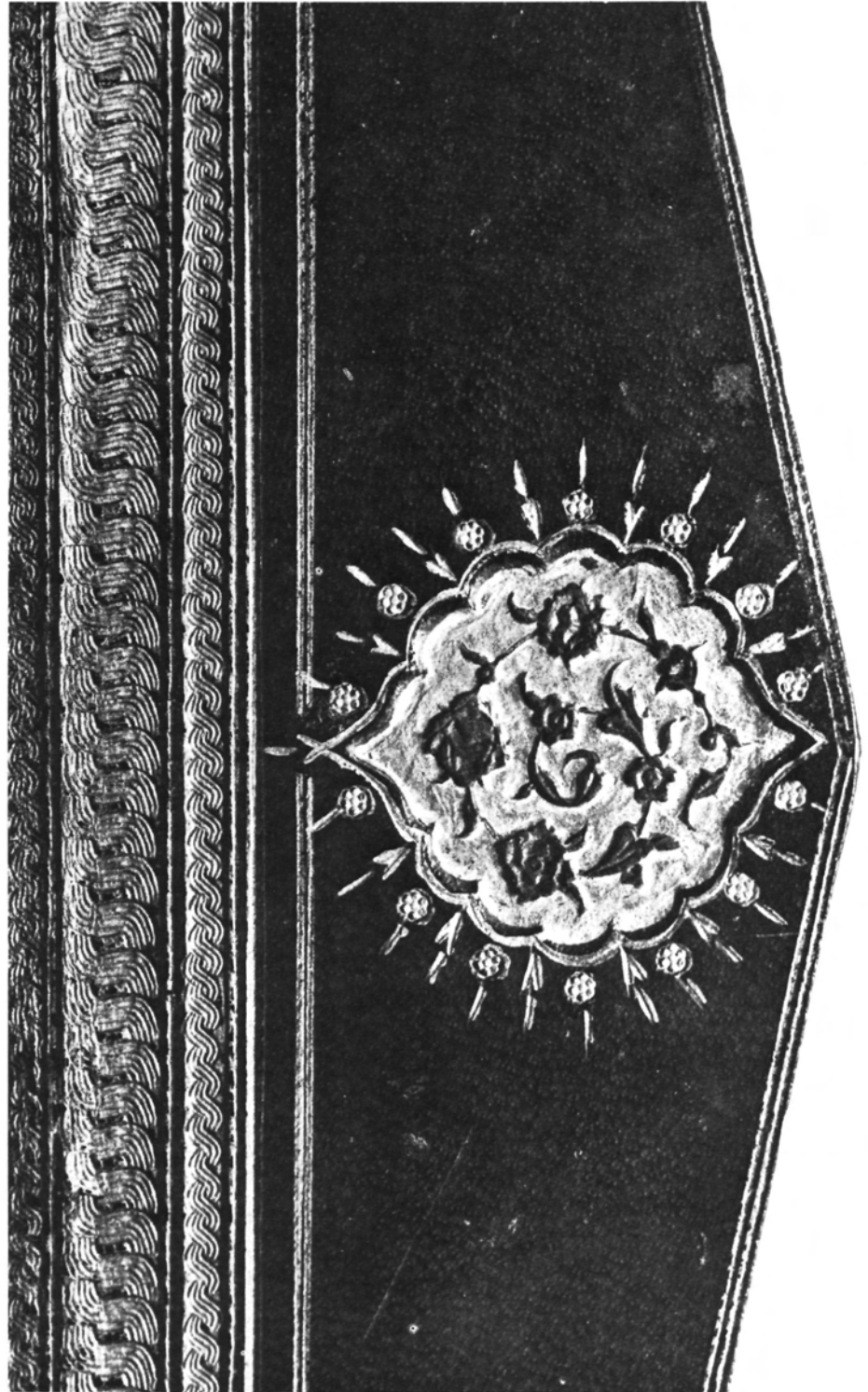
Upper and Lower Covers Upper and lower covers are similarly decorated and are probably of the original binding in spite of later repairs. A wide triple frame has a narrow guilloche roll. All tooling is in blind with gold paint. Each section of the frame is separated by single fillets with double fillets on either side of a broader band of parallel impressions of a striated S-shaped stamp.

The inner panel is defined by double fillets which are placed so as to leave an untooled band between it and the surrounding frame. The panel is dominated by a large scalloped mandorla panel stamp with a single gold outlining fillet. At the apices of the scallops are tooled tiny six-petalled rosette stamps from which flecks project. These alternate with sprigs projecting from the spandrels of the scallops.

The pattern of the central panel stamp (left unpainted while the background is painted gold) is a concentric system, developing around a central flower in full bloom, of interweaving vine garlands with small buds and flowering leaves connected by an outer ring strung with full blown and smaller flowers and leaves.

The gold outline of the central panel stamp connects its points to smaller panel-stamped pendants with similar projecting sprigs and small rosette stamps. These panels each contain a flower in relief against a gold painted background.

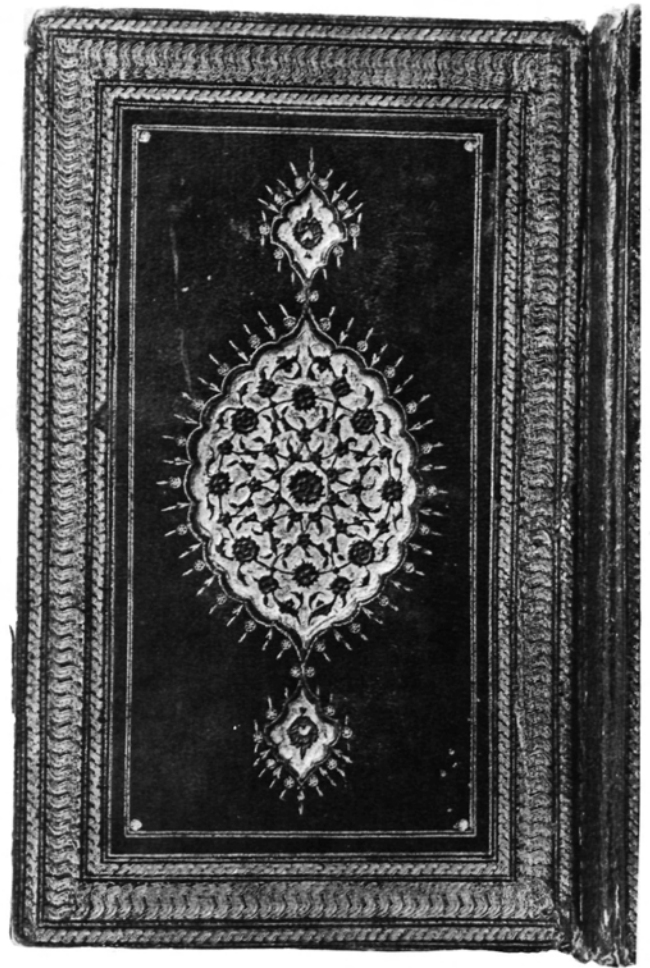
A single impression of the small rosette stamp is placed in each corner of the inner panel.



84. envelope flap detail

Envelope Flap The frames, defining lines and corner tooling of the envelope flap at head, tail and fore-edge are tooled similarly to the corresponding areas of the upper and lower covers. The point of the flap has a panel stamp of scalloped outline with points in the horizontal axis. Its outline is tooled and painted as for the central medallions of the upper and lower covers. Against the gold painted background of the stamp, the relief pattern, painted in brown, shows a swirling vine spiral with leaves and flowers of varying scales, some seen full and others in profile.

M. Krek, (1961); p. 5.



84. upper cover

85. envelope flap and endleaf



85 A BOUND MANUSCRIPT; Arabic, Tāj al-Dīn abū al-Faḍl Aḥmad ibn Muḥammad ibn ‘Abd al-Karīm ibn ‘Atā’ Allāh; *Al-tanwīr fī isqāt al-tadbīr*, composed 695 H./1296 A.D. and copied in the 18th century (?). Textblock paper burnished Islamic hand-made; endleaves paper burnished European hand-made laid; outer endleaves (including pastedowns) are a laminate of this paper and a Turkish marbled paper with red and pink heart shapes against yellow, green and blue; link stitch sewn at two sewing stations with very fine red silk thread; leather spine liners/hinge and fore-edge flap hinge; pastedowns/doublures hand-made laid with gold and silver flecks (over leather hinge); reinforcements to head and tail spine folds and sewing holes in a lighter coloured laid paper as well as earlier sewing holes indicate that this is a second and probably a third binding phase; exterior covering of brown leather (goat) over paper boards; blind tooling and gold paint.

214mm × 158mm

Oriental Institute A27912

Persia/Turkey, 19th century A.D.

Upper and Lower Covers A gold painted guilloche roll border is defined by double gold painted fillets. At the centre of the inner panel a scalloped mandorla shape has been cut out of the upper layers of the board to accommodate the impression of a panel stamp of similar outline. The edges of both the cut-out area and the panel stamp are emphasized by gold lines. This double outline, coupled with the depth of the panel stamp, gives a vibrancy to the subdued tonalities of the latter. From the spandrels of the scallops around the mandorla radiate gold painted sprigs. The pointed ends of the mandorla terminate in a sequence of three gold flecks.

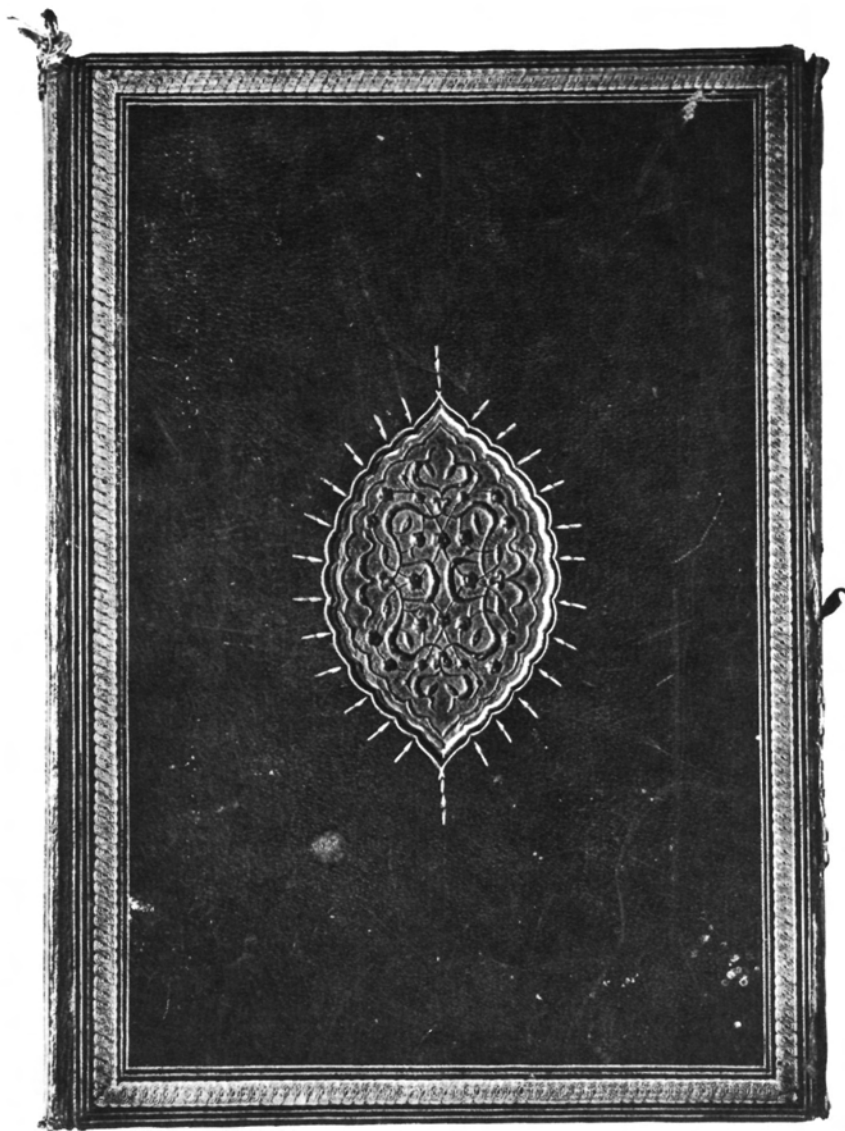
The panel stamp has a monochrome bisymmetrical relief pattern of twisted and tied cloud ribbon forms through which a secondary vine work moves from a central dished lozenge. This vine network is studded with small flowers and buds.

Fore-edge Flap The fore-edge flap has a long, thin panel defined by double gold-painted fillets with four gold dots tooled and painted at intervals along it.

Envelope Flap The head, tail and spine of the envelope flap are tooled as for the corresponding areas of the upper and lower covers. The point edge is marked by two gold painted fillets. As for the panel stamps of the upper and

lower covers, the board at the point of the flap has been cut away to accommodate a small scalloped medallion panel stamp outlined with double gold lines. The stamp has a monochrome relief pattern of a curling leafy vine with flowers around a central profiled flower flanked by a pair of feathery leaves.

M. Krek, (1961); p. 4.



85. lower cover

- 86 THE UPPER AND LOWER COVER, SPINE AND THREE FLAPS of a portfolio; exterior covering of upper and lower covers and envelope flap black leather (goat) over paper boards, red leather (goat) forms the spine, flaps and edging of the upper and lower boards; flaps and spine lined with a hand-made paper; boards lined with a watermarked green European hand-made laid.

325mm × 201mm

Oriental Institute A12158

Dr. B. Moritz

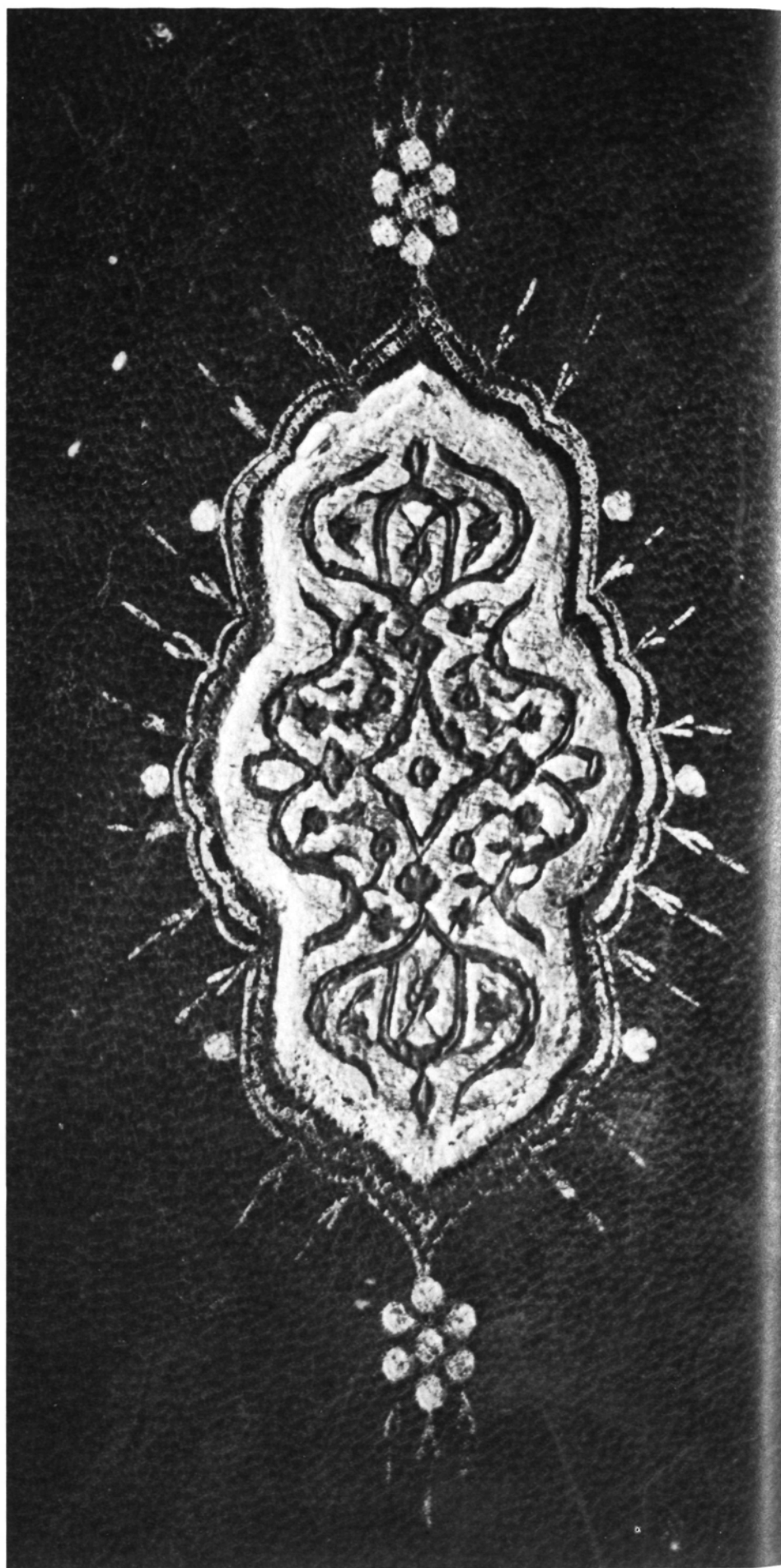
Turkey, 19th century A.D.

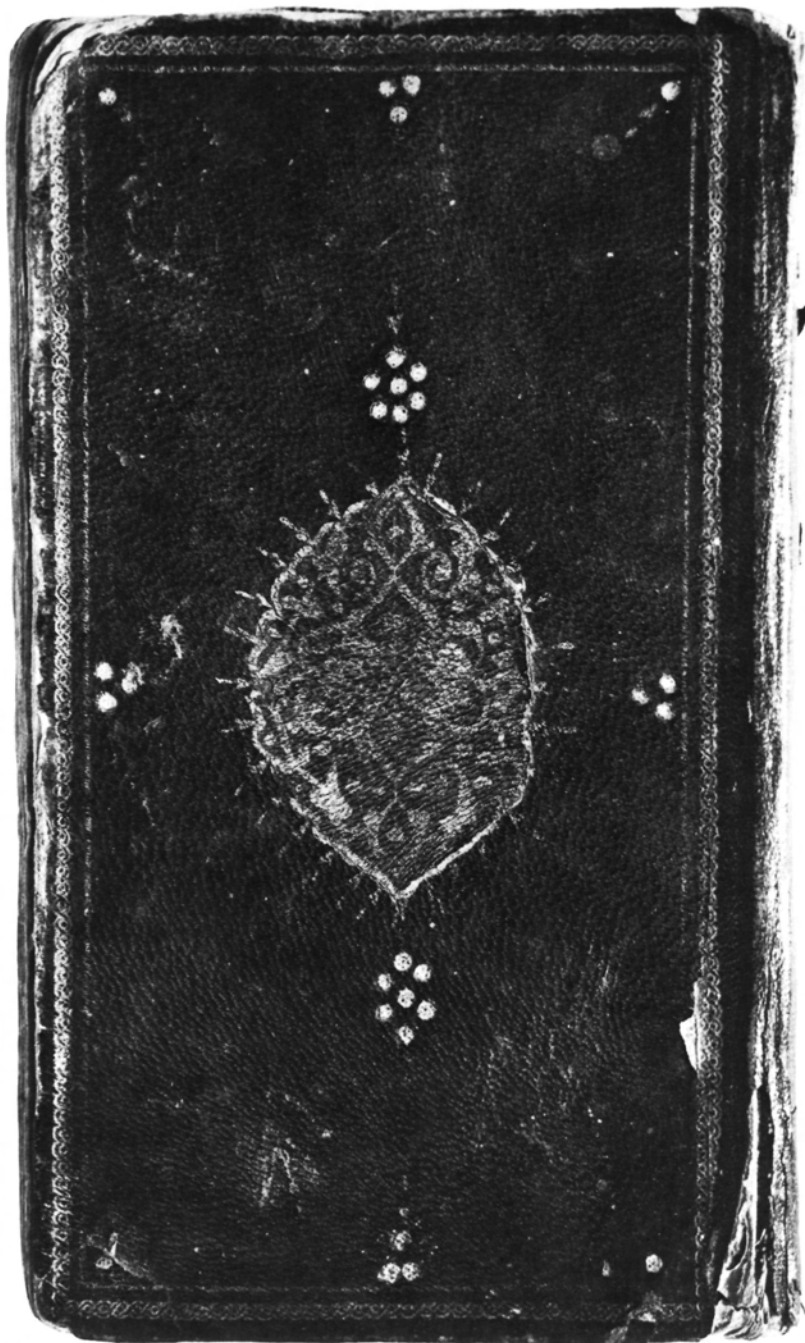
COLOUR PLATE L

The upper and lower covers have similar decoration. The pasteboard elements of this portfolio's structure are covered with black leather with a framing of red leather. This frame is defined by lines of gold paint and is decorated with a continuous gold-painted scroll with two-lobed leaves. The inner panel has a central obloid panel stamp with a scalloped edge. The stamp's bisymmetrical relief pattern painted in red is composed of cloud ribbons forming a central lozenge at whose points they pass through floral ties. A finer secondary pattern of vines with small leaves and flowers weaves amongst the cloud ribbons. The outer contours of the stamp are outlined in gold with two gold lines from which sprout gold sprigs and floral elements of gold painted five-petalled rosette stamps. The points of the panel stamp on the vertical axis extend into gold painted flowers whose six petals are formed by small five-petalled rosette stamps. From the top of the flowers project triple gold sprigs. Where the horizontal and vertical axes of the inner panel meet the frame a single gold-painted impression of the rosette stamp is placed.

The corners are painted with an asymmetrical foliage pattern. The perimeter of the inner panel is tooled with a thin guilloche roll overpainted in gold.

A head/tail flap and associated envelope flap survive. The head/tail flap is of red leather. Its border is tooled with a roll forming small lozenges with dots at their centres. Within is pasted a yellow paper cartouche with a calligraphic inscription in black ink. Plants with multiple serrated fronds rooted against the fore-edge and spine sides of the flap fill the spaces at either end of the cartouche.





87. upper cover

The envelope flap is covered in black leather. Its outline is a baroque curve whose edges are contoured with two gold lines with gold painted rosette stamps at appropriate points.

G. Bosch, (1952); pp. 125–126, 129, 158; Pl. XLIV.

- 87 A BOUND MANUSCRIPT; Arabic; Ibn Nujaim, *Kitāb al-ashbāh wa al-naẓāʾir al-fiqhiyyah ʿalā madhhab al-hanafīyyah* (completed 1562 A.D.), copied 1565 or 1585 A.D. by ʿAbd al-Faqīr al-Qādī; textblock paper burnished Oriental laid; endleaves burnished European watermarked laid; link stitch sewn at two sewing stations with fine linen thread; (holes of earlier binding phase visible) unbleached linen tabby spine liner/hinge; Islamic endbands (anchorage threads thin red linen with fragmentary remains of faded yellow/green decorative endband silk); doublure of yellow-dyed European paper with large fleur-de-lis watermark; hinges of same paper; paper reinforcements at head and tail of spine folds of gatherings and at many sewing stations and some guarding postdating original binding phase; exterior covering of dark brown leather (goat) over paper pasteboards; blind tooling with gold overpainting and red leather inlays.

190mm × 110mm

Oriental Institute A12020

Dr. B. Moritz

Ottoman, 18th century A.D.

Upper and Lower Covers It is not clearly discernible whether this binding had fore-edge and envelope flaps. The upper and lower covers are similarly decorated. A fine border, defined by gold painted fillets, is formed by a guilloche roll painted gold.

At the centre of the inner panel is a rough mandorla-shaped overlay of red leather over which a design is painted in gold. The mandorla has a scalloped outline with sprigs radiating from the spandrels. At its pointed ends in the vertical axis are placed florets formed from gold painted impressions of tiny rosette stamps. Within the mandorla is painted a sketchy bisymmetrical design. From either side of a central dished lozenge, towards the points of the mandorla, grow two-tiered calyx systems flanked by scrolls. Dots are placed in the compartments so formed.

The corners of the inner panel are marked by a gold painted sprig based on a gold rosette/dot. A cluster of three such stamps are placed against the inner fillet of the border on the horizontal and vertical axes.

Spine The spine is untooled.

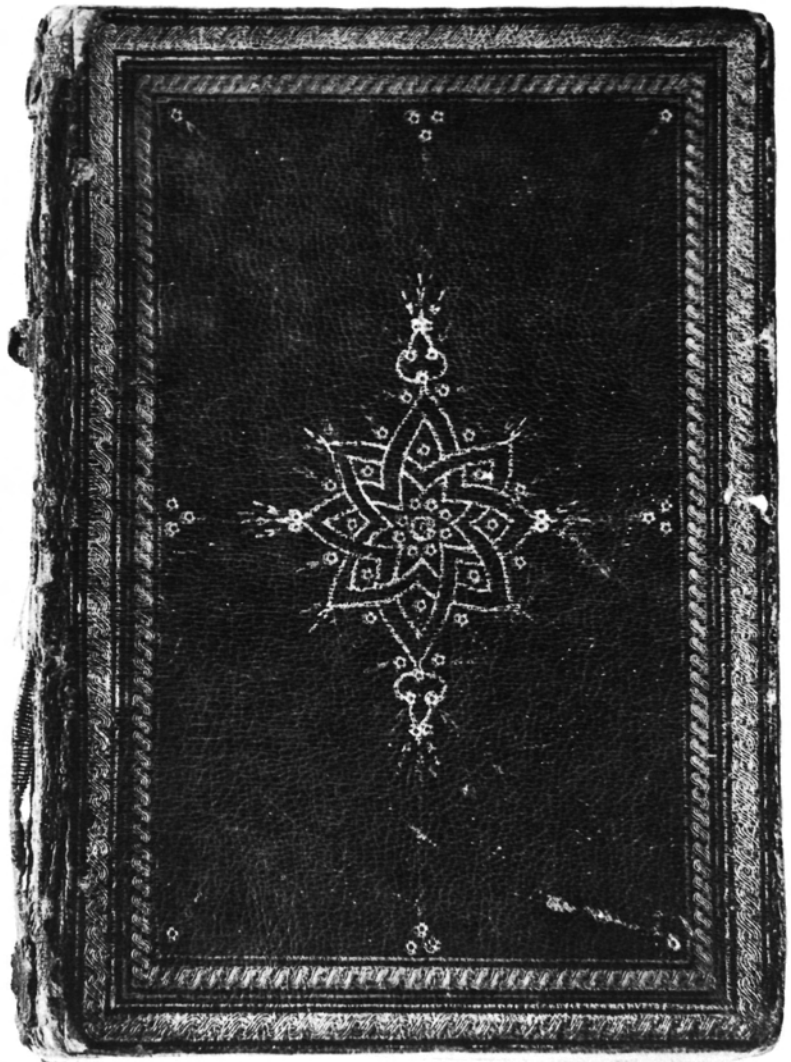
M. Krek, (1961); p. 26.

- 88 A BOUND MANUSCRIPT from which the fore-edge and envelope flaps are missing; Muḥyī al-Dīn Muhammad ibn ‘Alī al-Andalusī ibn al-‘Arabī al-Hātimī al-Ta‘ī (17 Ram.560-26 Rabi‘ II 638/July 28, 1165–Nov. 16, 1240); *Kitāb miftāḥ al-jafī*; burnished European laid paper (including three crescents watermark); link stitch sewn at two sewing stations with thin rose coloured linen thread; Islamic endbands (anchorage threads of same thread as sewing but remainder of endband missing); green silk tabby spine liner/hinge; doublure of red-dyed laid paper over a paper hinge; paper reinforcements at head and tail of spine folds of gatherings and at some sewing stations and paper repair to some leaves antedating this binding phase; exterior covering of dark brown leather over paper pasteboards; blind tooling with gold and grey/blue overpainting.

240mm × 145mm
 Oriental Institute A12540
 Ottoman, 18th century A.D.

Upper and lower covers are similarly decorated. A border tooled with a guilloché roll is gold painted and defined by gold fillets. Within is a narrower grey/blue painted frame formed by a guilloché roll and defined by grey/blue painted fillets.

At the centre of the inner panel is an eight-pointed strapwork floral star formed by the interlacing of two four-petalled forms enclosing a small eight-pointed star. This inner star is centred by a gold painted ring around a five-petalled rosette stamp core and surrounded by five-petalled rosette stamps (all the rosette stamps on this cover are painted grey-blue). The same tools mark the compartments formed by the interlace and also flank the outlines of the central floral star with tiny grey/blue painted sprays projecting from them. The points of the star on the vertical axis terminate in gold outlined three-sepal calices with triple finial spray. Those on the horizontal axis have miniature three-sepal calices with similar floral sprays. The intermediate points are marked by single gold painted sprays. The corners of the inner panel are marked by a single impression of the rosette stamp with a grey/blue painted



88. lower cover

spray pointing inward. Clusters of three rosette stamps are placed against the inner side of the frame on the horizontal and vertical axes.

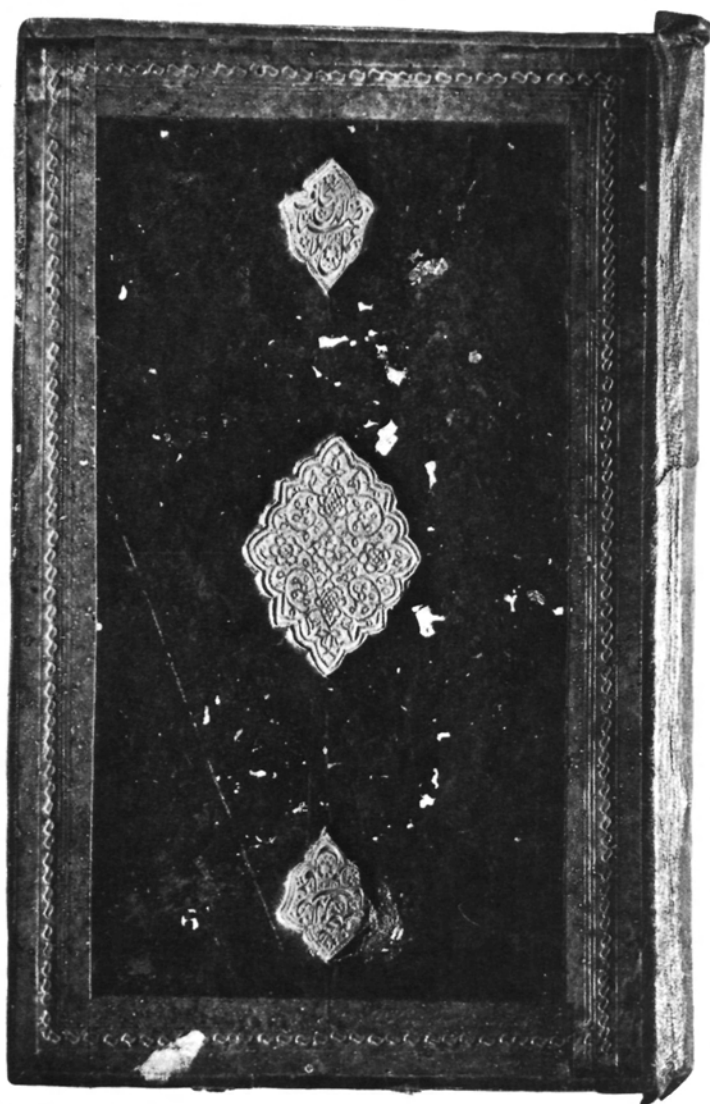
Most of the spine leather is missing but it would appear to be untooled.

M. Krek, (1961); p. 40.

- 89 A BOUND MANUSCRIPT; Persian; Kemāl el dīn Isma‘īl Isfahānī b. Gemāl el dīn ‘Abd er rezzāk; *Diwān*; textblock paper burnished Oriental hand-made laid; endleaves highly burnished Oriental hand-made laid paper; link stitch sewn at two sewing stations with yellow linen thread; simple Islamic endbands of red and unbleached linen thread; doublures of late 19th-century printed paper with coloured pattern overlaid with a paper hinge which has a different printed pattern; reinforcements, using same paper as endleaves, to head and tail spinefolds and sew-



89. detail



89. upper cover

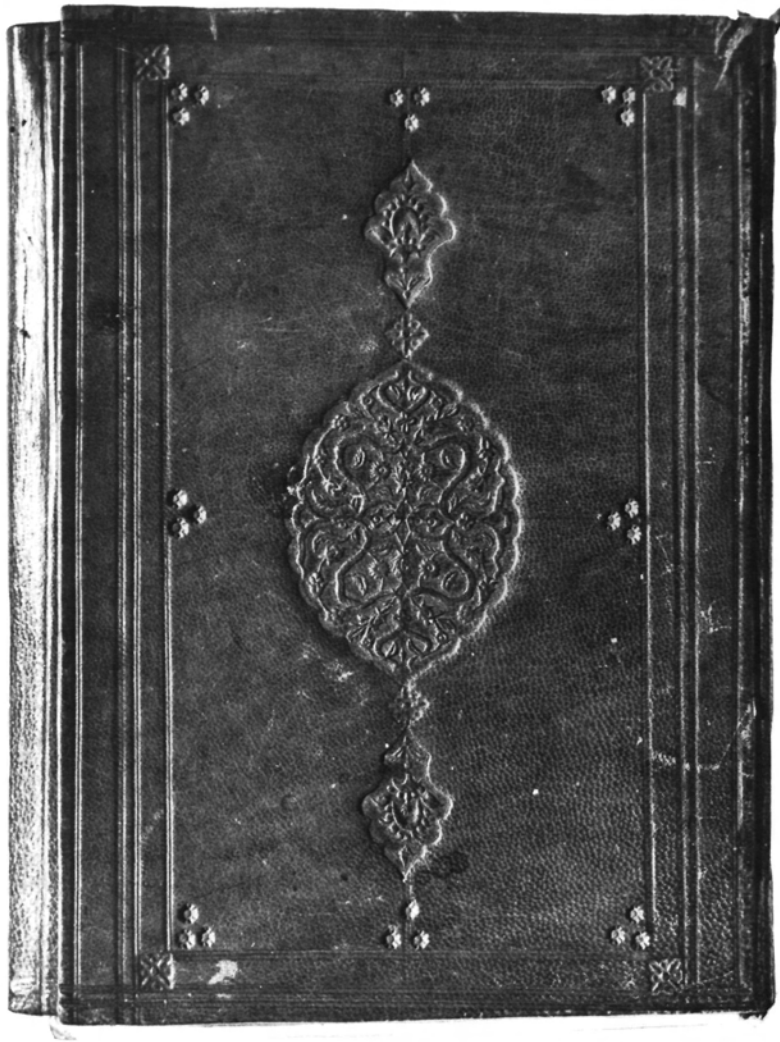
ing holes of gatherings, as well as repairs to tears and other damage in leaves postdating the original binding phase; covering of red leather (sheep) over heavy mill board; blind tooling over applied coloured paper; exterior varnished.

214mm × 135mm
Oriental Institute A12072
Near Eastern, late 19th century

This is not the original binding of this volume. It has a number of features derived from European bookbinding techniques—no fore-edge flap and envelope flap, squares, heavy millboard for upper and lower boards. Its endcaps are not turned in behind the endbands but left projecting as a tab.

Upper and lower covers are similarly blind tooled over applied coloured paper pasted to the cover leather. The frame, defined by single fillets, is made up of strips of an ochred-coloured paper tooled with a succession of small leaf-like reverse S-shaped stamps.

At the centre of the inner panel is a panel stamp impressed over an orange-coloured paper cut roughly to its contours. It is lozenge-shaped with an outline of alternating curved and pointed scallops and orthogonal points. The stamp has a bisymmetrical relief pattern centred by a petalled lozenge from whose points, along the horizontal axis, issue six-petalled flowers terminating in leafy tendrils. On the longer vertical axis develops a pineapple-like form with scalloped outline whose point ter-



90. upper cover

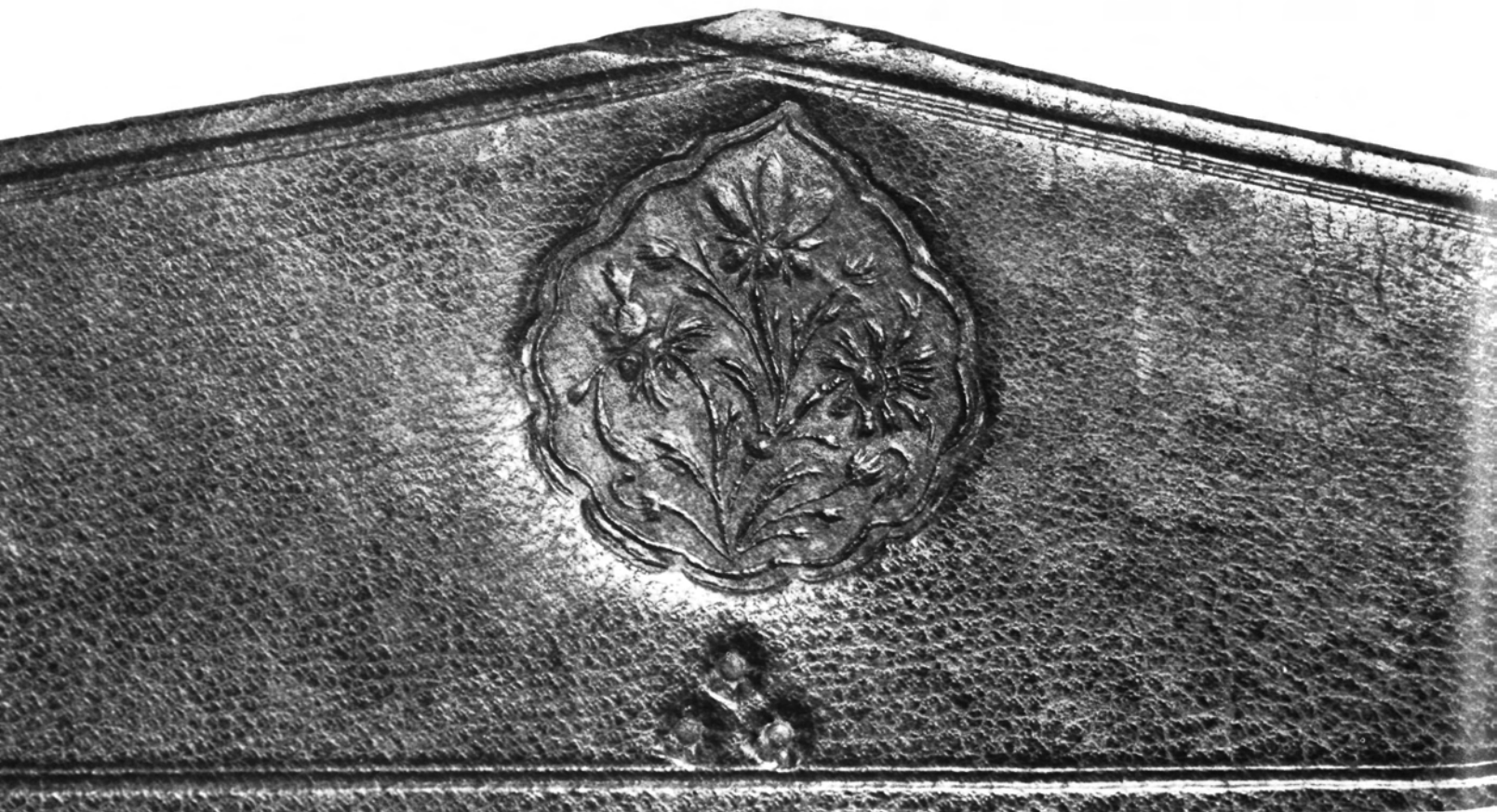
minates in a schematic rose lotus. On either side of this form grow spiralling vine scrolls ending in multiflora forms.

Above and below the central panel stamp on the vertical axis are impressed small calligraphic panel stamps with tulip-like outline over applied ochre-coloured paper cut to shape. This stamp has a hatched fringe enclosing lines of calligraphy through which florets are dispersed. The text reads:

‘amala mullā Ḍiyā al-Dīn-i Ṣaḥḥāf 1310
(1892–3 A.D.)

made by the Molla Ḍiyā al-Dīn-i, book-binder, 1310.

- 90 A BOUND MANUSCRIPT; Arabic; containing various texts, *Majmū‘ah*, of which two are dated 1726–27 A.D. (fols. 34–99), and Sept. 1, 1823 A.D. (fols. 23–30), respectively. Textblock paper: fols. 20–31, 34–99, 100–111 burnished European hand-made laid (each group has different three crescent watermarks), fols. 1–19 European hand-made laid (three crescents watermark), fols. 112–132 European hand-made laid (three crescents & BNEC watermarks), fols. 32–33 machine-made wove, fol. 84 European hand-made laid; endleaves (upper) paper European hand-made laid (post horn watermarks), fols. 133



90. envelope detail flap

and 134 as for textblock folios 112–132; link stitch sewn at two sewing stations with a black linen thread; Islamic endbands of black linen anchorage threads and black and white linen decorative threads; spine lining/hinges white tabby; fore-edge hinge light-brown leather (as for exterior covering); doublures machine-printed coloured patterned paper (in the case of the envelope flap doublure, part of another patterned paper can be seen underneath); machine-made and hand-made paper repairs in group of leaves fols. 34–99; exterior covering light brown leather (goat) over paper boards; blind tooling.

204mm × 148mm

Oriental Institute A12052

Dr. B. Moritz

Persia/Turkey, 19th century A.D.

Upper and Lower Covers Both upper and lower covers are similarly decorated. They have three framing bands defined by intersecting double fillets. The middle frame is narrower than those on either side. At the corners of the inner frame are placed single impressions of a square format floral stamp with central dot and X-shaped diagonals as petals with smaller intervening ones.

Clearly visible in the inner panel are the lines scribed by the binder along the horizontal and vertical axes to guide the placement of the panel stamps and associated tooling. The central panel stamp is a scalloped mandorla containing a bisymmetrical relief pattern of four twisted and tied cloud ribbon forms defining a closed inner compartment. Through these larger forms a secondary vine work moves from a central dished lozenge. From the vines grow a variety of small flowers and feathery leaves. The cloud ribbon pattern is orientated with the ends of the ribbons near the points of the panel stamp with bows and knots along the sides.

The points of the central panel stamp are connected by impressions of the X-shaped floral stamp used in the frame corners to pendant panel stamps which contain a large lotus on a small leafy stalk. In the corners of the inner panel, and against the inner frame where it is met by the horizontal and vertical axis lines, are placed clusters of three deeply-impressed eight-petalled rosettes.

Spine The spine is untooled.

Fore-edge Flap The fore-edge flap has a long narrow panel, defined by intersecting double fillets, along whose

length, at equal intervals, are placed clusters of three impressions of the rosette stamp alternating with single impressions.

Envelope Flap The envelope flap is tooled similarly to the upper and lower covers but has a panel stamp shaped like a scalloped drop whose apex is adjacent to the point of the flap. It contains a naturalistic depiction of a flowering plant with leaves, buds and full flowers.

M. Krek, (1961); pp. 7, 8.

- 91 A BOUND MANUSCRIPT; a collection of Druse religious epistles; textblock paper burnished machine-made wove; endleaves same with final leaf of European sized hand-made laid; link stitch sewn at two sewing stations with fine bleached cotton? thread; unbleached linen tabby spine lining/hinge; yellow cotton tabby fore-edge/envelope flap hinge; Islamic endbands (anchorage threads of same type as sewing, green and yellow silk threads for decorative sewing); doublures of yellow dyed paper overlaid with a paper hinge with a printed pattern; laid hand-made and machine-made paper repairs to spine folds and cracks in the leaves postdating the original



91. lower cover, fore-edge flaps and envelope flaps

binding phase; exterior covering of red leather (goat) over strawboard; blind tooling with yellow and black overpainting.

144mm × 102mm
Oriental Institute A16379
Palestine, late 19th century A.D.

Upper and Lower Covers All tooling is in blind with the major elements of the design being overpainted in alternating black and yellow paint. A frame of reverse S-shaped stamps is defined by double fillets. At the centre of the inner panel is a heavily-impressed panel stamp of scalloped mandorla shape. Its outline is emphasized by a single fillet from which radiate sprigs terminating in six-petalled floret stamps. Groups of three sprigs with longer stems are formed at the extensions of the mandorla outline. Beyond the middle element of these finials, against the bordering fillets at head and tail, are tooled pairs of the floret or twelve-petalled rosette stamps. Single stamps are likewise tooled at the corresponding points on the horizontal axis.

The central panel stamp has a well organised bisymmetrical pattern of interweaving petal forms growing from a central lozenge. The compartments formed within the design are marked by dots.

The triangular corners of the inner panel are demarcated by double fillets and contain a central impression of a square format stamp forming a cross-shaped motif, on either side of which is a round stamp containing a triangle centred by a dot. Projecting into the field of the inner panel from the fillets defining the corners are triangular configurations of the twelve-petalled rosette stamps in diminishing rows. On either side of the mandorla against the frame on the fore-edge and spine sides are placed two impressions of a round stamp containing a six-pointed star centred by a dot.

Spine The spine is untooled.

Fore-edge Flap Along the length of the fore-edge flap is tooled a row of smaller versions of the cross-shaped stamp found centring the corners of the upper and lower covers. The row is defined by double fillets and the stamps are painted alternately black and yellow.

Envelope Flap The borders of the envelope flap and the corners of its inner

panel are tooled similarly to the corresponding areas of the upper and lower covers, though the triangular groups of twelve-petalled rosettes are smaller and the corners contain the smaller version of the cross-shaped stamp flanked by two of the rosette stamps.

At the point of the flap is a small plant-shaped panel stamp, placed to align with the horizontal axis with a mandorla-shaped outlining fillet from which radiate floral sprigs as in the central motifs of the upper and lower covers. Against the bordering fillet on the fore-edge side of the inner panel are tooled single impressions of the round stamp containing the six-pointed star. The panel stamp depicts a small plant with sharp elongated leaves growing from a central stem. At the top of the stem is a closed calyx. Dots flank the plant.

M. Krek, (1961); p. 13.

- 92 A BOUND MANUSCRIPT; 'Aṭṭār, *Pendnāmeḥ*, ca. 1100 H./1688 A.D.; textblock paper burnished European hand-made laid (double-headed eagle watermark); endleaves paper burnished European hand-made laid (watermark, maker's initials N?M); link stitch sewn at two sewing stations with fine rose-coloured cotton thread (endband stations also may have been used as part of the main sewing as they reveal the same thread as well as the silk endband anchorage thread); Islamic endbands of fine yellow silk (both decorative and anchorage threads); doubleures of yellow/orange-dyed European hand-made laid over paper hinges; green silk tabby fore-edge hinge; earlier sewing and endbanding holes indicate that this is a second, and possibly third, binding phase; spine and fore-edge exterior covering of red/brown leather (goat); upper and lower boards and envelope flap exterior covering of Turkish marbled paper (over pasteboards) with a pattern of green leafy stalks with three- and four-petalled flowers alternating indigo and rose/orange in colour on a light yellow background.

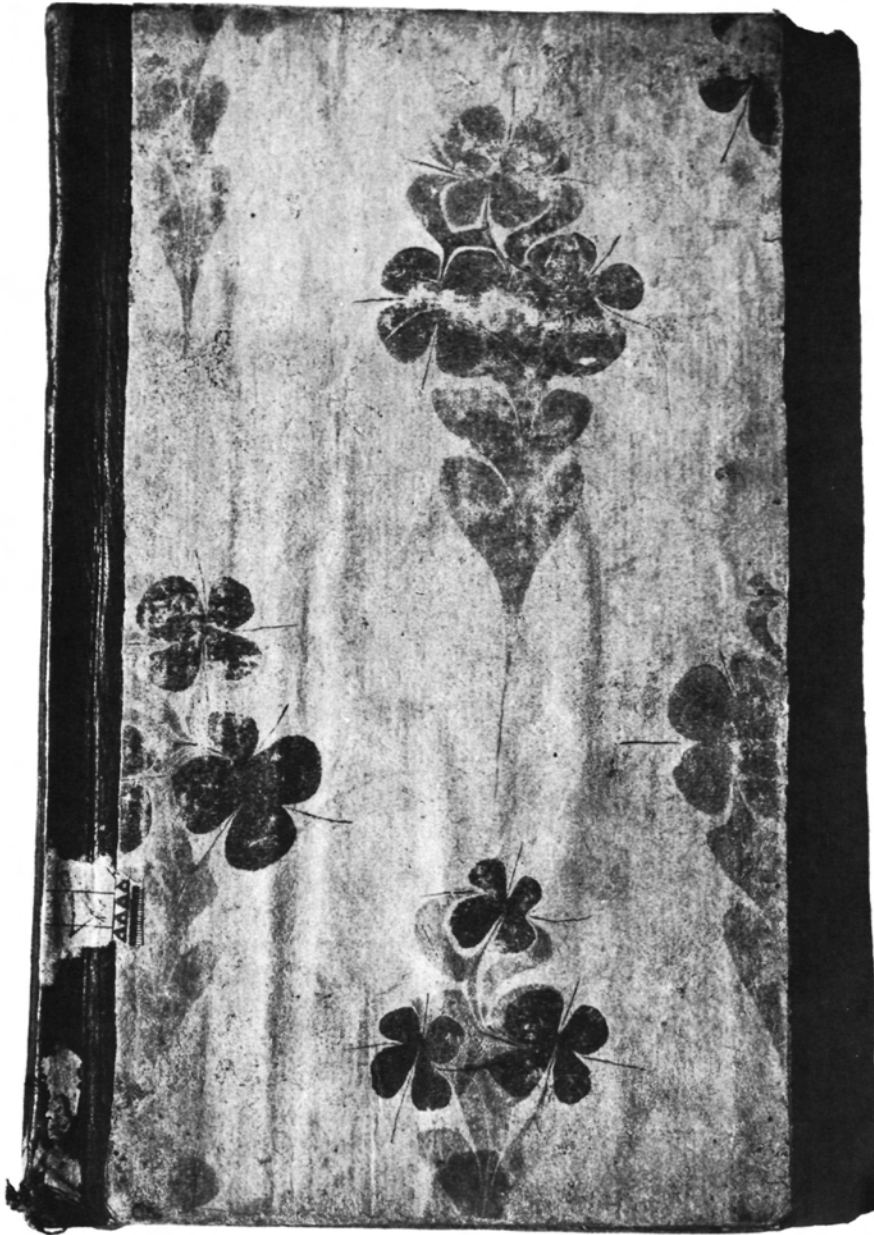
168mm × 105mm
Oriental Institute A12075
Turkey, 19th century A.D.

- 93 A BOUND MANUSCRIPT; *Majnūn and Leila* from the *Khamsah* of Nijāmī; copied 1271 A.H./1854 A.D.; exterior covers painted lacquer work over paper boards; spine black leather.

178mm × 118mm

Oriental Institute A12073

Persia, second half of 19th century A.D.



92. lower cover

Upper and Lower Covers Upper and lower covers are similarly decorated. Each has a black painted background. Gold painted fillets define an outer border and an inner frame containing double rows of diamond-shaped dashes painted in gold. The inner defining fillets in each case intersect to form small square cover compartments. The wider main frame has a succession of five-petalled rosettes painted in pink and red against a bed of scattered green brush dashes. Between the rosettes are painted double bud-like dashes in pink and red.

The inner panel has a central cluster of two large peony-like flowers, one seen from the front with pink petals with red tips, the other viewed from its base with white petals becoming tan at their tips. Close to these is a cluster of floral elements in orange/pink and red with interior peach- or pomegranate-like forms. Across the remainder of the panel, in association with a variety of leaves in sprays and clumps, are scattered loosely roses, carnations and tulips. Smaller groups of fruit or bud forms are concentrated towards the corners of the panel. The painting shows a pleasing variation from ivory to deep pink colouration and from pale yellow through olive to dark green.

- 94 A BOUND MANUSCRIPT; Persian; an album of concertina paper leaves joined in a structure with textile hinges; leaves framed by painted margins (contemporary with the lacquered covers); with specimens of the calligraphy of two scribes, of whom one can be identified as Darvish 'Abd al-Majīd Ṭālighānī (surname, *Khamūsh*) (d. 1185 A.H./1774 A.D.), 16 pages of his work are dated ranging from 1171 A.H./1757 A.D. to 1185 A.H./1771 A.D.; following every two pages of the Shikasta style from the pen of Darvish 'Abd-al-Majīd there are two other pages in an unexpectedly excellent style of *ta'liq*, two of these are dated 960 A.H./1551 A.D. but the name of the scribe needs to be identified; exterior and interior covers of painted lacquer work over paper pasteboards.

246mm × 157mm.

Oriental Institute A12100

Persia, late 18th century A.D.

COLOUR PLATES N, O.

Upper and Lower Covers (Exterior) On the paper pasteboards a red lacquer ground has been laid which includes metallic particles of tin or silver, or possibly gold, to give a scintillating effect. Over this are painted the basic forms of birds and flora of the inner panel and floral frame. The flowers of the main panel have their petals dimensionally expressed by exploiting the puckering of the paint layer at the edges as it dries. Over these basic shapes are painted the details of the forms. The black background of the outer border and inner frame are then painted and their decorative details and defining lines added in gold paint. The whole cover is then painted with a clear lacquer.

The upper and lower covers are similarly decorated but the lower is reversed in composition, with the bird on the left hand side. A floral frame is bordered on both sides by a row, defined by gold lines, of gold floral motifs in staggered compartments painted on black. The frame is painted with white full-petalled roses and associated leaves which alternate with full olive/green and blue flowers also with associated leaves. The background is marked by tiny gold tendrils.

The inner panel shows a bird perched on a leafy rose bush. Its painting has



93. upper cover



95. envelope flap

delicate tonal transitions moulding its form from light to dark along its head, neck, wings and tail. The rose bush bears two large multi-petalled flowers, one drawing a core of golden stamens and the other is in profile. There are also three buds in varying stages of development. On one of the leaves a delicate butterfly alights. A white carnation and its buds balance the bird.

Upper and Lower Covers (Interior) The interior of the covers have thin, white gesso-like ground overpainted in vermilion. A fine design of small decorative elements in contrast to the boundness of the exterior, is painted in gold. The borders are painted in similar technique to those of the exterior covers and the whole is varnished with clear lacquer.

We are indebted to Professor Heshmat Moayyad of the Department of Near Eastern Languages and Civilizations, University of Chicago, for inspecting the manuscript and determining the dates of the calligraphers.

- 95 THE ENVELOPE FLAP of a bookbinding; brown leather (goat) over paper pasteboards; blind tooling, gold tooling; doublure blue silk tabby.

335mm

Oriental Institute A12163

Dr. B. Moritz

North African, 15th–16th century A.D.

Envelope Flap A burnished band borders an outer frame, defined by two rows of tripartite fillets, of a running pattern of two-axis square format stamps depicting a central square flanked by hatched half-hexagons. The centre of each of the squares is tooled with a gold dot.

A middle frame, also defined by the double rows of tripartite fillets is formed of impressions of a hatched X-shaped stamp with interstitial gold dots. A thinner inner frame, defined by the tripartite fillets is formed of interlocking reverse S-shaped stamps with single gold dots between each.

At the point of the envelope flap is scribed a round medallion demarcated, as are its adjacent panels, by tripartite fillets which leave a perimeter band of untooled leather. The roundel is occupied by a geometric interlace, formed by double fillets, whose outer form is a Solomon's seal developing from an octagram centred on a six-point star. The centre star and the outer compartments of the Solomon's seal are tooled with dots and hatched arcs.

The flanking panels are filled with a repeat pattern of the hatched X-shaped stamps with interstitial dots. These dots are gold tooled in the central areas of the panels to form diamond configurations.

Pasteboards The paste holding together the manuscript fragments, of which the pasteboard of this flap were made, has decayed so that they no longer adhere together. This has permitted examination of their text.

Dr. Elton Daniel has kindly made the following observations:

The text of the fragments, ignoring those which are not legible or too brief for analysis, has to do with the subject of the prayer ritual in Islam. Some fragments deal with fixing the times for the required prayers; others with the manner of praying; still others with the tone of voice to be used, the content of the prayer, etc. One fragment also deals with the formula for the call to prayer, the manner of its delivery, and the variations permitted in it.

The text is thus clearly a work on *fiqh* (jurisprudence/religious instruction). The fragments are either part of a chapter on prayer (*bāb al-ṣalāt*) or, perhaps, an independent treatise on the subject of prayer (*risāla fī-l-ṣalāt*). There are frequent references to the opinions on this subject of Abū Ḥanīfa, al-Shāfi'i and Mālik b. Anas, among others. Other indications make it clear that this particular example of *fiqh* comes from the Mālikī school. The great Mālikī *faqīh*, Ibn Abī Zayd, is mentioned in a marginal note on one of the fragments.

Since it has not been possible to make extensive collations of the text with

published (and still less unpublished) works of Mālikī *fiqh*, it is impossible to assign a definite title or author to this work. The author makes frequent reference to information provided by his colleagues (*aṣḥābunā*). One fragment contains the phrase "the Qāḍī Abū 'Abd Allah al-Iblī told this to me." The city of Qayrawān (Kairouan) is mentioned and one may suppose that the author lived or worked in that center of Malikī learning.

Finally, one may note that the handwriting of the copyist appears to be consistent with that of someone from North Africa and could perhaps be dated 9th century A.H./16th century A.D., although admittedly such palaeographic evidence is not always certain or conclusive.

- 96 A MANUSCRIPT by Al-Tamīmī ibn al-Mu'izz ibn Bādīs (398–453 A.H./1007–1061 A.D.). *Kitāb 'umdat al-kuttāb wa 'uddat dhawī al-albā*

The copy was completed on 23 Dhu al-Qa'dah 1326/Dec. 17, 1908, by Maḥmūd Ṣidqī, a scribe of the Khedivial Library, from a copy belonging to the library of Aḥmad Pasha Taimūr.

52 fols.; 320mm × 210mm; (180mm × 180mm var.); 21 lines to page. Unvocalized *naskhī* is modern. Rubrics and catchwords. Paper machine-made wove.

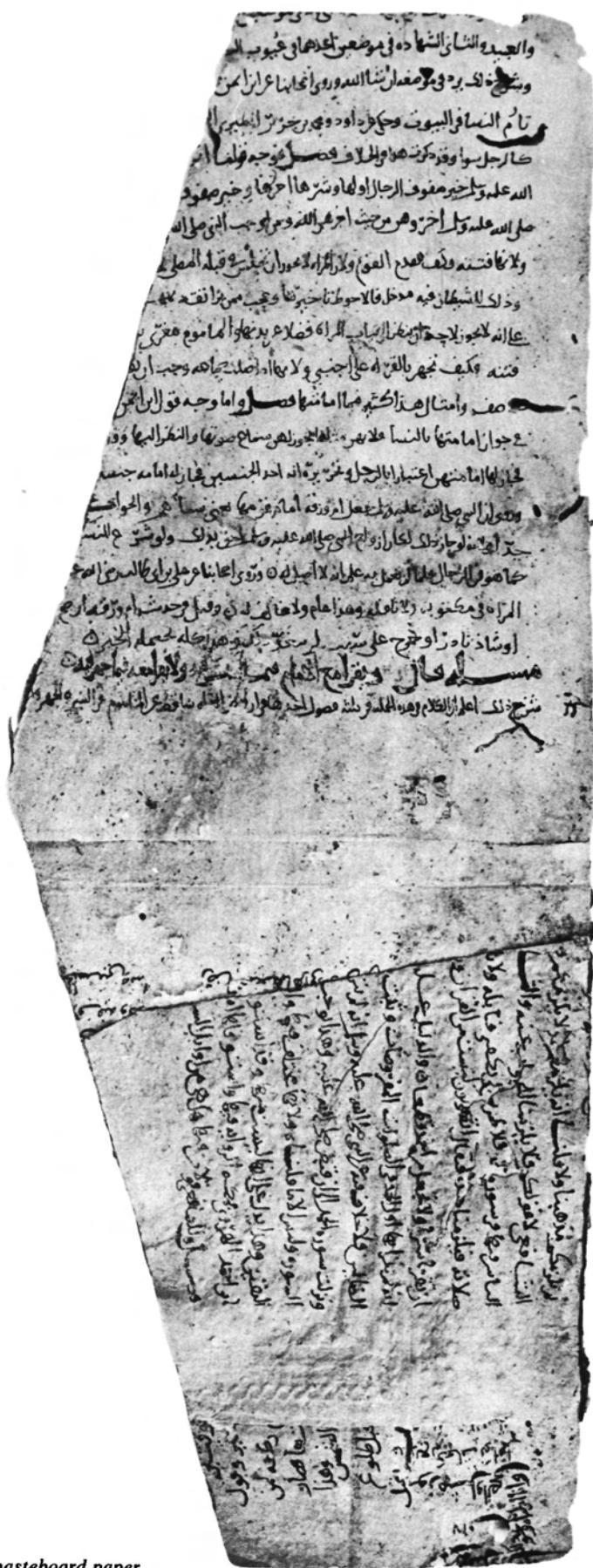
Oriental Institute A12061
Dr. B. Moritz

(Details from M. Krek (1961), p. 41).

- 97 A MANUSCRIPT by Al-Tamīmī ibn al-Mu'izz ibn Bādīs. A variant of the preceding work. The title page is missing. The copy was completed in January 1671 by a monk. The ms. was either from among the possessions of, or was copied from a ms. at the time in the possession of, Shamās Yashū'.

The work seems to come to an end, fol. 45^r, with chapter XII (*Ṣifat ṣiḅgh al-'ikr*). There is, however, an appendix of more chapters concluding with the monk's own addition on what to eat and drink in each month of the year so as to be in good health (fol. 52^v) and other practical notations. From fol. 49^r to end, poetry is interspersed.

56 fols.; 142mm × 98mm; (115mm × 55mm); 17 lines to page. Small, sparingly vocalized *naskhī*. Catchwords and red rubrics. Margins are red ruled. Paper European hand-made laid; link stitch sewn at two sewing



95. pasteboard paper



98.

stations with blue silk thread; exterior covering hand-made laid paper over paper pasteboards; silk tabby strip at spine; Islamic endbands, primary and decorative sewing natural coloured silk over leather core.

142mm × 98mm
 Oriental Institute A28909
 Dr. B. Moritz

(Details from M. Krek (1961), p. 41).

title-page and first page of text, preceded by a blank flyleaf. The title-page reads:

كتاب
 فيه حديث
 ألف ليلة لأحول
 ولا قوة إلا بالله
 على العظيم

98 A FRAGMENT of the *1000 Nights*; the first two folios of the earliest-known manuscript of the *Alf Lailah*, or *Arabian Nights* stories. Written on paper is *Kūfic-naskhī* script, it consists of the

A book
 of tales from a
 Thousand Nights. There is neither
 strength
 nor power in God the
 Highest, the Mightiest

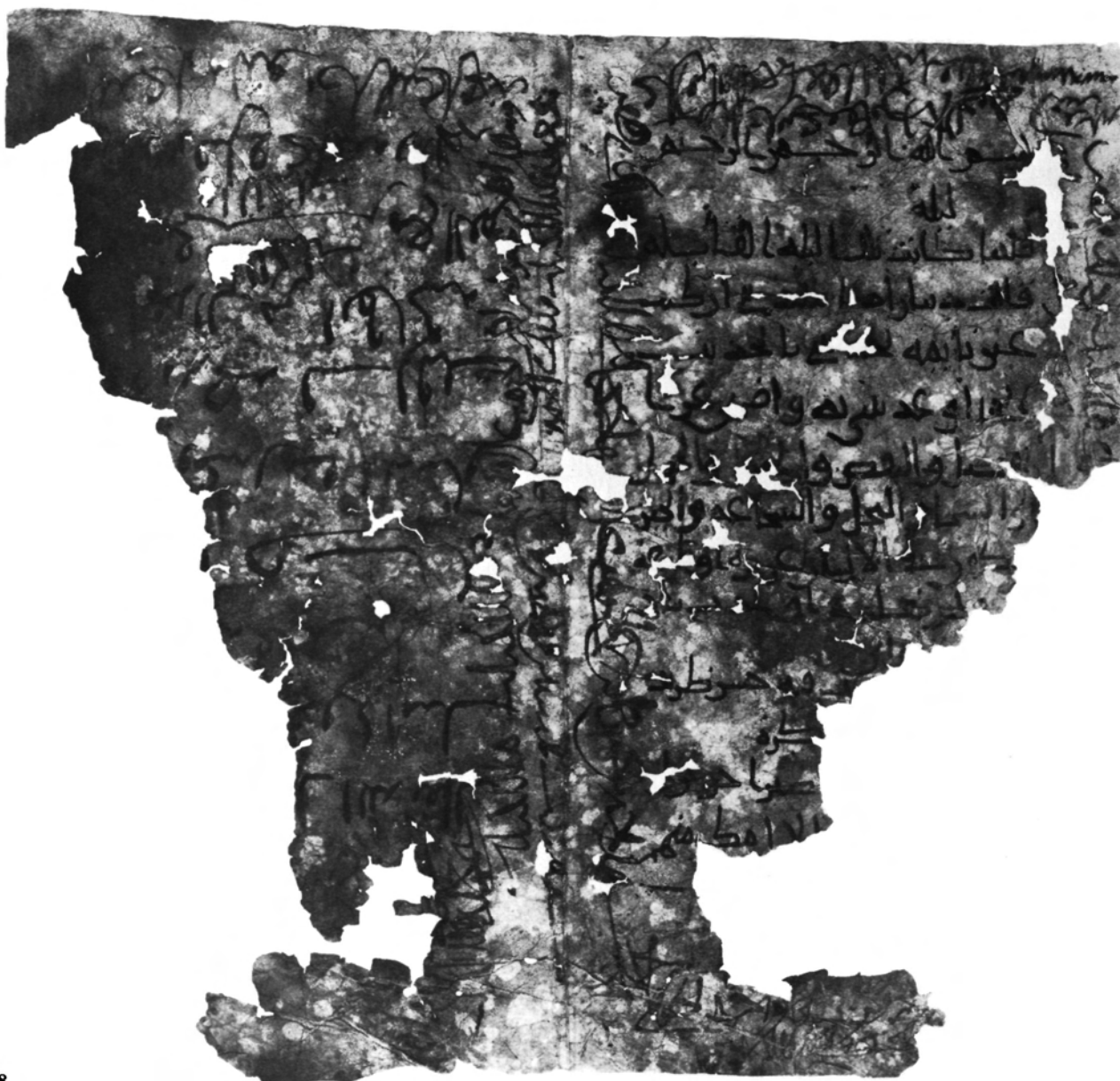
On the next page is the beginning of the first story.

This much-tattered fragment was used as scrap paper in the 9th century A.D., with numerous scribbles and drawings on the flyleaf and margins. These include pious phrases, the draft of a letter, and five drafts of a legal formula written by one Ḥmad ibn Maḥfūz, and dated by him *the last of Ṣafar of the*

year six and sixty and two [hundred], corresponding to 20th October, 879 A.D.

Apart from being the earliest-known copy of the *Arabian Nights*, the fragment is also the earliest dated example of a *paper* book outside the Far East.

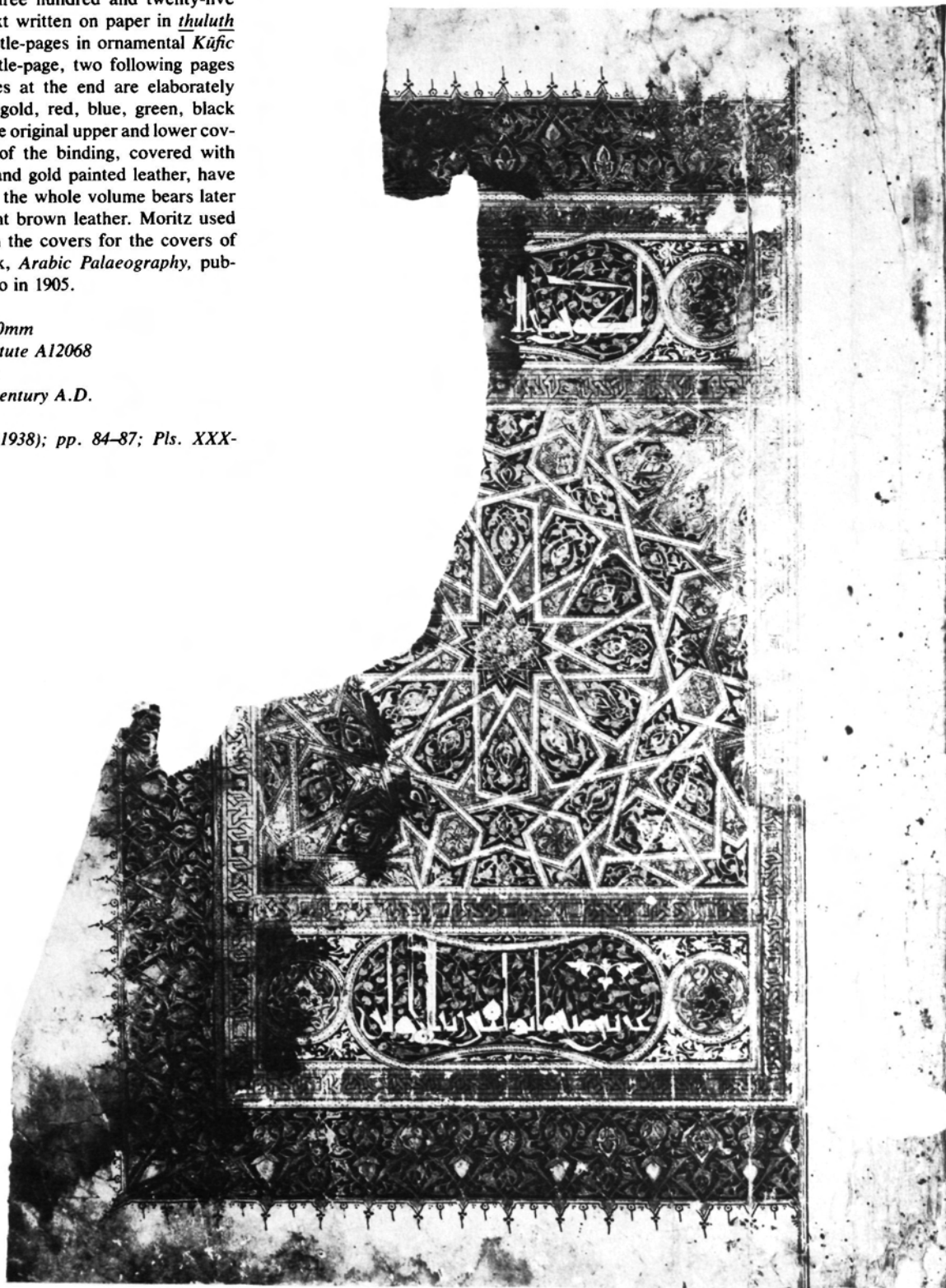
N. Abbott, (1949); pp. 129-164.



- 99 A QUR'ĀN; three hundred and twenty-five folios, the text written on paper in *thuluth khaffif*, with title-pages in ornamental *Kāfic* script. The title-page, two following pages and two pages at the end are elaborately decorated in gold, red, blue, green, black and white. The original upper and lower covers and flap of the binding, covered with blind tooled and gold painted leather, have survived, but the whole volume bears later repairs in light brown leather. Moritz used the design on the covers for the covers of his own work, *Arabic Palaeography*, published in Cairo in 1905.

420mm × 310mm
 Oriental Institute A12068
 Dr. B. Moritz
 Egypt, 15th century A.D.

N. Abbott, (1938); pp. 84-87; Pls. XXX-XXXI.



وَالْمُشْرِكِينَ وَالْمُشْرِكَاتِ وَيَتُوبُ اللَّهُ عَلَى الْمُؤْمِنِينَ وَالْمُؤْمِنَاتِ وَكَانَ اللَّهُ غَفُورًا رَحِيمًا



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

الْحَمْدُ لِلَّهِ الَّذِي لَهُ مَا فِي السَّمَوَاتِ وَمَا فِي الْأَرْضِ وَلَهُ الْحَمْدُ فِي الْآخِرَةِ وَهُوَ
الْحَكِيمُ الْخَبِيرُ يَعْلَمُ مَا يَلِجُ فِي الْأَرْضِ وَمَا يَخْرُجُ مِنْهَا وَمَا يَنْزِلُ مِنَ السَّمَاءِ
وَمَا يَعْرُجُ فِيهَا وَهُوَ الرَّحِيمُ الْغَفُورُ وَقَالَ الَّذِينَ كَفَرُوا لَا تَأْتِنَا السَّاعَةُ
قُلْ بَلَى وَرَبِّي لَتَأْتِيَكُمُ الْعَذَابُ الْغَيْبُ لَا يَعْزُبُ عَنْهُ مِثْقَالُ ذَرَّةٍ فِي السَّمَوَاتِ
وَلَا فِي الْأَرْضِ وَلَا أَصْغَرُ مِنْ ذَلِكَ وَلَا أَكْبَرُ إِلَّا فِي كِتَابٍ مُبِينٍ لِيَكِيَ
الَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ أُولَئِكَ لَهُمْ غُفْرَةٌ وَرِزْقٌ كَثِيرٌ وَالَّذِينَ
سَعَوْا فِي آيَاتِنَا مُجْتَهِينَ أُولَئِكَ لَهُمْ عَذَابٌ مِنْ حَرِّ النَّارِ وَرِزْقٌ لَدُنْ
أَوَّلِ الْعِلْمِ الَّذِي أَنْزَلَ إِلَيْكَ مِنْ رَبِّكَ هُوَ الْحَقُّ يَهْدِي عَلَى الصِّرَاطِ الْعَزِيزِ

ما علم الغيب
وحقق السمع



الحمد



100.

100 PAGES FROM A QUR'ĀN; eight folios from an original gathering of twelve, of which the inner two bifolios have been removed, and the whole section torn from a bound volume. The folios were sewn with heavy thread and traces of cloth and paste remain from the original binding. Written in *thuluth* on well-burnished oriental hand-made laid paper; this section contains *Sūrah*s 16:45–93 and 17:18–71; *Allāh* is written throughout in gold, and there are rosettes and other ornaments in red, green, blue and gold. This is believed

to be the third largest *Qur'ān* known, only surpassed in size by examples in the Egyptian Library in Cairo and the John Rylands Library at Manchester.

550mm × 370mm
Oriental Institute A12031
Dr. B. Moritz
Egypt, 14th–15th century A.D.

N. Abbott, (1938); pp. 83–84; Pl. XXIX.

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