

Article

The 'Decorative Style' Group of Byzantine Manuscripts Seen with Different Eyes: Initial Explorations, Further Thoughts, Implications and New Avenues for Research

Marina Toumpouri | Thessaloniki

Introduction

Losses of manuscripts over several centuries from natural disasters and accidents (fires, floods, liquidations, relocations of institutions or individuals, extinctions of monastic or parochial communities etc.), combined with the wide-scale systematic looting of mainly the religious institutions of the Eastern Mediterranean,¹ resulted in the deprivation of these institutions' patrimony as well as their intellectual and cultural property. Another, equally important consequence of the destruction or dispersion of libraries and the often wide geographical scattering of their holdings was the loss of a body of indirect evidence concerning the identity, interests and practices of their owners, as well as the network of their relationships, the way they were transmitted from one place to the other, the significance of acquiring and/or collecting books and, more generally, the history of libraries and archives.

The fate of the manuscript heritage of the island of Cyprus does not present a significantly diversified picture, since events such as the fleeing of the nobility and members of the clergy after the change of political systems,²

catastrophic fires³ and the sacking of the major cities and religious institutions⁴ reduced the number of volumes significantly. Finally, the estimated small portion of manuscripts – compared to what once existed – that survived the accidents of history and was still found on the island was transferred massively to the West by the acquisition missions in the Levant that were organized by zealous collectors.⁵ It is, however, necessary to signal that during the medieval period Cyprus was never a prominent learning or literary centre.⁶ Being the eastern frontier of the Byzantine Empire and later the eastern sea border between the Christian and Muslim worlds, it rather played a central role in military and commercial matters in the

The bilingual (Greek-Latin) manuscript Berlin, Kupferstichkabinett, 78.A.9 (also known as the Hamilton Psalter) also belonged to Charlotte.

¹ Constantinides and Browning 1993, 23–28.

² The mediaeval history of Cyprus covers four periods, i.e. the period of the Arab raids (from the seventh to the tenth century); the Byzantine period (965–1191); the Frankish era (1192–1489); and the period of Venetian rule (1489–1571), which ends with the conquest of the island by the Ottomans in 1571. Examples of manuscripts that were moved out of Cyprus with their owners are: Vatican, Biblioteca Apostolica Vaticana, gr. 1231, which belonged to the Dukas of Cyprus Leon Nikerites who later transferred it to Constantinople. In 1470, the manuscript came into the possession of Anna Notara, daughter of Loukas Notaras, last Megas Dukas of the Byzantine Empire (fol. 456^v: dated ownership entry); Vatican, Biblioteca Apostolica Vaticana gr. 1158 and gr. 1208 were offered by Queen Charlotte de Lusignan (reg. 1458–1475) to Pope Innocent VIII. Charlotte moved to the court of Savoy after her second marriage (1459), to Louis de Savoie, and following the deprivation of her throne in 1463, which was preceded by her three-year blockade in the castle of Kyrenia by her brother James II.

³ For instance, the royal and stavropegic monasteries of the Virgin of Machairas and Kykkos were completely destroyed by fires, the first in 1530 and in 1892 and the second four times, in 1365, 1542, 1751 and 1813. Both monasteries were patronized by the members of the secular ruling elites of the island and received grants from the Byzantine emperors. It is most probable that they possessed a large number of manuscripts. See: Constantinides, and Browning 1993, 37. In the case of the monastery of Machairas, the Greek scholar C. Papadopoulos, who visited it in 1890, signalled the necessity to prepare a catalogue of its important holdings, which included manuscripts, chrysobulls and archival material. See: Papadopoulos 1890, 315.

⁴ For instance, the Monastery of Stavrovouni was taken over by Benedictine monks when Cyprus became a Frankish kingdom. It was also looted by the Mamelukes in 1426, like many other Orthodox and Catholic monasteries. For the monastery of Stavrovouni, see: De Mas Latrie 1852, 512. More generally on the looting of the Cypriot monasteries, see: Papadopoulos 1995, 644.

⁵ Such missions were organized by Nicolas-Claude Fabri de Peiresc (1580–1637); Cardinal Mazarin (1602–1661), le Chancelier Séguier (1643–1663), the king of France (1671–1675) and Jean-Baptiste Colbert (1619–1683). See: Constantinides and Browning 1993, 23–27.

⁶ Constantinides 1982, 25; Constantinides and Browning 1993, 5–13; Galatariotou 2004, 157–163; Grivaud 2005, 221.

region.⁷ Excellence in education and the flourishing of the sciences and the letters were never among the priorities of the rulers of Cyprus.⁸ This fact, combined with the worldwide scattering of the manuscripts, the absence of catalogues of Cypriot manuscript collections and the inaccessibility of the island during the period of Ottoman rule (1571–1878), significantly retarded any scholarly interest in the manuscript culture of the island, while it also led to continuing losses of evidence. Efforts in this direction are relatively recent. Combined with the vastness of the indirect sources and the variety of evidence that has to be gathered,⁹ our knowledge of specific production centres and practices as well as of the book collections of individuals and institutions is still limited.

The 'decorative style' group of manuscripts is a notable exception. The items in this group – over one hundred fifteen deluxe illuminated manuscripts – have come to be connected to Cyprus, or more precisely, to a broader geographic area that comprises also Palestine, Syria and even Egypt. They were either produced there or their history of ownership and transmission indicates that they belonged to local institutions or individuals originating from or residing in the region, either permanently or for shorter periods.

Research on the 'decorative style' group has revealed a multifaceted and complex picture of production, while hypotheses and assumptions about the time span and locality of production, as well as about interrelationships between its members, have changed over time, emphasizing the necessity to address the same issues with new methods. This group and the questions it addresses in fact advocate for the application of a holistic approach integrating different methods and areas of research. This paper will present some preliminary thoughts and new insights that led to the pilot experiments of the exploratory phase of the study of the 'decorative style', which will be discussed in

conjunction with opportunities and strategies for future research.¹⁰

1. The 'decorative style' group of manuscripts: the corpus and its historiography

The twelfth and thirteenth century group consists today of some one hundred fifteen manuscripts. It was given the name 'decorative style' based on the stylistic features of their illumination (decoration and miniatures).¹¹ It is in fact almost all that is known of Byzantine illuminated manuscript production in the twelfth century and the only group of deluxe Greek manuscripts from the first half of the thirteenth century.¹²

It is notable that, though service books were the ones usually receiving illumination, they are a minority in the case of the 'decorative style' group, given that they account for just less than ten per cent of the whole (four Gospel Lectionaries,¹³ five *Menaia* and one *Octoechos*).¹⁴ The number of the Tetraevangelia is much larger (seventy), followed by the Psalters (thirteen), the volumes combining New Testament and Psalter (seven), the Gospel Lectionaries (four), the copies of the Book of Job with *catenae* (four) and the complete Old Testament in four volumes (one set). Moreover, throughout the non-liturgical manuscripts the liturgical equipment, the section and the canon numbers are insufficient and inconsistent, while the deficiency and sometimes even emptiness of the canon tables contrasts with their profuse illumination.¹⁵

¹⁰ The exploratory phase of the project conducted on the manuscripts of the 'decorative style' was planned and led by Dr Marina Toumpouri within the framework of STAR-Lab project (NEA ΥΠΟΔΟΜΗ/ΣΤΡΑΤΗ/0308/30), co-financed by the European Regional Development Fund and the Republic of Cyprus through the Research Promotion Foundation.

¹¹ Weyl Carr 1982, 39–81.

¹² Maxwell 2014, 11.

¹³ Gospel Lectionaries and Tetraevangelia are two modalities of the four canonical Gospels. The Tetraevangelion contains the Gospels in their traditional order (Matthew, Mark, Luke and John). A Gospel lectionary is a recomposed Tetraevangelion. It contains lessons for the ensemble of the days of the ecclesiastical year. More precisely, it comprises the four Gospels in the form of lessons organised in two series of readings. The first is arranged according to the movable structure of the Byzantine calendar. The second follows the fixed structure of the Byzantine calendar. The Gospel lectionaries can also include readings for particular occasions and commemorations.

¹⁴ Weyl Carr 1987, 1–2.

¹⁵ Weyl Carr 1987, 1–2; Weyl Carr 1988–1989, 126.

⁷ Galatariotou 2004, 40–67; Grivaud 2012, 182–189; Malamut 2012, 98–100.

⁸ Further investigation is needed to complete our knowledge of textual production in Cyprus. It should therefore be noted that literary, scientific and legal texts were produced. See, for instance: Grivaud 2005, 219–284; Malamut 2012, 102.

⁹ The evidence used in tracking the ownership of manuscripts produced in or associated with Cyprus is quite varied. It comes from inscriptions, catalogue records, sales catalogues, the association between scribal hands, stylistic evidence etc.

Palaeographically, the group adheres to the 'style epsilon à pseudo-ligatures basses' defined by Paul Canart.¹⁶ It embraces both of the style's modes, the diminutive and cursive called 'epsilon arrondi' and the bold, blocky and more angular one called 'epsilon rectangulaire'.¹⁷ The script distinguished also by the use of a deep black ink is characterized by its impetuous ductus, the high proportion of uncials, a large variation in letter forms and sizes and the interplay between small regular forms and considerably enlarged letters or combinations of letters and ligatures¹⁸.

Among its key features is the *mise-en-page*, seen especially well in the case of the openings of the Gospels. This is characterized by the presence of full-page author portraits preceding each Gospel; the carpet headpieces filled with vigorous lattice, palmette and vine scroll patterns; the titles below the headpieces with the sonorous majuscule letters written with a dark red ink; and the animated or ornate initials found below the titles.¹⁹ The same dark red ink carries over into the text. The opening verses, the initials and the liturgical equipment found in the margins all over the manuscripts were also written with this ink.²⁰

From a codicological viewpoint, the manuscripts are composed of a thick, rather heavy parchment.²¹ The quires that make up the books are usually quaternions. They were often modified, however, to permit the beginning of a new text and/or of a major text division to coincide with the beginning of the gathering.²² Full-page miniatures were painted on inserted single folia or bifolia some of which are purple-tinted.²³ The beginnings of the quires were designated

by a number found in the upper corner of the first folio (recto), occasionally in addition to or replaced by a dagger in the middle of the upper margin of the same first folio.²⁴

The artistic character of the manuscripts confirms the coherence of the group. Stylistically it is characterized by lavish miniatures coloured in dark red, pink, green and blue, the same tones used for the decorative elements on the openings of the Gospels.²⁵ The decorative method of the composition of the miniatures also defines the group. It is seen in particular in the case of the full-page portraits of the Evangelists. The big, centrally placed figures with strong contours are depicted in profile view. They are surrounded by ornate furniture and architecture painted on the same surface plane. As a result, they are all compressed into a decorative pattern fusing figure and setting on the same plane.²⁶

The group's membership grew significantly compared with when a group of New Testament text criticism scholars and art historians initially identified it in the early 1930s. It then comprised only thirteen manuscripts²⁷ coalesced around Gregory's 'codex 2400',²⁸ whose palaeographic, stylistic, iconographic and decorative features turned out to characterize a larger group of manuscripts, dubbed 'Family 2400'.²⁹ The conjunction of these identifiable features in so many illuminated manuscripts led to the ascription of the initial cluster to imperial origin and a single workshop, presumably one active in the capital, after its recovery in 1261.³⁰ Even though palaeographic and iconographic

¹⁶ Canart 1981, 17–76; Canart 1988–1989, 33–36.

¹⁷ On the differentiation between the two modes, see: Canart 1981, 17–76; Canart 1988–1989, 33–36.

¹⁸ Canart 1981, 17–76; Canart 1988–1989, 33–36.

¹⁹ Weyl Carr 1987, 3.

²⁰ Weyl Carr 1987, 3.

²¹ Weyl Carr 1987, 2.

²² Weyl Carr 1987, 2.

²³ Purple-tinted parchment can be found in: Paris, Bibliothèque Nationale de France, sup. gr. 1335; Jerusalem, Greek Orthodox Patriarchate, Taphou 47; Athos, Monastery of Dionysiou, 12; London, British Library, Add. 37002; Saint Petersburg, State Public Library, gr. 644; Moscow, State Historical Museum, Mus. 3646; Oxford, Bodleian Library, Auct. T.5.34; Münster, Bibelmuseum, gr. 10; and probably Athos, Monastery of Stavronikita, 56. See: Weyl Carr 1987, 143.

²⁴ Weyl Carr 1987, 2.

²⁵ Weyl Carr 1987, 4.

²⁶ Weyl Carr 1987, 4.

²⁷ The initial identification of the group was done by Goodspeed et al. 1932, 30. The list of manuscripts, however, was first presented in: Colwell and Willoughby 1936, vol 2., 4. For a list of the manuscripts included initially in the group, see: Weyl Carr 1987, 156.

²⁸ Now Chicago, University Library, 965. The manuscript was named 'codex 2400' after its number in Gregory's standard listing of New Testament texts. It is also known as the 'Rockefeller McCormick New Testament', since Edith Rockefeller McCormick purchased it in 1928 for the University of Chicago. Weyl Carr 1973, 1–3.

²⁹ The title was introduced by Willoughby in 1940–1941, 126–132.

³⁰ It was suggested that the workshop in question was set up by Michael VIII Palaeologus somewhere between 1261 and 1269 in the imperial palace, after the Byzantines regained control of Constantinople and as a result of the re-establishment of the court. On the evidence on which this attribution was supported, see: Weyl Carr 1973, 11–13. On whether or not the manuscripts of the 'decorative style' group were the products of a workshop, see: Dufrenne 1981, 450–451.

comparisons with dated works from the second half of the thirteenth century were seen to confirm the early Palaeologan³¹ dating, this attribution was stylistically problematic.³² As an alternative place of production, Der Nersessian then proposed post-conquest Lascarid Nicaea, which served as the functional capital of the Empire from 1204 until the recovery of Constantinople.³³ This new attribution yielded the group's famous name 'School of Nicaea' which allowed, above all, the option for an earlier date, i.e. the first half of the thirteenth century, that could better explain the stylistic incompatibility of the group's illuminations with the early Palaeologan works.³⁴ The title was upheld in the catalogue that accompanied the 1964 exhibition of the Council of Europe in Athens, which focused particular attention on the group, which numbered almost forty manuscripts by then.³⁵

The group continued to expand, and by the early 1970s it consisted of over sixty manuscripts.³⁶ With this significant growth, the character of the group and the problems posed were no longer the same. More reliable inscriptions, notably a number of dated ones, replaced the evidence provided by the initial cluster by pushing a portion of the group back to the second half of the twelfth century.³⁷ As a consequence, this date severed the bond with the Nicaean attribution, or at least the Nicaean origin of the group.³⁸ It also disproved its imperial origin, since the well-documented metropolitan illumination of the second half of the twelfth century differs significantly.³⁹ Moreover, the label 'School' was no longer suitable, since the group was too large and its members clearly gathered into interrelated but distinguishable groups

with significant differences in quality, each with its own stylistic traits, iconographic patterns and palaeographic variations.⁴⁰ It was not clear whether these differences were due to the territorial diffusion of the group, its chronological duration, the means of its dissemination or the source of its unifying features.⁴¹ The descriptive, more flexible title by which the group is still known today, i.e. the 'decorative style', replaced the name 'School of Nicaea', since many problems have yet to be solved before its historical place is understood and, consequently, a firm historical title can be established.⁴²

By 1987, when Annemarie Weyl Carr published her monograph, the group's membership had almost doubled, since the list of manuscripts under consideration then comprised one hundred eight items.⁴³ This was in fact the first effort to consider the group as a whole. It was based on the classification of the manuscripts into three groups and, within them, eight subgroups,⁴⁴ based on the study of their iconography and style. The four major questions addressed were: i. the kinds and degrees of kinships existing among the members of each subgroup, as well as the character and strength of the qualities uniting the subgroups; ii. the chronological relation of subgroup to subgroup embracing the duration of the whole group and the distribution of each manuscript within that span; iii. the clientele to which this production was addressed; and, iv. the range of territory within which the decorative style was practiced.⁴⁵ Weyl Carr concluded that the group constitutes the only provincial manuscript tradition with a century's duration (1150–1250), whose coherence emanates from the comprehensive characteristics embracing the ensemble of its members. Yet, rather than a single scriptorium, she put forward that the pattern of production emerging is a more complex and unstable one, allowing for constantly

³¹ The Byzantine Empire was ruled by the Palaeologoi dynasty from 1261 to 1453. The artistic production of that period is therefore referred to as Palaeologan. The 'early Palaeologan period' spans from 1261 to 1300.

³² Weyl Carr 1973, 11–15; Weyl Carr 1987, 4.

³³ Der Nersessian 1936, xxvi–xxxvi (Introduction).

³⁴ An attribution to the first half of the thirteenth century was also defended by Buchthal 1964, 224. On this attribution, see also: Weyl Carr 1973, 14; Weyl Carr 1982, 40.

³⁵ The Council of Europe's exhibition in Athens was accompanied by a catalogue. See in particular the entries Nos. 295, 298, 299, 300, 323, 341 and 348 of the catalogue *Byzantine Art, An European Art*.

³⁶ Weyl Carr 1973; Weyl Carr 1987, 4–5.

³⁷ Weyl Carr 1973, 21–22; Weyl Carr 1987, 5.

³⁸ Weyl Carr 1973, 22–24; Weyl Carr 1987, 5.

³⁹ Weyl Carr 1987, 5.

⁴⁰ Weyl Carr 1973, 35; Weyl Carr 1982, 41; Weyl Carr 1987, 5.

⁴¹ Weyl Carr 1982, 41; Weyl Carr 1987.

⁴² Weyl Carr 1987, p. 5; Weyl Carr 1988–1989, 124.

⁴³ The list of manuscripts can be found in: Weyl Carr 1987, 184–290.

⁴⁴ I. The Initial group (a. the Chicago subgroup; b. the Taphou subgroup; c. the London subgroup); II. The Central group (a. the Ludwig subgroup; b. the Harley subgroup; c. the Seraglio subgroup); III. The Late group (a. the Dionysiou and Berlin subgroup; b. the Interregnum subgroup). See: Weyl Carr 1987.

⁴⁵ Weyl Carr 1987, 6–10.

varying collaborations between scribes, illuminators and patrons. The territorial diffusion of such a large group, however, appears to be limited to the region of the Eastern Mediterranean, and more precisely, Cyprus and Palestine, which assumed importance following the Crusader conquest of Jerusalem. The availability of patrons and resources due to the Comnenian involvement in the region were indicated as the conditions conducive to the expansion of production of luxury illuminated manuscripts oriented towards private consumption.⁴⁶

Weyl Carr's subsequent contributions reaffirmed the likelihood of the Cypro-Palestinian origin of the group. They furthermore provided additional insights into the milieu of production of the manuscripts of the group, the kinships of the group with contemporary Constantinopolitan and Levantine – mainly Cypriot, Cilician Armenian and Syro-Palestinian – comparanda (manuscript, mural and panel painting) and those between groups and subgroups⁴⁷.

2. Verifying Weyl Carr's conclusions: the contribution of the textual evidence

Although few if any Byzantine groups of illuminated manuscripts have been so extensively studied, the outline of the scholarship that dealt with this group indicates clearly the complexity of the interrelationships of the members of the group. But above all, it bespeaks the limitations of traditional methodologies in providing, if not definite answers, at least more objective and reliable qualitative and quantitative evidence that could shed further light on or at least open up discussion about the relationships of the manuscripts, as well as various matters relevant to their production.⁴⁸

Recognizing the necessity to provide new unbiased and objective knowledge, the most recent inquiries into the manuscripts of the 'decorative style', undertaken almost concurrently, were the first attempts to verify Weyl Carr's conclusions by applying automated text analysis.⁴⁹ Their aim

was to observe from a text-critical approach the questions addressed by Weyl Carr, in an effort to shed light on issues of kinship between single manuscripts and groups and relations between scribes and illuminators and to clarify whether the manuscripts of the group represent a textual tradition that could be defined as provincial. The overall conclusion was that, despite ornamental, scribal and stylistic ties between the manuscripts of the different subgroups, these connections could not be confirmed in most of the cases, suggesting that the boundaries of the subgroups are blurred.⁵⁰ It was also revealed that the manuscripts of the group continued to be used as textual exemplars, long after the assumed demise of the 'decorative style' around ca. 1260.⁵¹ This was hardly a surprising discovery, since the chronology of the group had previously been challenged, in consequence of the emergence of new dated manuscripts from the end of the thirteenth century that fit squarely into the conceptual scheme of the 'decorative style'.⁵² The most interesting outcome, however, was that certain of the manuscripts demonstrate compelling textual affinities with deluxe Constantinopolitan products, suggesting that, in spite of their provincial script, ornamentation and miniatures the members of the group may be more integral to Byzantine mainstream manuscript production than Weyl Carr thought.⁵³

⁴⁶ Weyl Carr 1987, 142–154 (Conclusions).

⁴⁷ Weyl Carr 1988–1989; Weyl Carr 1989; Weyl Carr 1991a; Weyl Carr 1991b; Weyl Carr 1993; Weyl Carr 2012.

⁴⁸ On a number of questions that the 'decorative style' group addresses, see also: Fonkič 1980–1982, 108–112.

⁴⁹ Langford 2009; Maxwell 2014, 11–38; Maxwell 2016, 33–34. They were of course subsequent to the pioneer work of the Chicago University scholars, Goodspeed, Riddle, and Willoughby 1932; Colwell and Willoughby 1936, which dealt with the text of the initial thirteen members of the group.

⁵⁰ Langford 2009, 158–161; Maxwell 2014, 11–38; Maxwell 2016, 33 and 57. The necessity to reassess Weyl Carr's groupings was also pointed out in: Canart 1988–1989, 35.

⁵¹ It is assumed that at least for two centuries the manuscripts of the group continued to serve as exemplars. See: Maxwell 2014, 35. In an analogous manner, the 'style epsilon' script seems to survive until the end of the thirteenth century. See: Canart 1988–1989, 38.

⁵² This is for example the case of Sofia, Centre Ivan Dujčev, gr. 339 (olim. Drama, Monastery of Eikosifinissa, 219). It contains the date 1285 on fol. 307^v. On this manuscript, see: Džurova 2002, 179; Džurova 2008, 283–291. It is expected that the attribution of further manuscripts to the group will continue since manuscripts or important repositories still remain inaccessible, or because, a catalogue of the manuscripts they hold was not published. In fact, several manuscripts were discovered after the publication of Weyl Carr's monograph in 1987. Such is the case of Paris, Bibliothèque Nationale de France, gr. 88; or, of the most recently discovered one: Athens, Benaki Museum, 2. See: Maxwell 2014, 10.

⁵³ Maxwell 2014, 35–36. Constantinople has been suggested as a more plausible place of execution of a number of manuscripts. For example, see: Marinis 2004, 284. The exhibition catalogue entry in question deals with Malibu, The J. Paul Getty Museum, Ludwig II.5, a manuscript of very high quality. Indicatively, Weyl Carr characterized the portraits of the Evangelists as 'definitive monuments of the decorative style'. See: Weyl Carr 1987, 44.

3. New approaches and new tools: some preliminary results and future prospects

With the aim to overcome the conspicuous absence of evidence about the production circumstances of the 'decorative style' group, a holistic approach was envisaged, combining traditional arts and humanities methodologies with advanced scientific analyses to obtain new, otherwise inaccessible data preserved in the different components of the manuscripts.⁵⁴ Two main directions of research were thus chosen: i. material analyses; and, ii. document image analyses. Given that the two approaches do not contrast with, but complement each other; this was considered essential to unfold the full interpretative potential of the material under investigation.

As already mentioned, the research group addresses a wide range of questions such as: the organisation of production, the materials' procurement and the identification of chronological changes in the overall patterns of production, provenance determination and consumption patterns.⁵⁵ This initial stage of inquiry was not expected to provide answers to the aforementioned questions. The general objectives of this exploratory work were: i. to establish the foundations for the multidisciplinary range of approaches and techniques intended to be subsequently applied; ii. to initiate the creation of a corpus of new and original data, which would include both archaeological information (i.e. on material and codicological aspects of the manuscripts) and analytical information, which was expected to expand through time; iii. to generate new assumptions and ideas; iv. to develop new hypotheses; v. to determine the feasibility of the study of the group in the future; and vi. to refine specific questions for a further and more systematic investigation.

The design and piloting of the documentation process was unprecedented and fundamental. A model was thus created, including all the characteristics of a manuscript, which can provide information about the types of materials, procurement and manufacturing processes at a macroscopic and a microscopic level. They were organized in series that could also facilitate recording information at every

⁵⁴ It has to be noted that analytical investigation was previously undertaken in the case of two manuscripts belonging to the 'decorative style' group. The two manuscripts, belonging to Russian libraries, are: Saint Petersburg, State Public Library, gr. 105 and Moscow, State Public Library, F181, gr. 9. See: Mokretsova 2003, 279–281.

⁵⁵ One has to signal the lack of Byzantine compilations of and treatises on art technology. In a recent publication, a large number of texts treating relevant issues were edited and commented. See: Schreiner and Oltrogge 2011.

following stage of the work. Table 1 shows two sections of the documentation model in question.⁵⁶

Due to the exploratory character of the study, it concentrated mainly on five purposefully selected manuscripts⁵⁷ still located in Cyprus.⁵⁸ The ensuing paragraphs are therefore intended to raise a number of questions generated by the knowledge recently acquired⁵⁹ that will hopefully be refined by future work on the manuscripts of the 'decorative style', as well as on items outside the group comparatively studied, with the aim to extend their meaning and interpretative value. A variety of analytical techniques, i.e. digital microscopy, FORS, XRF and FTIR, were applied to examine the parchment's preparation and to identify the inks and pigments used. Multispectral imaging was employed as a complementary and, in some cases, as an alternative technique. Biomolecular information was also recovered from the parchment folios of the manuscripts to identify the species of the animals used for their confection.⁶⁰ Interesting

⁵⁶ For purposes of brevity, only an abridged version of the parchment and ink sections of the documentation model prepared were included here. The complete documentation model will be made available in a forthcoming publication.

⁵⁷ The selected manuscripts were: Paphos, Museum of the Monastery of Kykkos, Ms. R8; Paphos, Museum of the Monastery of Kykkos, liturgical scroll; Paphos, Monastery of Saint Neophytos, Ms. 11 (unfinished manuscript); Paphos, Monastery of Saint Neophytos, Ms. 12; Paphos, Monastery of Saint Neophytos, Ms. 31. Although impossible to confirm given the absence of substantial evidence, the place of origin of the manuscripts studied could be Cyprus or the broader Eastern Mediterranean region. The presumed dates of creation of all the manuscripts in question fall within the chronological limits of the 'decorative style' group. Finally, two of the manuscripts studied were attributed to the group, i.e. Paphos, Museum of the Monastery of Kykkos, Ms. R8; and, Paphos, Monastery of Saint Neophytos, Ms. 11. On their attribution to the group, see Weyl Carr 1993; Constantinides 1988–1989.

⁵⁸ I would like to acknowledge Father Neophytos Enkleistriotis, librarian of the Monastery of Saint Neophytos and Stylianos Perdikis, Director of the Museum of Kykkos, for their help and cooperation. Additional thanks go to Leontios, Bishop of Chytroi and Abbot of the Monastery of Saint Neophytos and to Nikiphoros, Bishop of Kykkos and Tylliria and Abbot of the Monastery of Kykkos, for allowing the study of the manuscripts. The monasteries of Iviron and Dionysiou and the General Experimental Lyceum of Mytilini (G. Skalochoritou and A. Kalamatas) are here gratefully acknowledged for making digital images of their manuscripts available to me. I am grateful to Father Hieronymos, Abbot of the Monastery of Mega Spilaion (Kalavryta, Greece) for allowing the study and digitization of Ms. 4 (olim. Ms. 17). I would finally like to thank all the monasteries and institutions for permitting the publication of the images that illustrate this paper.

⁵⁹ The results obtained are currently being prepared for publication.

⁶⁰ The analyses were performed by Dr Sarah Fiddymont and her colleagues at the Department of Bio-archaeology of the University of York. I would like to thank Professor Matthew Collins and Dr Fiddymont for their contribution. On the method used and its contribution to manuscript studies,

Table 1: Two sections of the documentation model prepared during the first phase of the project.

1. PARCHMENT			
Dimensions of single folios			
Dimensions of bifolia			
Thickness			
Animal	- type		
	- follicle patterns		
	- skeletal marks	- shape	
		- depth	
	- scarring	- shape	
		- depth	
Preparation	- washing and bathing	- materials used	
Manufacturing features	- veining	- intensity	
	- striation marks	- shape	
		- depth	
	- holes	- shape	
		- dimensions	
Pre-use treatment	- pouncing		
	- coating	- materials	
2. INKS			
Black/brown	- main text	- pigments/ingredients	- preparation method
		- binding media	
	- corrections	- pigments/ingredients	- preparation method
		- binding media	
	- annotations	- pigments/ingredients	- preparation method
		- binding media	

	- quire numbering	- pigments/ingredients	- preparation method
		- binding media	
	- canon table numbers	- pigments/ingredients	- preparation method
		- binding media	
Red	- layout design	- pigments/ingredients	- preparation method
		- binding media	
	- decorated/animated initials design	- pigments/ingredients	- preparation method
		- binding media	
	- simple initials	- pigments/ingredients	- preparation method
		- binding media	
	- headtitles	- pigments/ingredients	- preparation method
		- binding media	
	- <i>incipits</i>	- pigments/ingredients	- preparation method
		- binding media	
	- liturgical indications	- pigments/ingredients	- preparation method
		- binding media	

as they are, however, the results obtained will not be presented extensively here, since forthcoming publications will have this purpose. Instead, we will attempt to provide some first thoughts about the work undertaken during the past years, its contextualisation and comparisons with relevant evidence, as well as a number of possible strands of investigation that shall be envisaged by future research on the 'decorative style' manuscripts.

The issue of the groupings of the manuscripts, addressed since the discovery of the group, is still open. The textual analyses undertaken have already drawn attention to the fact that, despite strong stylistic affinities and iconographic similarities between the miniatures and decoration of the manuscripts, great variability can be revealed by material, technological and document image analyses. The question that therefore remains is the extent to which the groupings

of the manuscripts of the 'decorative style' that were based on subjective criteria must continue being the basis for the planning and realization of future undertakings. The answer cannot be straightforward, for many reasons. The main one is that there can be no doubt that an already existing classification of the members of such a large group is of great interest to anyone working or planning to work on specific manuscripts belonging to it or on issues relevant to the group as a whole. The groupings offer, above all, the possibility to re-examine specific issues and to conduct tests performed on a restricted number of manuscripts to confirm or reject hypotheses. The investigation undertaken by Elisabeth Yota can be mentioned here as an example of a study that benefitted from Weyl Carr's groupings in this respect.⁶¹ More precisely, in her Ph.D. dissertation on London, British Library, Harley 1810, Yota strove to verify the attribution of

see: Fiddymment et al. 2015, 15066–15071; Teasdale et al. 2017.

⁶¹ Yota 2001.

the Harley subgroup to a single scribe, Manuel Boukellaros Hagiostephanites,⁶² one of the rare scribes who signed their work. That the name of Hagiostephanites is found only in two colophons of manuscripts belonging to the Chicago subgroup⁶³ and that the whole Harley subgroup was finally attributed to him aroused Yota's suspicion and prompted her to re-examine this attribution.⁶⁴ Hence, comparisons between the script of the manuscripts of the Harley and the Chicago subgroup showed that Hagiostephanites could not have been the person who copied all the manuscripts in question.⁶⁵ Yota furthermore identified strong palaeographic kinships between the members of the Harley subgroup that she attributed, not to a single hand, but to scribes who worked conjointly and had a reciprocal influence on each other.⁶⁶

Likewise, the groupings and subgroupings make the manuscripts of the group very attractive as case studies aiming at improving and testing existing or creating new tools and solutions. For example, the systematic study of the characteristics of the animals' skin (species, age, size) from which the parchments were made, as well as of the different traces attributable to their preparation (materials, processes, tools and gestures used) and that can still be detected, would lead to the creation of a computerized tool. Its purpose would be to assist scientific description of manuscript parchment; and, through the creation of an extensive databank in which the characteristics of parchment specimens would be recorded, it might eventually contribute to provenance studies, since it could provide further evidence for dating manuscripts and identifying connections between localities and production centres.⁶⁷ To achieve such an objective, it

would be much more beneficial to include specimens that can cover as large a geographical – and possibly also cultural – spectrum as possible and that are able to reveal variations and craft production on local, regional and inter-regional scales. The exploratory tests on manuscripts of the 'decorative style' could therefore fill the knowledge gap regarding twelfth- and the thirteenth-century parchment production in the Eastern Mediterranean, a period and region historically significant due to the Crusader presence in the area. The groupings and subgroupings make the manuscripts of the 'decorative style' a particularly suitable case study for improving the tool created, since they provide not only the possibility to go a step further and identify variances between parchment specimens produced within the same region, but also variances between manuscripts belonging to the same group and even to the same subgroup. It goes without saying that the development of such a tool could provide more insightful information about the relationships among the manuscripts. For instance, the examination of the members of a subgroup or of those having been characterized as 'codicological twins'⁶⁸ would reveal codicological evidence equally important as that provided by the rest of the parchment folia features (rulings, pricking marks, structure and dimensions). Questions such as whether the parchment used was qualitatively (size, age, species of the animal, same production process etc.) uniform throughout one manuscript or even within two 'twin manuscripts' could be therefore answered and the new evidence generated could fill knowledge gaps.

But though there cannot be any doubt that these groupings have resulted from a titanic and admirable effort to address the 'decorative style' manuscripts, both stylistic and iconographic evidence depend on subjective judgement, i.e. temporally evolving expertise in visual inspection. Given that subjectivity means higher hypotheticality and that higher hypotheticality means lower probability, it is clear that Weyl Carr's groupings remain subject to debate

⁶² On Manuel Boukellaros Hagiostephanites, see: Weyl Carr 1987, 51–52.

⁶³ The manuscripts are: Vatican, Biblioteca Apostolica Vaticana, Barb. gr. 44934, dated May 13, 1153; and the manuscript (dated July 1156) *olim* New York, Kraus Collection, *olim* Oslo, Schøyen Collection, 231, now belonging to an unknown private collector (Martin Schøyen, personal communication, March 11, 2016).

⁶⁴ The other manuscripts are: Athos, Monastery of Megali Lavra, B 24; Kiev, Library of the national Academy of Sciences of Ukraine, A 25 4; Saint Petersburg, National Library of Russia, gr. 644; Leyden, University Library, gron. 137; London, British Library, Add. 39595; and London, British Library, Harley 1810. See: Weyl Carr 1987, 51–52.

⁶⁵ Yota 2001, 37–46.

⁶⁶ Yota 2001, 29–39.

⁶⁷ Jiří Vnouček (Department of Bio-archaeology, University of York) is currently working towards the creation of such a tool. For more in-

formation, see: <<https://www.york.ac.uk/archaeology/research/research-students/vnoucek/#tab-4>> (last accessed 25 Octobre 2017). The type of evidence that can be gathered from the study of parchment is also discussed in: Harris 2014, 9–21.

⁶⁸ Weyl Carr uses the term 'codicological twins' for the manuscripts that have the same size, the same justification dimensions, the same type of lineation and the same number of lines per folio. Examples of manuscripts presenting these characteristics are: London, British Library, Add. 37002; Moscow, State Public Library, F181, gr. 11; and the four volumes that formed the complete Old Testament, i.e. Athens, National Library of Greece, 44; Oxford, New College, 44; Istanbul, Topkapi Saray, 13; and Oxford, Bodleian Library, Auct. E.2.16. See: Weyl Carr 1987, 38; 70.

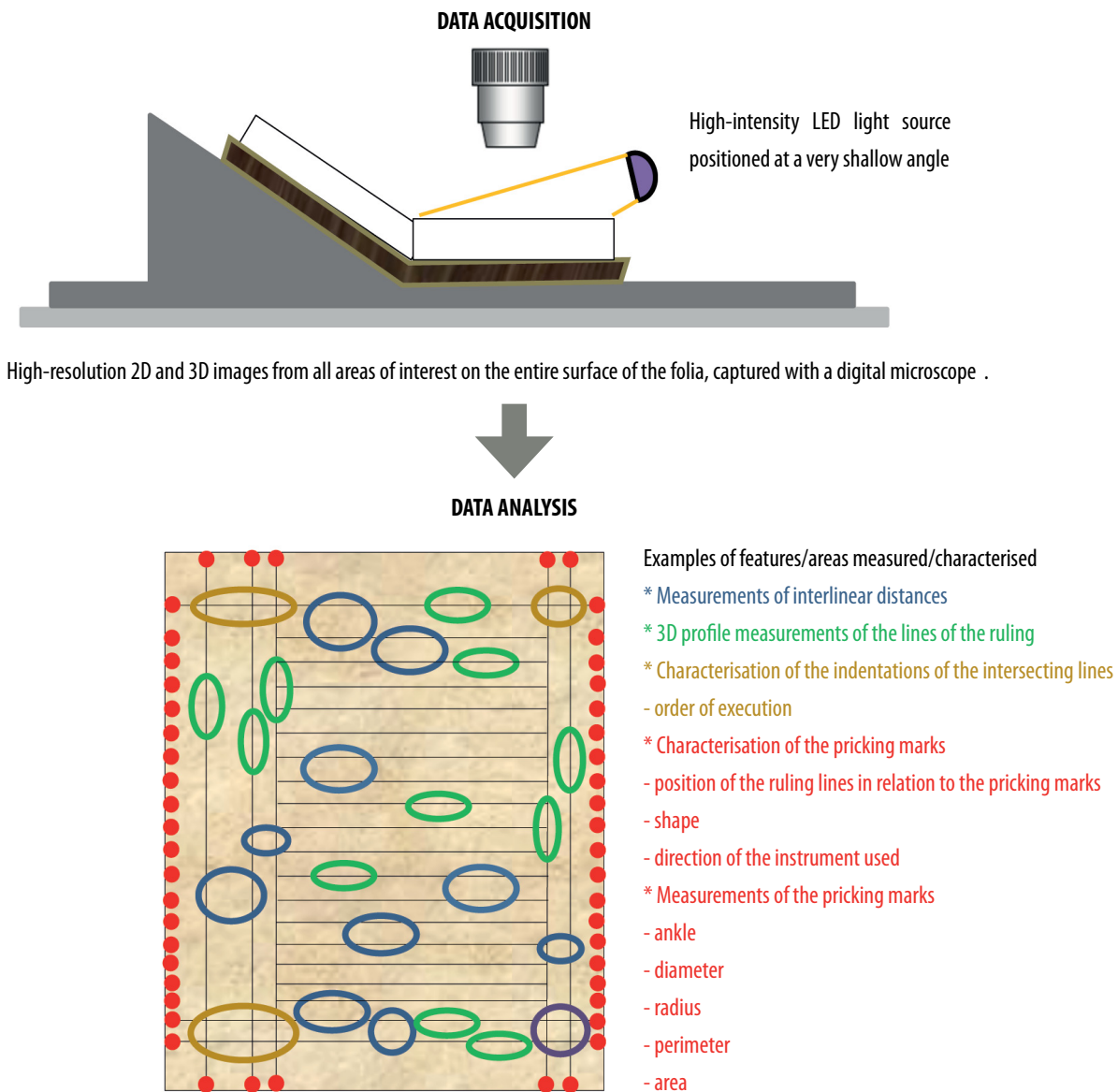


Fig. 1: Schematic description of the parchment documentation process including data acquisition and data analysis.

and discussion and that, in the future, subjective evidence should be gradually replaced by objective criteria. Thus, the study and/or analysis of style and iconography, as of every material and/or characteristic of the manuscripts, has the potential to establish or invalidate different hypotheses or assumptions, including those regarding associations between manuscripts, to the degree that the evidence generated comes from objective assessment and/or quantitative measurements.

All the characteristics and/or features of the manuscripts of the group shall therefore be seen as interrelated segments of an ensemble. Consequently, to deal satisfactorily with this large ensemble and the complex questions it poses, the task of its study and analysis must be broken into smaller,

less complex and more manageable sub-tasks, whose results must be finally brought together. The approach in question presents considerable advantages. For instance, it provides the ability to fully investigate each feature/component of the manuscripts and to obtain information that is not otherwise accessible. It could also improve the accuracy of a new classification. Finally, it could promote the development of specific protocols, for example for collecting data, preparing suitable reference collections etc. The ensuing examples can illustrate the advantages of this approach.

The first example concerns the development of a protocol that was deemed necessary during the parchment documentation process (Fig. 1). This protocol was developed with the following objectives: i. to enable the identification

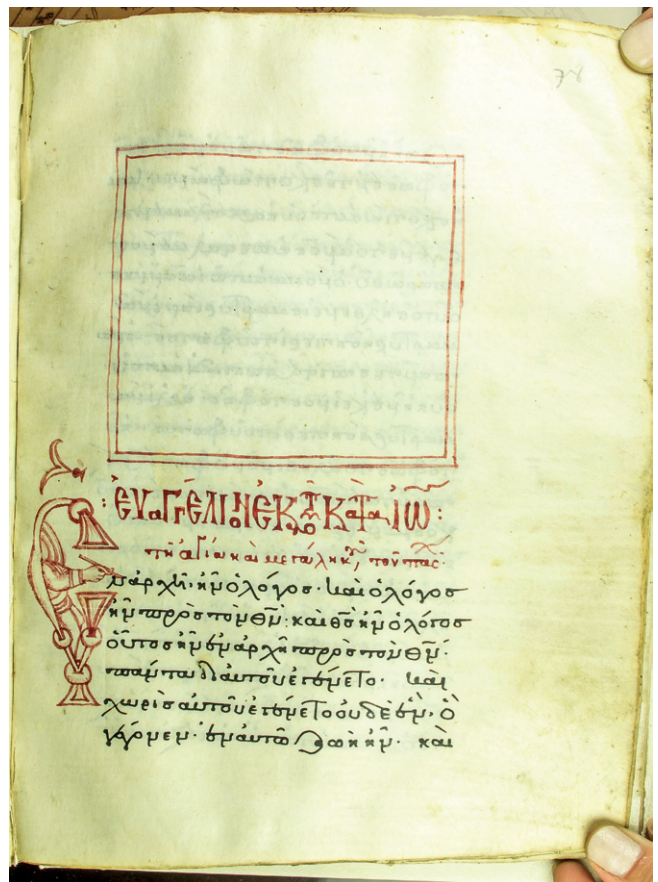


Fig. 2a: Lesbos, General Experimental Lyceum of Mytilini, 9, fol. 96⁶⁹; Fig. 2b: Paphos, Monastery of Saint Neophytos, Ms. 11, fol. 78⁷⁰. Opening folios of two uncompleted 'decorative style' manuscripts where the characteristic dark red ink was amply used by their planner(s) and/or scribe(s).

of the ruling system(s) of the manuscripts analysed and ii. to record and characterize the rulings and the pricking marks of the folios of the manuscripts, in an effort to define the sequence of procedures in the production of the quires that immediately precede the copying stage.⁶⁹

The second example concerns the analysis of the dark red ink, referred to in the literature as the magenta ink used extensively in the manuscripts of the group, that came to be considered one of its main characteristics.⁷⁰ The red ink in question was used by the planners of the manuscripts for the design of the openings of the major divisions of the texts and for writing the head titles and the *incipits* (Fig. 2). The pervasiveness of this feature prompted its analysis in two of the examined manuscripts, i.e. Paphos, Museum of the Monastery of Kykkos, Ms. R8 and the unfinished Paphos, Monastery of Saint Neophytos, Ms. 11 (Fig. 2b). Though it

proved difficult to identify with precision all the ingredients of the red inks in the two aforementioned manuscripts using the non-invasive techniques applied,⁷¹ it was evident that they were composed mainly of an organic dye. In the case of the opening page of John's Gospel in Ms. Kykkos R8, the detection of As lines of considerable intensity through XRF analysis ultimately prompted several measurement campaigns aiming at a more in-depth investigation of the red areas (script and illumination) on all the folios.⁷² Combined with codicological and art historical evidence, the distribution of the different red compounds throughout the manuscript finally made it possible to reshape the narrative of its history, a more complicated task than initially assumed.⁷³

⁶⁹ The protocol in question is still at the stage of development. On the importance of an in-depth study of the rulings of the manuscripts of the group, see also: Fonkič 1980–1982, 110–111.

⁷⁰ First characterized thus in: Weyl Carr 1973.

⁷¹ The techniques used were: digital microscopy, FORS, XRF, FTIR and multispectral imaging.

⁷² The results and the hypotheses formulated will be made available in a forthcoming publication.

⁷³ The codicological and art historical study of Kykkos Ms. R8 is in preparation. The manuscript was the subject of a short publication in the past. See: Constantinides 1988–1989, 169–186.



Fig. 3a: Kalavryta, Monastery of Mega Spilaion, 4 (*olim* 17). Opening folio of the Gospel of Matthew.



Fig. 3c: Athos, Monastery of Dionysiou 4, fol. 5. Opening folio of the Gospel of Matthew.

While the tools and efforts mentioned above concentrate mainly on the evidence acquired by applying analytical techniques to the materials, an equally dynamic array of information is preserved in the layout and the script of the manuscripts. Indicated already as one of the trademarks of the 'decorative style' group, the layout of the opening of the

major text divisions in the manuscripts must have been the outcome of careful planning. Layout analyses not only of the opening pages, but also of the rest of the instances encountered in the manuscripts of the group, will undoubtedly be capable of illuminating the complex picture of its manufacture. There are five main categories of layout: i. the folios with the Evangelists' portraits; ii. the folios with the openings of the major text divisions (see: Fig. 3); iii. the folios with figural illuminations found within the text; iv. the folios with text without any illumination; and v. the folios that contain the decorated canon tables.

In all the aforementioned cases, the first task is to detect the position of each entity within the page(s). It is then necessary to provide their exact dimensions for the following two reasons: i. this allows comparisons between corresponding entities within different manuscripts of the group and ii. the ratio between each entity and the surface of the folio on which it is found can expand our knowledge of the criteria and the intention behind the decision-making of the planners and the patrons of the manuscripts. For example, three different texts, i.e. the Gospels, the Psalters and the Book of Job, have figural miniatures inserted within the column of the script. It would therefore be essential to know whether the aspect ratio remains identical throughout a single manuscript containing different texts or if variations can be detected. The fluctuations in question could have been motivated by complex and versatile criteria. These could be, for instance, the subject matter of the miniature (a more or less important feast of the Orthodox

Church, a feast enjoying high status locally or with the patron of the manuscript, a passage with specific significance either to the monastic community owning the manuscript or its patron etc.); the financial possibilities of the patron; or the iconographic formulation of the scene depicted (accordingly, more details requiring a larger surface and fewer details requiring a smaller surface).

The openings of the major text divisions in the Gospel books and the folios that accommodate the canon table can also be further explored. Though most of them conform to a standardised pattern (see: Fig. 3), the information gained by the layout analyses of large datasets can provide additional evidence of relationships between manuscripts. It is expected that this evidence will also increase our knowledge about the unfinished manuscripts and those preserving only one of their illuminated folios, which are otherwise difficult or impossible to classify, and will enable us to establish associations between them and other more complete manuscripts or manuscript groups.⁷⁴

Relationships between manuscripts can furthermore be elucidated by providing answers to authorship-related questions, which can also benefit considerably from automated document analysis. The issue of authorship involves two different tasks: i. the identification of different sub-styles within the 'style epsilon à pseudo-ligatures basses' and, if possible, the identification of different hand(s)/scribe(s) and ii. the identification of the salient features that distinguish between individual painters or group of painters. In the case of the script, the possibilities provided by the capacity to detect variations between different handwritings are numerous.⁷⁵ Some of the case studies can therefore stand on their own. Others are expected to benefit the wider study of the group. The corpus being extremely large, however, a first grouping based upon a first differentiation shall precede the more specific tasks. Manuel Boukellaros Hagiostephanites and the manuscripts ascribed to him, as already mentioned, are unquestionably one of the particularly apposite cases for the application of an automated analysis, since they pose straightforward questions, i.e. whether the unsigned

⁷⁴ This, for example, is the case with Athens, Gennadius Library, gr. 259 and with Paphos, Museum of the Monastery of Kykkos, Ms. R8. They each preserve only one illumination. The Gennadius manuscript preserves the opening of Matthew's Gospel, while the Kykkos manuscript preserves the opening of John's Gospel.

⁷⁵ The advantages of extensive and in-depth palaeographic analyses of the manuscripts of the group were also highlighted in: Fonkič 1980-1982, 110-111.

manuscripts attributed to him on palaeographic evidence were copied indeed by him.⁷⁶

An example of a more challenging task is the validation of the existence of the two distinct variants within the 'style epsilon', the 'arrondi' and the 'rectangulaire', and the identification of their respective discriminative variations. The final objective, however, will be to show how each evolved, without, however, overlooking that they constitute variants of the same style. The core dataset for investigating the development of the script in question will be the dated manuscripts not only of the group, but also the unilluminated ones Canart includes in his study of the 'style epsilon'.⁷⁷ The rest of the unilluminated 'style epsilon' manuscripts and all the members of the 'decorative style' group will complete the inquiry, in this way ensuring that all the different variations are represented.⁷⁸

In the case of the painted surfaces (miniatures including surfaces covered by both figural and decorative motifs; decorative elements such as headpieces; decorated/animated initials etc.) rigorous computer methods can finally address many purely art historical issues by enhancing and extending traditional methods of art historical connoisseurship. They can cover a large range and variety of tasks, from an iconographic to a stylistic analysis. The computer methods can therefore rely on numerous features, such as colour, texture, shading, stroke patterns, line styles, geometry, perspective, iconographic formulation etc.⁷⁹ Some of these traits, such as texture, are difficult or impossible to perceive with the naked eye. Others, such as stroke patterns, are described by art historians qualitatively and therefore necessitate quantification. Finally, some others, such as iconographic formulations, need to be automatically identified to process large numbers of images. As previously mentioned, the information obtained depends on the scope and the target of the analysis. Thus, general tasks can establish a classification

⁷⁶ Among the rare names of scribes found in the manuscripts of the group are: Basil, the notary of the Monastery of Kellion, who copied two manuscripts (Mount Sinai, Monastery of Saint Catherine, Ms. 220 and 232); and a scribe from Rhodes working in Cyprus (Paris, Bibliothèque Nationale de France, gr. 301). Weyl Carr 1987, 127–128.

⁷⁷ Canart 1981, 17–76.

⁷⁸ The necessity to have a dataset representing all the possible variants of the script was also stressed in: Canart 1988–89, 33.

⁷⁹ For a classification of the features in question, see: Arora and Elgammal 2012, 3541.

of the manuscripts of the whole group, while more specific ones can provide authorship-relevant answers or generate new knowledge of production patterns or stylistic traits.

The portraits of the Evangelists form an ideal case study, since every Tetraevangelion and every Gospel Lectionary includes four portraits, found before the beginning of each Gospel section. Though in most of the cases the Evangelists are represented seated, their gestures, the background details, the furniture, the frame of the miniatures and the decoration of all the aforementioned elements differ significantly. The compositional and decorative similarities and divergences between the portraits could contribute to the assessment of important issues of the production of the manuscripts of the group, such as the models used and the relationships between these portraits. Thus, taking into account that the Evangelists' portraits were painted on separate folios inserted between the quires, the evidence gathered from these analyses can be particularly significant, since it might provide much deeper insight into the production patterns.

The question of linearism is particularly relevant when it comes to the stylistic examination of the miniatures of the members of the group. Characteristic of the Komnenian tradition, to which the group clearly adheres, linearity is considered a stylistic trend, whose evolution can be traced throughout the ensemble of the manuscripts of the 'decorative style'.⁸⁰ Linearism in fact refers to two distinct traits of the figural miniatures of the manuscripts, i.e. the contour of the figures often traced with a dark, usually black pigment, and the linear webs of – mainly white – highlights found almost exclusively in the draperies of the depicted figures. Considering their orientation and the measurements of their various characteristics (length, width, corner, contour curvature, intensity, homogeneity etc.), the aim would initially be to validate the existence of such a stylistic distinction between the miniatures or even between hands and, if possible, prove quantitatively the stylistic evolution traced.⁸¹ For the second task, since it seeks to gather diachronic evidence, once again the core dataset will be formed from the group's dated manuscripts.

A plethora of further case studies can be cited to make it more overt that the possibilities provided by the existing

⁸⁰ Weyl Carr 1987; Weyl Carr 1988–89 134. See furthermore: Yota 2001; Džurova 2008, 288.

⁸¹ Various research teams have undertaken computer-based analyses for art historical purposes. See for example: Stork 2009; Arora and Elgammal 2012; Li et al. 2012; Vieira et al. 2015.

tools and methods, which are expected to be further improved and created in the future, are unlimited. They can make it conceivable to address a variety of questions whose answers can enhance our knowledge about a range of very specific to general issues about individual manuscripts, subgroups or even the 'decorative style' group as a whole. But it is crucial that future endeavours be undertaken by collaborative networks, not only for purposes of implementation-specific requirements, but foremost because the large size of the corpus necessitates a well-concerted venture. Libraries and repositories in the possession of the group's manuscripts should hence be actively involved, since they can act as the point of reference for researchers. With this capacity, they could also initiate and coordinate foundational work. For instance, digital surrogates of the manuscripts corresponding to standards that will be mutually accepted and established by the institutions in possession of the manuscripts will make them accessible and hence attractive to research teams wishing to deal with them, since physical presence is not required for a great variety of tasks. This is particularly the case for tasks applying automatic document image analyses. Layout analyses require particular mention here. Their feasibility being high, they have the potential to prove profitable as foundational work, since they can constitute the initial step in an attempt to provide an automatic clustering of the group's manuscripts, on which future undertakings could be based. Planning the layout is the step that precedes the execution of a manuscript, a further argument in support of the aforementioned initiative and its value.

Restorative interventions carried out on the group's manuscripts in the various institutions can generate material to be collected, stored and used for future analyses, in particular destructive analyses, which are otherwise forbidden. Close collaboration with conservators and restorers in Cyprus led to the constitution of a collection of pigments that had peeled and were lying between the folios of the manuscripts, along with pieces of parchment and threads from the sewing of the bindings.⁸²

Finally, the necessity to create and maintain a digital workspace from the very beginning of a project addressing the 'decorative style' should not be overlooked, since it

will allow scholars from the humanities and the natural and computer sciences to collaborate and to discuss and share expertise, data and results.

Conclusion

This paper argued that a holistic approach is necessary for the effective study of the 'decorative style' group of manuscripts. A selection of preliminary results and a number of remarks that derived from the experimental work undertaken during the exploratory phase of the project were presented and discussed. Suggestions for avenues of future research were also provided. However, the concluding remarks of this article will be concerned with a paramount aspect of future work on the group, i.e. reflecting upon going beyond its boundaries, outside the investigated period of the production of Byzantine illuminated manuscripts, with the aim to develop interpretative frameworks and to adequately contextualise the results obtained.

The first remark concerns the place of the group within the more general context of artistic production during the Komnenian era in Cyprus. The period in question saw the foundation of a large number of monuments decorated with wall paintings.⁸³ Though written testimony is absent, art historians have suggested that artists from Constantinople moved to Cyprus along with their Byzantine patrons, while others sailed to Cyprus and the Levantine coasts in search of a new clientele after the Crusaders' capture of Constantinople in 1204. The answer to the question whether the production of manuscripts of the 'decorative style' was one branch of the industry of art of the island and more generally in the region, which included not only monumental painting, but also panel and manuscript painting, cannot yet be provided. Nor is it possible to know whether the painters involved in manuscript illumination were specialized in that medium alone or if they were capable of crossing freely between different media (fresco, icon painting and manuscript illumination). It is notable that art historical inquiries put forward stylistic and iconographic kinships between the manuscripts of the group and the mural paintings of a

⁸² I would like to thank here the restorer of the Kykkos Foundation Souzanna Agathokli, as well as the museum of the monastery of Kykkos, the monastery of Saint Neophytos, the monastery of the Virgin of Trooditissa and the Holy Bishopric of Kition for providing me with the 'scraps' resulting from restorative interventions in their manuscripts.

⁸³ Among the well-known Komnenian generals who founded monasteries in Cyprus are: Eumathios Philokales (Saint John Chrysostomos of Koutsoventis), Nikiphoros Ischyrios (Monastery of the Panagia of Asinou), Manuel Boutoumites (Monastery of the Panagia of Kykkos) and Epiphanius Paschalis (Monastery of the Panagia of Alypou).

number of contemporary monuments in Cyprus.⁸⁴ On the other hand, the technical studies of Komnenian frescoes, again in Cyprus, i.e. the Enkleistra of Saint Neophytos, the church of Panagia Amasgou and the church of Panagia of Asinou, revealed very interesting results, since they managed to identify the painters' choices of materials and work methods.⁸⁵ At this very rudimentary stage, though, it is impossible to make hypotheses about connections between the different branches of the local artistic production. Endeavours planned in this direction will certainly contribute extensively to our knowledge.

But if we then consider that the manuscripts were produced in the Eastern Mediterranean by Byzantine and/or Levantine scribes and illuminators, is it feasible to deal with the issue of the provenance of the manuscripts? How relevant is the question of provenance in cases like the 'decorative style' group, given that its members were the products of a mobile world? To which aspect would provenance finally refer? To the quantitative prominence of one specific local production centre over another or possibly over all the others, for example of Cyprus over Palestine? Would provenance refer to the locality where the manuscript was copied and/or illuminated? In that case, can we ignore that the rest of the stages of the composite chaîne opératoire might have been executed elsewhere? And what about local production centres working independently and existing within a single locality, each specialized only in a very specific stage of the manufacturing procedure? Would locality refer to the source location of the various raw materials used? Would it refer to the origin of the scribes and the miniaturists or to the prevailing cultural milieu of the place where they were trained? Furthermore, if we consider the multiple and parallel evolution of traditions of manuscript illumination and production within the Byzantine oecumene, how different or how similar were the materials used and the methods of

production, assuming that significant differentiations can be detected? Could the analyses reveal far more complex production patterns and a different situation in the case of the manuscripts of the 'decorative style' group compared with the products of copying/illuminating ateliers centred on a single and very specific locality, as in the case of the 'Palaeologina group', the 'Kokkinobaphos group' or the works produced by the scriptorium of the Prodromos-Petra monastery? Can we attribute these differences to looser production patterns? Or did the contexts of production – lay or monastic – affect the manufacturing processes?

At this point, the questions can be multiplied, and though we can try to give answers based on qualitative evidence, they cannot be definitely provided. What is hoped is that the implementation of the next phase of the project will benefit from a collaborative research network that will contribute greatly and meaningfully to the study of the 'decorative style' group of manuscripts.

⁸⁴ Indicatively, some of the monuments on Cyprus drawn into art historical discussion about the manuscripts of the 'decorative style' group are: the church of Panagia tou Arakos at Lagoudera, the church of Panagia Amasgou at Monagri, the church of Panagia of Asinou, the church of Archangel Michael at Kato Lefkara, the church of Christ Antiphonitis at Kalogrea, the church of Saint John Lampadistis at Kalopanayiotis, the Enkleistra of Saint Neophytos in Paphos. Apart from Weyl Carr's already cited papers, see for example: Weitzmann 1975, 4763; Yota 2001.

⁸⁵ Janssen and Majewski 1974; Kakoulli et al. 2012; Kakoulli et al. 2014; Radpour et al. 2014. Furthermore, the results of the technical study of the frescoes of the church of the Transfiguration of Sotira (Famagusta, Cyprus) will be soon published by Prof. Ioanna Kakoulli (Materials Science and Engineering Department, University of California, Los Angeles) in a volume dedicated to this monument.

REFERENCES

- Arora, Ravneet Singh, Ahmed Elgammal (2012), 'Towards automated classification of fine-art painting style: A comparative study', in *21st International Conference on Pattern Recognition (ICPR), Tsukuba 11–15 Nov. 2012* (Tsukuba: IEEE), 35413544.
- Buchthal, Hugo (1964), 'An unknown Byzantine manuscript of the thirteenth century', *Connoisseur*, 115: 217–224.
- 'Byzantine Art: An European Art', *9th Exhibition of the Council of Europe (Athens, Zappeion Exhibition Hall, April 1st–June 15th 1964)* (Athens: Office of the Minister to the Prime Minister of the Greek Government and Department of Antiquities and Archaeological Restoration of Greece).
- Canart, Paul (1981), 'Les écritures livresques chypriotes du milieu du XI^e siècle au milieu du XIII^e et le style palestino-chypriote "epsilon"', *Scrittura e Civiltà*, 5: 17–76.
- (1988–1989), 'Les écritures livresques chypriotes du XI^e au XVI^e siècle', *Επετηρίς του Κέντρου Επιστημονικών Ερευνών Κύπρου*, 17: 27–53.
- Colwell, Ernest, Harold Willoughby (eds) (1936), *The Four Gospels of Karahissar*, 2 vols (Chicago: University of Chicago Press).
- Constantinides, Costas (1982), *Higher education in Byzantium in the thirteenth and early fourteenth centuries (1204–ca.1310)* (Nicosia: Cyprus Research Centre).
- (1988–1989), 'An unknown manuscript of the "Family 2400" from Cyprus', *Επετηρίς του Κέντρου Επιστημονικών Ερευνών Κύπρου*, 17: 169–186.
- Constantinides, Costas, Robert Browning (1993), *Dated Greek Manuscripts from Cyprus to the Year 1570* (Washington D.C. and Nicosia: Dumbarton Oaks Research Library and Collection and Cyprus Research Centre).
- De Mas Latrie, Louis (1852), *Histoire de l'île de Chypre sous le règne de la Maison de Lusignan* (Paris: Imprimerie Impériale).
- Der Nersessian, Sirarpie (1936), 'Introduction', in Ernest Colwell, Harold Willoughby (eds), *The Four Gospels of Karahissar*, 2 vols (Chicago: University of Chicago Press), xxvi–xxxvi.
- Dufrenne, Suzie (1981), 'Problèmes des ateliers de miniaturistes byzantins', *Jahrbuch der Österreichischen Byzantinistik*, 31: 445–470.
- Džurova, Axinia (2002), *Byzantinische Miniaturen: Schätze der Buchmalerei vom 4. bis zum 19. Jahrhundert* (Regensburg: Schnell und Steiner).
- (2008), 'La production des manuscrits à l'époque des Croisades (Cod. D. Gr. 358 et 339)', in Marina Koumanoudi, Chryssa Maltezou (eds), *Dopo le due cadute di Costantinopoli (1204, 1453): Eredi ideologici di Bisanzio (Atti del Convegno Internazionale di Studi (Venezia, 4–5 dicembre 2006))* (Venice: Istituto Ellenico di Studi Bizantini e Postbizantini di Venezia), 273–325.
- Fiddymont, Sarah, Bruce Holsinger, Chiara Ruzzier, Alexander Devine, Annelise Binois, Umberto Albarella, Roman Fischer, Emma Nichols, Antoinette Curtis, Edward Cheese, Matthew Teasdale, Caroline Checkley-Scott, Stephen Milner, Kathryn Rudy, Eric Johnson, Jiří Vnouček, Mary Garrison, Simon McGrory, Daniel Bradley, and Matthew Collins (2015), 'Animal origin of 13th-century uterine vellum revealed using noninvasive peptide fingerprinting', *Proceedings of the National Academy of Sciences*, 112 (49): 15066–15071.
- Fonkič, Boris (1980–1982), 'Scriptoria Bizantini: Risultati e prospettive della ricerca', *Rivista di Studi Bizantini e Neellenici*, 17–19: 73–118.
- Galatariotou, Catia (2004), *The making of a Saint: The life, times and sanctification of Neophytos the Recluse* (Cambridge: Cambridge University Press).
- Goodspeed, Edgar, Donald Riddle, and Harold Willoughby (eds) (1932), *The Rockefeller McCormick New Testament*, 3 vols (Chicago: University of Chicago Press).
- Grivaud, Gilles (2005), 'Literature', in Angel Nicolaou-Konnari, Chris Schabel (eds), *Cyprus, Society and Culture 1191–1369*, (Leiden: Brill), 219–284.
- (2012), 'Le doux royaume de Chypre (1192–1474)', in Jannic Durand, and Dorothea Giovannoni (eds), *Chypre entre Byzance et l'Occident: IV^e–XVI^e siècle* (Paris: Louvre editions), 182–189.
- Harris, Susanna (2014), 'Leather in archaeology: between material properties, materiality and technological choices', in Susanna Harris, André Veldmeijer (eds), *Why Leather? The Material and Cultural Dimensions of Leather* (Leiden: Sidestone Press), 9–21.
- Jenssen, Victoria, Lawrence Majewski (1974), Appendix to Susan Boyd, 'The Church of the Panagia Amasgou, Monagri, Cyprus and its Wall-paintings', *Dumbarton Oaks Papers*, 28: 329–345.
- Kakoulli, Ioanna, Michael Schilling, and Joy Mazurek (2012), 'The Murals of the Panagia Phorbiotissa: A Technical Examination', in Annemarie Weyl Carr, Andreas Nicolaides (eds), *Asinou across time: Studies in the Architecture and Murals of the Panagia Phorbiotissa, Cyprus* (Washington D.C.: Dumbarton Oaks Research Library and Collection), 313–359.

- Kakoulli, Ioanna, Sergey Prikhodko, Andrew King, and Christian Fischer (2017), 'Earliest evidence for asbestos composites linked to Byzantine wall paintings production', *Journal of Archaeological Science*, 44: 148–153.
- Langford, Warren (2009), *From Text to Art and Back Again: Verifying A. Weyl Carr's Manuscript Groupings through Textual Analysis* (New Orleans Baptist Theological Seminary, Unpublished Ph.D. dissertation).
- Li, Jia, Lei Yao, Ella Hendriks, and James Wang (2012), 'Rhythmic Brushstrokes Distinguish van Gogh from His Contemporaries: Findings via Automated Brushstroke Extraction', *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 34.6: 1159–1176.
- Malamut, Elisabeth (2012), 'Chypre nouvelle province byzantine (965–1191)' in Jannic Durand, Dorotta Giovannoni (eds), *Chypre entre Byzance et l'Occident: IVe–XVIIe siècle* (Paris: Louvre editions), 96–102.
- Marinis, Vasileios (2004), '169. Tetraevangelion: Four Gospels' in Helen Evans (ed.), *Byzantium: faith and power (1261–1557)* (New Haven and London: Yale University Press and the Metropolitan Museum of Art), 284–285.
- Maxwell, Kathleen (2014), 'The Afterlife of Texts: Decorative Style Manuscripts and New Testament Textual Criticism', in Jones Lynn (ed.), *Byzantine Images and their Afterlives. Essays in Honor of Annemarie Weyl Carr* (Surrey: Ashgate), 1138.
- (2016), 'The Textual Affiliation of Deluxe Byzantine Gospel Books', in Robert Nelson, Derek Krueger (eds), *The New Testament in Byzantium* (Washington D.C.: Dumbarton Oaks Research Library and Collection), 33–85.
- Mokretsova, Inna, Maya Naumova, Vilena Kireyeva, Elina Dobrynina, and Boris Fonkitch (2003), *Materials and techniques of Byzantine manuscripts* (Moscow: Ministry of Culture of Russian Federation).
- Papadopoulos, Chrysostomos (1890), 'Περιγραφή μονῶν τινῶν τῆς νήσου Κύπρου μετὰ τῶν ἐν αὐταῖς χειρογράφων', *Σωτήρ* 13: 314–320.
- Papadopoulos, Theodoros (1995), 'Ἡ Εκκλησία Κύπρου κατὰ τὴν περίοδο τῆς Φραγκοκρατίας', in Papadopoulos Theodoros (ed.), *Ἱστορία τῆς Κύπρου. Μεσαιωνικὸν Βασιλεῖον-Ενετοκρατία*, vol. 4 (Nicosia: Archbishop Makarios III Foundation), 543–666.
- Radpour Roxanne, Neha Bajwab, James Garritano, Shijun Sung, Magdalena Balonis-Santa, Priyamvada Tewari, Warren Grundfest, Ioanna Kakoulli, and Zachary Taylor (2014), 'THz Imaging Studies of Painted Samples to Guide Cultural Heritage Investigations at the Enkleistra of St. Neophytos in Paphos, Cyprus', in Manijeh Razeghi, Alexei Baranov, John Zavada, and Pavlidis Dimitris, *SPIE Optics and Photonics Proceedings, Terahertz Emitters, Receivers and Applications V*, 91990Q-1–9.
- Schreiner Peter, Doris Oltrogge (2011), *Byzantinische Tinten, Tuschen und Farbrezepte* (Vienna: Österreichische Akademie der Wissenschaften).
- Stork, David (2009), 'Computer Vision and Computer Graphics Analysis of Paintings and Drawings: An Introduction to the Literature', in Jiang Xiaoyi and Petkov Nicolai (eds), *Proceedings of the International Conference on Computer Analysis of Images and Patterns* (Munster: Springer), 9–24.
- Teasdale, Matthew, Sarah Fiddymont, Jiří Vnouček, Valeria Mattiangeli, Camilla Speller, Annelise Binois, Martin Carver, Catherine Dand, Timothy Newfield, Christopher Webb, Daniel Bradley, and Matthew Collins (2017), 'The York Gospels: a one thousand year biological palimpsest', *Royal Society Open Science* 4.10, 170988. <<http://doi.org/10.1098/rsos.170988>> (last accessed 25 Octobre 2017).
- Vieira, Vilson, Renato Fabbri, David Sbrissa, Luciano Da Fontoura Costa, and Gonzalo Travieso (2015), 'A quantitative approach to painting styles', *Physica A: Statistical Mechanics and its Applications*, 417.1: 110–129.
- Weitzmann, Kurt (1975), 'A group of early twelfth-century icons attributed to Cyprus', in Robertson Giles, and Henderson George (eds), *Studies in memory of David Talbot Rice* (Edinburgh: Edinburgh University Press), 47–63.
- Weyl Carr, Annemarie (1973), *The Rockefeller McCormick New Testament: Studies toward the reattribution of Chicago, University Library, ms. 965* (University of Michigan, Unpublished Ph.D. dissertation).
- (1982), 'A Group of Provincial Manuscripts from the Twelfth Century', *Dumbarton Oaks Papers*, 36: 3981.
- (1987), *Byzantine Illumination 1150–1250: The Study of a Provincial Tradition* (Chicago and London: University of Chicago Press).
- (1988–1989), 'Cyprus and the "Decorative Style"', *Επετηρίς του Κέντρου Επιστημονικών Ερευνών Κύπρου*, 17: 123–167.

Weyl Carr, Annemarie (1989), 'Illuminated musical manuscripts in Byzantium: A note on the late twelfth century', *Gesta*, 28.1: 41–52.

— (1991a), 'Thoughts on the production of provincial illuminated books in the twelfth and thirteenth centuries', in Guglielmo Cavallo, Giuseppe De Gregorio, and Marilena Maniaci (eds), *Scritture, libri e testi nelle aree provinciali di Bisanzio (Atti del Seminario di Erice, Biblioteca del Centro per il collegamento degli studi medievali e umanistici nell'Università di Perugia, 18–25 settembre 1988)* (Spoleto: Centro italiano di studi sull'alto medioevo), 661688.

— (1991b), 'The Production of Illuminated Manuscripts: A View from the Late Twelfth Century', in Dieter Harlfinger, Giancarlo Prato, Marco D'Agostino, and Alberto Doda (eds), *Paleografia e codicologia greca: atti del II colloquio internazionale (Berlino-Wolfenbüttel, 17–21 ottobre 1983)* (Alessandria: Edizioni dell'orso), 325–338.

— (1993), 'Two Illuminated Manuscripts at the Monastery of Saint Neophytos: Issues of their Cypriot Attribution', in Anthony Bryer, Georgios Georghallides (eds), *'The Sweet Land of Cyprus': Papers Given at the Twenty-Fifth Jubilee Spring Symposium of Byzantine Studies (Birmingham, March 1991)* (Nicosia: The Cyprus Research Centre), 281–318.

— (2012), 'Reading Styles of Use: The Rockefeller McCormick New Testament and Christian Kalam', in Jean-Michel Spieser, Elisabeth Yota (eds), *Donation et donateurs dans le monde byzantin. Actes du colloque international de l'Université de Fribourg (Fribourg, 13–15 mars 2008)* (Paris: Desclée de Brouwer), 235–264.

Willoughby, Harold (1940–1941), 'Vagrant Folios from Family 2400 in the Free Library of Philadelphia', *Byzantion*, 15: 126–32.

Yota, Elisabeth (2001), *Le tétraévangile Harley 1810 de la British Library: Contribution à l'étude de l'illustration des tétraévangiles du Xe au XIIIe siècle* (University of Fribourg, Switzerland, and University Paris I Panthéon-Sorbonne, France, Unpublished Ph.D. dissertation).

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