

"INHABITED SCROLLS"
FROM THE IVth TO THE VIth CENTURY A.D.
IN ASIA MINOR AND THE EASTERN PROVINCES
OF THE BYZANTINE EMPIRE

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IN MEMORY
of
PROFESSOR D. TALBOT RICE
and
PROFESSOR M.R.E. GOUGH
who initiated me to
Byzantine Studies

ABSTRACT

The "inhabited scroll" is a sinusoidal ornament of vegetal nature - either of vine or acanthus, or even, but rarely an ivy stem, filled with human and animal figures, e.g. vintagers, hares, partridges, and inanimate objects, e.g. baskets and vases. The motif, whose origins have been traced back to Hellenistic ornamental metalwork of the fourth-third century B.C., was popular in the Roman East. The present study confined to inhabited scrolls in architectural sculpture and on mosaic pavements from the fourth to the seventh century in Constantinople and in the eastern provinces of the Byzantine Empire, examines the motif within its immediate architectural, geographical, economic, social and artistic context. It is based on 37 inhabited scrolls in architectural sculpture and 116 on mosaic pavements collected in the course of field-work in Turkey, Cyprus, the Lebanon, Syria, Jordan and Israel, embodied in the catalogue of Vol. II and illustrated in Vols. III and IV.

Owing to the nature of the material (destroyed, lost, damaged), and in view of its uneven publication, a systematic processing of it has been necessary. It includes the elaboration of a code of types of inhabited scrolls which condenses information and simplifies description. The geographical distribution of inhabited scrolls is examined and the evolution of the motif is traced from late Imperial times, a development illuminated by newly discovered second and third century inhabited scrolls in the Eastern Mediterranean. An attempt is also made to put forward reasons for changes

in the distribution patterns from the Roman period when inhabited scrolls predominate in North Africa to the early Byzantine period, when they cluster in the Levant. The cluster in Syro-Cilicia and Palestine is accounted for principally by the booming economic situation of the area in the fifth-sixth century period.

The code, moreover, provides a useful means of analysis from which inferences may be drawn particularly in the study of the predominance of some types of inhabited scroll patterns over others and the question of pattern books. Technical aspects of the study, e.g. the analysis of mosaic beds and tesserae stones, size of tesserae and number of tesserae to the dm², provide information which may be combined with code-type, measurements of pavements, diameter of scrolls, composition, stylistic elements and date to determine "regional groupings" of inhabited scrolls. It is argued that workshops proper can only be determined by a computed cluster analysis combining the various attributes of inhabited scroll pavements cited above.

Finally the question of the symbolic significance of the motif is discussed. Like most other motifs from the Graeco-Roman artistic repertory, the inhabited scroll passed into Jewish and Christian art alike, taking a different meaning according to the period, the religion, the building and the onlooker.

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ABBREVIATIONS IN REFERENCES TO PERIODICALS AND COLLECTIONS

AAAS	Annales Archéologiques Arabes Syriennes
AAD	Annales Archéologiques par Didron aîné
ACIAC	Atti del Congresso Internazionale di archeologia cristiana
ADAJ	Annual of the Department of Antiquities of the Hashemite Kingdom of Jordan
AJA	American Journal of Archaeology
AJSLL	American Journal of Semitic Languages and Literatures
Arch.Anz.	Archäologische Anzeiger
AS	Anatolian Studies
BASOR	Bulletin of the American School of Oriental Research
BCH	Bulletin de Correspondance Hellénique
BMB	Bulletin du Musée de Beyrouth
BTS	Bible et Terre Sainte
Bulletin Rabinowitz	Bulletin of the Louis M. Rabinowitz Fund for the Exploration of Ancient Synagogues, Jerusalem
BZ	Byzantinische Zeitschrift
CA	Cahiers Archéologiques
CNI	Christian News from Israel
CRAI	Comptes Rendus de l'Académie des Inscriptions et Belles Lettres
DEO	Documents d'Etudes Orientales de l'Institut français de Damas
DOP	Dumbarton Oaks Papers
EI	Eretz Israel

EO	Echos d'Orient
HA	Hadashot Archeologiot
IAMY	Istanbul Arkeoloji Müzeleri Yilligi
IEJ	Israel Exploration Journal
ILN	The Illustrated London News
IRAIK	<u>Uzbeknua Pyckaro apceopowpeckaro</u> <u>Uchenyia i kolkamatnu-</u> <u>Honore</u> (Issvestia Russkavo Arkheolo- gitcheskavo Instituta v Konstantinopole - Publications of the Russian Archaeological Institute in Constantinople)
JA	Journal Asiatique
JHS	Journal of Hellenic Studies
JRS	Journal of Roman Studies
MuNDPV	Mitteilungen und Nachrichten des Deutschen Palästina - Vereins
MUSJ	Mélanges de l'Université St. Joseph, Beyrouth
Or.Cr.	Orientalia Cristiana
Or.Cr.An.	Orientalia Cristiana Analecta
PBSR	Papers of the British School at Rome
PEFQSt	Palestine Exploration Fund Quarterly Statement
PEQ	Palestine Exploration Quarterly
PG	Patrologia Graeca
QDAP	The Quarterly of the Department of Antiquities in Palestine
RA	Revue Archéologique
RAC	Rivista di Archeologia Cristiana
RB	Revue Biblique
RBN	Revue Belge de Numismatique

REG	Revue des Études Grecques
RHPR	Revue d'Histoire et de Philosophie Religieuses
RSR	Revue des Sciences Religieuses
SBF	Publications of the Studium Biblicum Franciscanum, Jerusalem.
SBF	Liber Annuus Studii Biblici Franciscani Liber Annuus
SC	Sources Chrétiennes
TAD	Türk Arkeoloji Dergisi
TTKY	Türk Tarih Kurumu Yayınlarından
VP	Vivre et Penser
WA	World Archaeology
ZDPV	Zeitschrift der Deutschen Palästina-Vereins

ABBREVIATIONS IN REFERENCES TO VARIOUS WORKS

- AAES I : GARRETT, R.: Topography and Itinerary.
Part I of the Publications of an American
archaeological expedition to Syria in 1899-1900,
 New York 1914.
- AAES II : BUTLER, H.C.: Architecture and other arts,
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FOREWORD AND ACKNOWLEDGEMENTS

My interest in "inhabited scrolls" was first roused during the 1968 season of excavations directed by the late Professor M.R.E. Gough, at Alahan monastery in Isauria, by the birds pecking at the grapes of a vine scroll, carved on the central doorway of the East Church. In 1971, the late Professor D. Talbot Rice directed my attention to an article by J.M.C. Toynbee and J.B. Ward-Perkins ("Peopled Scrolls: a Hellenistic motif in Imperial Art", PBSR XVIII (1950), 2-43) which led me to my particular choice of topic for a Ph.D. research. To Professor M.R.E. Gough's influence, when I was but a mere child in Turkey, I owe my "calling" to Byzantine archaeology. Throughout his painful illness, Professor D. Talbot Rice never ceased to supervise me (I was then in Paris) and to give advice and encouragement. For this I will forever be grateful. To the memory of them both, therefore, this work is very humbly dedicated.

Upon suggestion of Professor D. Talbot Rice, a leave-of-absence was granted to me by Edinburgh University to pursue research in Paris at the Centre de Recherches d'Histoire et de Civilisation Byzantines of the Collège de France directed by Professor P. Lemerle, and at the Centre de Recherches d'Histoire et de Civilisation Byzantines et du Proche-Orient Chrétien of Paris-I University (Panthéon-Sorbonne) directed by Madame H. Ahrweiler. I spent two periods of research in Paris, from November 1971 to June 1972 and from November 1972 to March 1973. I am extremely grateful to Professor J. Lassus (Byzantine Art), Madame C. Morrisson (Byzantine

Numismatics), M.J. Grosdidier de Matons (Byzantine Philology), M.G. Rochefort (Byzantine Palaeography), M.H. Stern (Byzantine and Umayyad mosaics) and M.J.-C. Gardin (Computers and Archaeology) for freely imparting to me some of their specialist knowledge. Professor P. Lemerle took a special interest in my research. The socio-economic tendencies displayed by Chapters IV, VIII and IX of this work owe much to discussion with M.N. Svoronos and to his fathomless knowledge of Byzantine Law, economy and society. Both he and Madame H. Ahrweiler unofficially supervised my research in Paris. The help, guidance and encouragement generously given by Madame H. Ahrweiler have been invaluable throughout, particularly immediately after the death of Professor D. Talbot Rice. Of all my mentors she is most to be thanked.

Permission was granted to me by M.N. Duval, Conservateur du Département des Antiquités Grecques et Romaines of the Louvre, to study the Byzantine material in the Louvre, in particular the mosaic floors from Antioch. Mademoiselle C. Metzger, Assistant Conservateur, helped me sort out the Romano-Byzantine pottery lamps from Tunisia in the storerooms and provided me with information from the archives and with photographs of unpublished and inaccessible material.

Madame M. Blanchard-Lemée, Chargé de Recherche at the Centre National de la Recherche Scientifique (CNRS), Paris, discussed at length the North African pavements, lent me private photographs of unpublished material and allowed me to make free use of the information from her then unpublished doctoral thesis. Much of my knowledge of the Byzantine mosaic

pavements of Greece, I owe to M.J.P. Sodini, Assistant at the Institut d'Art et d'Archeologie, Paris, of which his unpublished doctoral thesis is the most up-to-date corpus. Madame J. Christophe, Assistant de Recherche at the CNRS, introduced me to the "Groupe Stern" of the Association Internationale pour l'Etude de la Mosaïque Antique (AIEMA), which is researching in the coding of pavements. The result of this contact is embodied in the code put forward in Chapter II and the use made of it in establishing "regional groupings" in Chapter VIII. Mgr J. Naṣṣallāh, Greek Catholic Bishop of Paris but also specialist of the Stylites movement, discussed with me the Syrian material, in particular the plaques from Rasm al-Qanafiz (S.31). They are all to be thanked for their generosity and patience.

Except for the inhabited scrolls which have been destroyed, covered again or which have disappeared and thus had to be studied from publications, all the material contained in the catalogue (Vol. II) was checked in situ, measured, drawn and photographed. Technical aspects were also included in the study; measurements were taken of the diameter of scrolls, of the depth of carving for architectural sculpture, of tesserae sizes for mosaic pavements. The number of tesserae to the dm² was also calculated and stylistic details were noted. A large share of the material, published here for the first time, was culled in the course of field work. A fortnight was spent on Cyprus in April 1972. I am thankful to Dr. V. Karageorghis, Director of the Department of Antiquities of Cyprus, for permission to study the

Roman and Byzantine antiquities of Cyprus, to Dr. A. Papageorghiou for information concerning Byzantine Cyprus and to Dr. K. Nicolaou for discussing the mosaics of the House of Dionysos at Kato-Paphos which he excavated in 1962-1965. From June to August 1972 I worked in museums and studied the Romano-Byzantine sites of Turkey with a permit from the Turkish General Directorate of Antiquities. My thanks are due to Dr. H. Gurçay, Turkish General Director of Antiquities, and to the Directors and Staff of the Museums in Istanbul, Ankara, Kayseri, Diyarbakir, Gaziantep, Urfa, Antakya, Adana, Silifke and Konya for greatly facilitating my work. In particular, I am much indebted to Dr. N. Firatli, Curator of the Istanbul Arkeoloji Müzesi, for generous help, information and for the use of his catalogue of Byzantine Sculpture in Istanbul Museum which he is preparing for publication by Harvard University and Dumbarton Oaks.

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Mr. R. Hafez, Director of the Restoration Laboratories at Damascus Museum, Mr. A. Zaquq, Curator of Ḥamā museum and Mr. G. Amer, Curator of Suweida museum, for much help and information. In Jordan, I am particularly grateful to Dr. M. Ibrahim, Dr. F. Zayadine and Mrs. H. Kurdi of the Survey Section of the Department of Antiquities of the Hashemite Kingdom of Jordan for allowing me to use the Department of Antiquities archives and for providing me with unpublished survey maps and photographs. Mr. F. Kudah, archaeological district officer for Jarash, and Mr. M. Souran, archaeological district officer for Madaba and the region kindly accompanied me in my survey of sites of both areas. Dr. B. van Elderen, Resident Director of the American School of Oriental Research in Amman granted me permission to study, draw and photograph the pavement of Suāfiya (M.89a-b) which he uncovered in 1970.

In Israel, I am thankful to Dr. A. Biran, Director of the Israel Department of Antiquities and Museums for a permit to study material in Israel and in the occupied territories. With characteristic generosity Professor M. Avi-Yonah allowed me to use the unpublished addendum to his Catalogue of mosaic pavements in Palestine which he is preparing with Mrs. R. Sofer-Ovadiyah. He supervised my research in Israel and gave invaluable help and advice. My work was greatly facilitated by the help given by Mr. Y. Tsafir and Miss R. Rosenthal, lecturers in Byzantine Archaeology at the Hebrew University, Jerusalem, Mr. A. Ovadiyah, lecturer in the Department of Archaeology at the University of Tel-Aviv and excavator of

the Gaza synagogue; Mrs. R. Sofer-Ovadia, who allowed me to use the English translation, now in press, of her M.A. thesis on mosaic pavements discovered in Israel between 1930 and 1960; Mr. R. Cohen, archaeological district officer for the Negev who permitted me to include in the catalogue the fragmentary pavement of Be'er Sheva which he excavated in 1972; Mr. G. Foerster of the Department of Antiquities, specialist of the Galilean synagogues; M.D. Bahat, excavator of the synagogue at Bet She'an, and Mr. G. Edelstein of the Department of Antiquities who kindly put at my disposal his unpublished notes and photographs on the Church at Nahariya which he excavated in 1972. Much assistance was also lent by Mr. L. Rahmani, Curator of the Rockefeller Museum, Jerusalem, Mrs. Y. Israeli, Curator of the Byzantine Department of the Israel Museum, Jerusalem; Mrs. V. Sussman, in charge of the Israel Museum storerooms; Mr. J. Zias, in charge of the Rockefeller Museum storerooms, and Mrs. I. Pommeranz, Chief Archivist of the Israel Department of Antiquities and Museums.

Révérend Père Prignaud, O.P. of the Ecole Biblique, Jerusalem, allowed me to study the excavation notes of the late Père R. de Vaux, O.P. regarding his excavation of the Church at Mā'in in 1937. Father S. Saller, O.P., kindly discussed with me his excavations on Mt. Nebo and at Khirbat al-Makhāyyat.

In the course of my field work I have used the facilities of the British Institute of Archaeology at Ankara, of the Institut Français d'Etudes Arabes in Damascus and of the

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In Oxford, I am grateful to Professor J.M.C. Toynbee for discussing certain aspects of this work, and to Mr. D. Hunt, Fellow of St. John's College for the loan of his unpublished M.Phil thesis on fourth and fifth century pilgrimages to the Holy Land. In Edinburgh, I am much indebted to Dr. T.F. Watkins of the Department of Archaeology of the University of Edinburgh for discussing drafts of the thesis and for much advice; to Dr. R. McCail of the Greek Department for patiently checking all the Greek inscriptions of the catalogue, and to Professor A. Beattie of the Greek Department for permission to use the Greek Department typewriter. Dr. M. Murray and Mr. K. White of the Photographic Section of the Department of Archaeology reproduced the numerous illustrations; they can never be thanked enough for their patience and the great care they have taken with this work. Dr. A.S. Clarke, Keeper of Natural History at the Royal Scottish Museum, Edinburgh and Mr. I. Lyster, Assistant Keeper, respectively identified the mammals and birds enclosed in the scrolls. I am extremely grateful for the time they have devoted to this and the information they have generously supplied me with. Dr. H. McKerrill of the Research Laboratory of the National Museum of Antiquities, Edinburgh, discussed the laying of mosaic

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I have used the facilities of the following libraries: in Paris, the Bibliothèque Nationale, the Bibliothèque Byzantine, the library of the Institut d'Etudes Byzantines, the library of the Institut d'Art et d'Archéologie; in London, the British Museum, the Library of the Society of Antiquaries and the library of the Palestine Exploration Fund; in Edinburgh, the National Library of Scotland, the Edinburgh University Main Library, and New College Library; in Ankara, the library of the BIAA; in Istanbul that of the Istanbul Arkeoloji Müzesi; in Beirut the library of the Ecole Française d'Etudes Arabes; in Jerusalem the libraries of the BSAJ, the Ecole Biblique, the Rockefeller Museum, the Department of Archaeology of the Hebrew University, of the Couvent Ste. Anne (White Fathers) and in Athens the library of the Ecole Française d'Athènes. To their librarians, in particular Madame H. Cerf, librarian of the Bibliothèque Byzantine, Paris, I am heavily indebted.

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Finally, my greatest thanks go to my parents who throughout have supported me with their advice and encouragement. My father assisted me in elucidating some bibliographical sources and typed most of the first draft of the thesis. My mother accompanied me in my survey of the Lebanon, Syria and Jordan, never hesitating to ride a donkey across desolate parts of the limestone plateau north-west of Aleppo in search of a "dead city" or to crawl on a mosaic pavement, holding one end of a measuring tape. They can never be thanked enough for their immense patience with their Byzantine archaeologist daughter.

PRELIMINARY NOTESBibliography

The bibliographical reference system used here is the so-called "Harvard system". In the text, authors' initials are omitted. References are given to the author's name, followed in brackets by the date of publication and the page numbers, e.g. "according to Avi-Yonah (1960b, 326-329), the inhabited scroll...." The reader is thus referred back to the bibliography where authors are listed in alphabetical order and chronologically. The letters "a", "b", "c", "d", and so on, are added to dates of publication, when the author has published several works in the same year. Page numbers are never preceded by the indication "p." or "pp.", except in the case of a few catalogues, where catalogue numbers followed by page numbers without any "p." indication, could be confusing. Thus references to material in Mendel's catalogue appear as, e.g. Mendel III, No. 1306 (1604), pp. 511-514. After a "cf." indication the date of publication and page numbers are not put in brackets following the author's name, e.g. "on the degeneration of the vegetal ornament, cf. Avi-Yonah, 1960b, 326-329."

Catalogue

The catalogue (Vol. II) is divided into two separate sections: inhabited scrolls in architectural sculpture, catalogued as S. followed by a number, e.g. S.1, S.2, S.3, and so on; and inhabited scrolls on mosaic pavements, catalogued as M. followed by a number, M.1, M.2, M.3 and

so on. The geographical distribution of the material in each catalogue follows the order in which the sites which have yielded this material are recorded in the sixth century geographical treatise of Hierocles, the Synekdemos. Constantinople comes first, followed by the Dioceses of Asiana, Pontica and Oriens. Each Diocese is subdivided into provinces, each being headed by a metropolis followed by the main cities of the province. Dioceses, provinces and sites devoid of inhabited scrolls are omitted from the catalogue for obvious reasons. Sites unrecorded by Hierocles, are inserted into the catalogue according to their proximity to the nearest site recorded by Hierocles. This does not necessarily imply that these sites were in reality under the ecclesiastical jurisdiction of the metropolis to which they are attached in the catalogue. Thus Alakilise appears in the catalogue under Myra Metropolis. It is in fact not known to which metropolis Alakilise belonged, but Myra being the nearest recorded site, Alakilise is for convenience sake attached to it.

For each metropolis and each site, the reference number in Hierocles' Synekdemos is given (as H. No. —), as well as its number in the geographical treatise of Georgius Cyprius (as G.C. No. —). Full bibliographical references for each site are given in Honigmann's edition of both treatises (HONIGMANN, E. ed, Le Synekdomos d'Hiérokles et l'opuscule géographique de Georges de Chypre, in Corpus Bruxellense Historiae Byzantinae Forma Imperii Byzantini-Fasciculus I, Bruxelles 1939). In the case of sites in

Palestine, reference is also given to the following works:

G.P.I and G.P.II, followed by page numbers:

ABEL, F.M. Géographie de la Palestine. T.I:

Géographie physique et historique. T.II:

Géographie politique. Les villes, Paris reed. 1967.

Mad. Mos. Map, followed by page numbers: AVI-YONAH, M.

The Madaba Mosaic Map, Jerusalem 1954.

M.R.P., followed by page numbers: AVI-YONAH, M.

"Map of Roman Palestine", QDAP V, No. 4 (1936),
139-193.

In addition, more recent bibliographical references are also given, e.g. for Antioch, DOWNEY, G. A History of Antioch from Seleucus to the Arab conquest, New Haven, 1961.

Exact geographical location of sites is indicated by reference to detailed maps:

Cyprus Grid Series K711, scale: 1:50,000.

Turkey, Lebanon, Syria: UTM Grid, scale 1:1,000,000.

Israel, Jordan: Survey of Israel Map of the Cease-Fire Lines, November 1970, scale: 1:250,000. The map grid reference is preceded by ISR. For convenience sake references to sites in Jordan are also given from this map.

- Addendum: two items of architectural sculpture (S.34 and S.35) appear in an Addendum. Data concerning these two items were collected in the course of a brief trip to Istanbul in April 1974, when the catalogue had already been completed and typed.

- Appendices: inhabited scrolls in media other than architectural sculpture and mosaic pavements are described in Appendix I; those from North Africa, Egypt, Greece and the Balkans, are included in Appendix II. Appendix III concerns the restoration of mosaic pavements.

Illustrations

Each item of the catalogue is illustrated as fully as possible by a plan of the building to which it is attached - if such is the case -, a drawing and at least one photograph. If the item has disappeared and has therefore not been recorded by the present writer, a plan of the building to which it belonged is given, e.g. mosaic at Khirbat Ḥass (M.12, Fig. 130). Maps 1-12 and Figs. 45, 144, 170, 221 and 237, which are larger than A4 size and cannot therefore be easily bound in with the rest of the illustrations, are inserted in a pocket at the back of Vol. IV.

"Levant"

The term "Levant" is conveniently used here to cover the Lebanon, Syria, Jordan and Israel.

N.S.

This indicates that a drawing is not to scale.

Typewriter

In view of the non-availability of a Turkish typewriter, the undotted Turkish "i" is printed here as a dotted "i".

INTRODUCTION

A scroll¹ is a sinusoidal ornament of vegetal nature - either a vine or acanthus, or even, but rarely, an ivy stem. It may be extended indefinitely.

The term "peopled scrolls" was coined by Toynbee and Ward-Perkins in an article which laid the basis of all further research into this motif ("Peopled scrolls: a Hellenistic motif in Imperial Art", PBSR XVIII, 1950, 2-43). Gough, objecting to the assimilation to people of the birds, lions, rabbits and so on which fill these scrolls, preferred the term "inhabited" first used in his survey of the third century triumphal arch at Anavarza (Gough, 1952, 112). The term "inhabited scroll" is used throughout the present study in preference to "peopled scroll".

The classification established by Toynbee and Ward-Perkins is still valid. Scrolls may be of three types:

- i) The single running scroll, horizontal or vertical, with a single stem looped alternately to fill a narrow strip,
- ii) The double or medallion scroll in which two stems interlace to form circular or oval medallions,
- iii) The free scroll in which the stem winds across the available surface in a curvilinear pattern.

The sources of this motif have been convincingly traced back to the minor arts of Hellenistic times, in particular to such ornamental metalwork of the fourth-third century B.C. as

1. The term "rinseau" is frequently found in publications as an alternative for "scroll". However, in order to follow a strict terminology and also to avoid confusion, "scroll" only is used here. The components of the scroll (the head, stem, foot and others) are analyzed in Chapter II.

gold diadems (Toynbee and Ward-Perkins, 1950, 4-6). The question of origins is not re-examined here.

The present study is deliberately confined to inhabited scrolls in architectural sculpture and on mosaic pavements from the fourth to the seventh century in the eastern provinces of the Byzantine Empire and in Constantinople. This is for the following specific reasons:

a) Media.

Within the range of media, wall- and floor-mosaics, painting and fresco, architectural sculpture, wood carving, ivory, bone, metalwork, jewellery, enamel, glass, textiles, manuscripts and pottery, two have been selected: mosaic pavements and architectural sculpture.

Inhabited scrolls do not decorate the pages of early Byzantine manuscripts, which are a handful, nor were they used in early Syriac manuscripts.² They are also not found on enamels, glass and pottery, although a large number of Syro-Palestinian and Tunisian fifth century pottery lamps, notably those in the Louvre, bear individual motifs such as the crouching rabbit munching grapes and vine leaves or the bird pecking at a bunch of grapes (Fig. 295), which are frequent scroll-fillers. Only two examples of the motif are known in fresco: in fourth century hypogea in Ankara and Ascalon.³ A short survey of inhabited scrolls in the minor

2. Leroy (1964a) states that inhabited scrolls do not appear in early Syriac manuscripts, and (pers. comm. 27th May 1972) that they are confined to mosaic pavements and architectural sculpture.

3. The decoration of scrolls filled with partridges on the wall to the left of the entrance of a fourth century hypogeum in Ankara (Müfid Mansel, 1957, 175-176) may be compared to the frescoes of a mid-fourth century hypogeum discovered in May 1967 at Iznik (Firatli, 1972).

arts and textiles with a select bibliography, is included in Appendix I. The piece which can contribute to the enquiry regarding the significance of the inhabited scroll motif are discussed in Chapter IX.

Vine and acanthus scrolls filled with birds, other animals and occasional human figures occur on Coptic textiles and woodcarvings, sixth century gold bracelets, and the Antioch chalice. This material however is "displaced" with an all-too-often doubtful origin, and with the sole exceptions of the early sixth century ivory throne of Archbishop Maximianus in Ravenna and the silver dish of Bishop Paternus (ca. 518) in the Hermitage, is without date. The general tendency is to attribute nearly all fifth-sixth century metalwork to Syria. At least in the case of inhabited scrolls in architectural sculpture and on mosaic pavements, the material has either a provenance or a date, and sometimes both.

Both mosaic pavements and architectural sculpture offer the advantage of being physically attached to, and forming an inherent part of, a building. If they are not themselves strictly dated by inscriptions, a date may sometimes be ascertained either from inscriptions in other parts of the same building or archaeologically through excavations. Thus style, which is usually the only available criterion for the study, dating and provenance of movable objects, is sometimes, here, supplemented by more reliable archaeological data.⁴ Ideally

4. Four out of twelve inhabited scrolls in architectural sculpture in the Istanbul Arkeoloji Müzesi do not have an exact provenance; nevertheless they are included in the catalogue.

an archaeological/historical framework of chronology would be much more reliable than stylistic analysis. In the present state of our knowledge this is however impracticable, so that, when dealing with material which is not otherwise dated, one must fall back on subjective stylistic dating but in a more flexible way (cf. Chapter I, pp. 16-17). The dates given in the catalogue (Vol. II) must be viewed in the light of these remarks. These are broad stylistic estimates for lack of better evidence.

b) Chronology.

The chronological framework is determined by two dates. On the 11th of May, 330, Constantine established Constantinople as the new capital of an Eastern Empire. This date is generally accepted as marking the beginning of the Byzantine Empire. On the 20th of August, 636, the battle of the Yarmuk, giving victory to the Caliph 'Umar, sealed the fate of Byzantine Syria and Palestine.

Culturally, the fourth-seventh century period was one of transition and gestation, heir to Classical traditions yet struggling to evolve its own. Despite the upheavals in the late third-early fourth century there was considerable artistic continuity. The degree of this continuity, and the changes which it underwent, are examined in Chapter III, in the context of the distribution patterns of pre-Byzantine and fourth-seventh century inhabited scrolls. Chapter VII traces the evolution of the inhabited scroll, a motif popular in Hellenistic and Roman times, from the late Imperial age, a development illumined by newly discovered second and third century inhabited scrolls in the Eastern Mediterranean. The scroll

pattern persisted in the Umayyad period but gradually lost its inhabitants, while in Byzantium itself the motif died out altogether, apart from sporadic occurrences such as that on the walls of the Church of the Holy Cross at Aght'amar (Fig. 296). The discussion in this study, however, centres more specifically on the motif in the fourth-seventh century period.

c) Geographical framework

The Notitia Dignitatum drawn up ca. 408 (Jones, 1964, III, 381) shows the Eastern Empire to include the Dioceses of Dacia, Macedonia, Thracia, Pontica, Asiana, Oriens and Aegyptus. This study, however, is spatially restricted to Constantinople and the Dioceses of Pontica, Asiana and Oriens, corresponding to Turkey, Syria, Lebanon, Transjordan and Palestine.

From the point of view of administration, it is significant that in Hierocles' Synekdemos,⁵ Constantinople stands alone, belonging neither to the Diocese of Thracia nor to the Province of Europa; and the Dioceses of Asiana, Pontica and Oriens form a zone framed on the one hand by the Dioceses of Thracia and Illyricum and on the other hand by that of Aegyptus. Georgius Cyprius' geographical treatise⁶ clearly separates the Dioceses of Italia and Africa from that of Oriens; the De Thematibus written by Emperor Constantine VII Porphyrogenitus (913-957) again strongly emphasizes the

5. The Synekdemos, originally a treatise composed under Theodosius II (408-450) and re-edited by Hierocles between 1st August 527 and the autumn of 528 was most likely a vademecum - an official manual for the use of civil servants in their local administrative duties.

6. Jones, 1964, III, 381 dates this treaty to the beginning of Justinian's reign.

difference between the western and the eastern themes. Both sixth and tenth century Byzantines considered the political demarcation line between west and east as cutting through the Black Sea, the Bosphorus and the Mediterranean. To the west lay Greece, the Balkans, Crimea and the Chersonese; to the east, Asia Minor, Syria, Palestine, Mesopotamia, Egypt and Cyrenaica. It is more difficult to trace clearly the cultural demarcation line between east and west. Lavin (1963) has shown the importance of North Africa in Late Antiquity for understanding the artistic developments in Antioch and Apamea, let alone Constantinople. The Mediterranean world of 330 was not yet polarized.

However, the shift of focus which took place between the fourth and the seventh centuries from North Africa to the zones in direct confrontation with Sassanian Persia and the Arabs - the provinces of Mesopotamia, Syria, Phoenicia and Palaestina, is reflected in the history of the inhabited scroll itself. The gradual disappearance of the motif from its previous zone of popularity, i.e. North Africa, is counterbalanced by a sharp rise in its popularity in Syria and Palestine. This was paralleled by the increasing prosperity of the Diocese of Oriens, as will be shown in Chapter IV.

Little material has survived from Alexandria, although it was a patriarchal see, thriving both culturally and artistically. The Coptic centres were artistically a rule to themselves. If it is possible to suggest artistic contacts between Tripolitania and Syria on the one hand, and Cyrenaica and Syria on the other, these contacts were one-sided, i.e. Syrian mosaicists may have worked in Tripolitania and

Cyrenaica after the Justinianic reconquest. In the present state of knowledge the motif appears rare in Greece and the Balkans. Inhabited scrolls on mosaic pavements and architectural sculpture from these neighbouring zones enclosing and having contacts with the area specifically studied are recorded with a select bibliography in Appendix II.

Aims of the Thesis

Keeping in mind the above remarks, the object of this thesis is not to give a detailed individual description of the 37 inhabited scrolls in architectural sculpture and 116 on mosaic pavements collected in the course of the research. This task is fulfilled by the catalogue (Vol. II). The aim of the present study is to examine the inhabited scroll within its zone of greatest popularity at a particular period (fourth-seventh century) and within its immediate architectural, geographical, economic, social and artistic context.

Owing to the nature of the material and in view of its uneven publication, a systematic processing of it has been necessary, so as to obtain the most precise data possible. This processing includes the elaboration of a code of types of inhabited scrolls which condenses information and simplifies description. The geographical distribution of inhabited scrolls is examined and the evolution of the motif is traced; then an attempt is made to put forward reasons for changes in the distribution patterns from the Roman period to the early Byzantine and for the cluster in Syria and Palestine.

Moreover the code provides a useful means of analysis from which inferences may be drawn as will become clear in

the study of the predominance of some types of inhabited scroll patterns over others and the question of pattern books. Technical aspects of the study, e.g. the analysis of mosaic beds and tesserae stones, size of tesserae and number of tesserae to the dm^2 , provide information which may be combined with code-type, measurements of pavements, diameter of scrolls, composition, stylistic elements and date to determine workshops.

Finally the question of the symbolic significance of the motif can be discussed.

CHAPTER I

THE MATERIAL

1 - Nature of the material

Accessibility of the material for study varies.

a) Lost material.

Some recorded inhabited scrolls have disappeared.

Such is the case of a white marble column described by Antoine Galland, Antiquaire du Roy de France, in his Journal... pendant son séjour à Constantinople (1672-1673): "On connoit tout ce qu'il y a de restes antiques à Constantinople, mais on ne sçait pas ce qu'il y a de curieux à voir à un kiosque que Sultan Soliman¹ fit bastir sur le canal de la Mer Noire par delà un village qu'on appelle Ingir Kioi, près XXXXXXXXXX du coude que le Bosphore fait en cet endroit. C'est parmi plusieurs colonnes qu'il a fait mettre en travers pour servir de fondement à ce bastiment, une colonne de marbre blanc qui est historiée de pampres et de feüilles de vignes avec des bas-reliefs qui représentent des choses qui concernent la vendange. On tient qu'elle vient d'un temple de Byzance qui estoit consacré à Bacchus dont Petrus Gillius fait mention" (Scheffer ed., 1881, 213).

The white marble column, last mentioned in 1723,² has been

1. The kiosque at Incirköy was in fact built by Murad III (1574-1595).
2. In 1723, Wheeler in his Voyage de Dalmatie, de Grèce et du Levant improved on Galland's description: "...voici une remarque au sujet de ces Colonnes ouvragées de feuillages, que Mr. Gallant, antiquaire du Roy de France a communiqué à Mr. Spon. Il y a un Kiosque ou Pavillon bâti par Sultan Soliman près d'Ingerliqi, sur le Bosphore vers la Mer Noire, dont le fondement est composé de Colonnes, parmi lesquelles il y en a de marbre blanc d'un pied et demi de Diamètre, dont on ne voit qu'environ deux pieds de longueur du côté de la base, qui sortent hors du fondement en forme de Canon

(Contd.)

untraceable. The visit I made to Incirköy in June 1972 proved fruitless. Murad III's kiosk had recently been pulled down to build a glass factory. However some idea of the aspect of the column may be gained from seemingly comparable material, e.g. two fifth-sixth century fragments of white marble columns in the Istanbul Arkeoloji Müzesi (S. 5, Figs. 9-10, and S. 6, Fig. 11).

A widespread reason for the disappearance of material in Turkey and the Levant is illicit excavation and trading of antiquities. For instance, the fragmentary mosaic panel attributed to Ma'arat an-Nu'man (M. 13, Figs. 131-134) was seized in 1970 from antique dealers operating in the Ḥamā region. Another example is "Mosaic O" from a fifth-sixth century villa at Jenah, south of Beirut (M. 23b, Figs. 160 and 163), whose acanthus scroll border contains hunting scenes and which was published by Chéhab (1958, 56, 64, 73-75; 1959, Pl. XXX, 1-3). It has disappeared leaving no trace, but a fragment of the border of a mosaic pavement remarkably similar to it, and which may indeed be part of it, lies in the back garden dump of Beirut Museum.

b) Material in process of being destroyed

All over the Eastern Mediterranean antiquities are lost owing to direct intervention by villagers. Central Anatolian

(contd.) comme les autres Colonnes. Mais celle-ci est toute particulière car le fuste même de la Colonne est ouvrage de feuillages (sic) de vigne entrelacez de figures différentes d'animaux, comme de Belettes et de Limaçons fort au naturel, avec deux Masques et une cuve pleine de raisins, que trois hommes foulent, et un autre en tire le vin pas le bas, et tout cela avec le goût et les manques de la bonne Antiquité. Cette Colonne a esté sans doute prise du Temple de Bacchus, dont Petrus Gyllius parle dans sa Description de Constantinople; car en parlant de ces colonnes, voici ce qu'il en dit "Capitula inferiorum Echinus habent eircumdantes (sic) unam partem; reliqua pars est tota vestita foliis"; maid il ne les avait pas observées de très près' (Wheeler, 1723, 251-252).

villagers are particularly prone - in their search for gold - to mutilate mosaic pavements and hammer out architectural sculpture. Of the "paradeisos" mosaic uncovered by Gough in 1952-1953 at Ayaş-Elaeusa (Gough, 1954, 61-62), only a fragment 0.30 m. x 0.20 m. is left.³ Although filled in after excavation, the northern section of the mosaic floor of the "Basilica" at Dağ Pazari (Coropissus ?) in Isauria (M. 4, Figs. 96-101) is rapidly disappearing; loose tesserae coming up to the surface owing to rain water infiltration are picked up and scattered by the local village boys. At Alahan monastery in Isauria (S. 21, Figs. 45-53), from one season of excavation to the next, more of the architectural sculpted decoration is hammered out; such is the fate of the birds perched in the vine trellis and pecking at bunches of grapes, and vine leaves on the jambs of the south door of the west wall of the East Church.

Material not only deteriorates owing to natural factors such as wind and rain erosion, as in the case of the sculpted inhabited acanthus frieze running round the exterior of the bell-tower of the Great Church of the Monastery of Mar Augem at Dair al-Za'afarān (S. 28, Figs. 63, 65-66) or owing to the sheer factor of decay, as evidenced by the heaps of ruins of the Church of the Holy Apostles at Anavarza-Anazarbus (S. 16, Figs. 33-34). Lack of proper care is another cause. The pavements of the Churches at Zahrānī (M. 20 a-e, Figs. 147-157) and Khalda (M. 25, Figs. 166-169) relaid in public gardens of Beirut fade away as the result of their exposure to rain and sun and to repeated watering by gardeners.

1. I recorded it on 30th July, 1972.

Mosaic pavements are frequently filled in for preservation. This is true of all the pavements of the Glass Court (M. 74, a-b, Figs. 266-267) and the churches at Jarash except that of Elias Mary and Soreg, which was lifted in sections, restored, inventoried, catalogued and is now exhibited in the Museum of Mosaics and Beduin Art, Amman (M. 84 a-b, Figs. 284-286). Those of the churches at Khirbat al-Makkāyyat (M. 70, Figs. 255-256; M. 72 a-b, Figs. 260-261), except that of SS. Lot and Procopius (M. 71, Figs. 257-259) have also been covered again. However, unless they are uncovered once more, no further information can be extracted from them, so that the researcher is compelled to rely solely on previous publications which can never be sufficiently exhaustive since the material is subsequently examined from various points of view by different persons with different methods of approach; numerous questions must therefore always remain unanswered.

c) Reused material

Fragments of architectural sculpture are frequently reused, so that inhabited scrolls are not always found in the most obvious places, e.g. the fifth century lintel in the fourteenth century Kariye Camii (S. 1, Figs. 1-2) and a fifth-sixth century chancel-post set in a wall near the window of a cell in the Monastery of Ayia Moni (S. 19, Figs. 41-42).

d) Inaccessible material

Occasionally, but more rarely, previously recorded inhabited scrolls are inaccessible in museum storerooms. Since the Qabr Hiram pavement (M. 17, Figs. 142-143) was discovered by Renan, cut into sections, lifted, shipped to France in 1863

and presented to the Emperor Napoleon III as the "pièce de choix" of Renan's explorations in Phoenicia, the sections have remained stacked up in storerooms of the Louvre, but for two geometric panels on view at the current exhibition "Les Arts de la Méditerranée" in the same museum.⁴

e) Unrecorded material

Much material has never been published or even mentioned and lies unrecorded in museum archives, forgotten in storerooms or disintegrating slowly on distant and little visited sites such as the monasteries of the Ṭūr 'Abdīn. For newly discovered material brought to light at a fast rate, as in Syria, publication or even a mention at an international level may be long delayed. The Association Internationale pour l'Etude de la Mosaique Antique (AIEMA) attempts to remedy the lacunae in the diffusion of information concerning mosaics, by publishing a bulletin (three fascicules have so far been produced, in 1968, 1970 and 1971), consisting of an up-to-date bibliography arranged geographically. However, this bulletin concerns only published mosaics. To bring information concerning architectural sculpture and unpublished material (both sculpture and mosaics) up-to-date, more thorough explorations of sites and museum storerooms and archives are necessary. The two main reasons for my travels in Turkey

⁴. Soon after the mosaic's arrival in Paris, there was much argument in Parisian antiquarian circles regarding its transfer from the Musée Campana which housed Napoleon III's private collections to the castle of Saint-Germain-en-Laye where a specifically Gallo-Roman Museum was to be established. Durand wrote then: "Il est facheux que cette oeuvre byzantine, dépaycée dans ce musée de Saint Germain ne reste pas à Paris où tout le monde aurait pu l'étudier à l'aise. Qui va et qui ira jamais à Saint-Germain-en-laye?" (Durand, 1863, 279). It remains unfortunate that the pavement is now neither visible by the general public nor even accessible for study.

(June-September 1972), Lebanon, Syria, Jordan and Israel (March-June 1973) were precisely to collect forgotten unpublished and newly-discovered data and to record it by measurement, drawing and photography, whilst checking and recording again previously published inhabited scrolls, in short to process the material in a standardized way.

Untraceable, illegally traded, destroyed by the action of time, climate or man, badly preserved and some times inaccessible or unrecorded, this material is also unevenly studied.

2 - Unsystematic processing of the material

There is a disturbing lack of systematization in the treatment of the material in publication.

The basic data are often absent or carelessly recorded. For instance one plan only of the pavement at Misis-Mopsuestia (M. 2 a-b, Figs. 90-94) has been published by Budde (1970, 37), and not a single drawing is available for the nave, although such a drawing would have facilitated the task of piecing together the numerous photographs and of reconstructing the pavement coherently and understanding it.

Technical data such as depth of carving for architectural sculpture, size of tesserae, number of tesserae to the dm² and types of stones for mosaic floor are rarely present (cf. Chapter V, p. 67). The greatest limitation of the most useful sources, e.g. the catalogues of mosaic pavements by Avi-Yonah (1932-1935a) and Sofer-Ovadia (1963) lies in their lack of illustrations, whether scaled plans, scaled photographs or drawings.

Frequently, full use is not made of the available evidence particularly in discussions of dating. For instance in the publication of the mosaic pavement of the Church of Bait Mari (M. 21, Figs. 158-159; Chehab, 1958, 165-171), chronological data of prime importance are available: a sequence of coins ranging from the first-second century to Justin II (565-578) found under and over the mosaic and in other parts of the excavated church. However a Justinianic date is argued not on numismatic but on stylistic grounds, and no mention is made of the fact that the coin sequence may have some bearing on the dating. Yet, publishing in the same volume the mosaics of the villa of Awza'i (M. 22) Chehab does not reject the numismatic evidence, and provides a remarkably sound piece of chronological reasoning in comparison to his dating of the Bait Mari pavement and the Jenah villa (M. 23 a-b, Figs. 160-163).

Syro-Palestinian mosaics, notably those depicting inhabited scrolls are frequently precisely datable by inscriptions of donors (cf. Chapter IX, p. 213). Only three inhabited scrolls in architectural sculpture are dated by an inscription: a lintel at al-Ahwān (S. 25, Fig. 61) and two archivolts in the Church of Saint James of Nisibis (S. 29 a-b, Figs. 67-70).

External historical evidence is also used occasionally the most frequently used being Theodosius and Valentinian's edict of 427 forbidding the use of the symbol of the cross on pavements where it could be betrodde upon (cf. Chapter IX, p. 206). This chronological criterion, however, can only apply to pavements depicting crosses, not necessarily

to those with other possibly Christian symbols, and in any case one cannot be certain that the edict was enforced. When epigraphic and historical evidence is absent, the material is mainly dated not by archaeological means (stratigraphy, changes in masonry, coins, pottery) but by stylistic considerations. Admittedly, stratigraphic dating of early Byzantine excavated sites or buildings is extremely difficult. Actual soil deposits overlain by rubble are shallow, but perhaps excavators of Byzantine sites do not pay enough attention to soil textures and changes, to building techniques and laying techniques for pavements and do not record with sufficient accuracy the precise stratigraphic location of "type-fossils" such as coins and pottery.

Stylistic dating is just as complex. No typology of the vine or acanthus scroll has yet been fully established; moreover a typological study is practically impossible as each workshop, whether of sculptors or mosaicists, has its own style. The co-existence of distinct styles in the same area and in the same period is particularly clear as regards sculpted inhabited scrolls, as evidenced by the great variety of styles in the fifth and sixth century material in the Istanbul Arkeoloji Müzesi (S. 4-S. 12, Figs. 7-25). Only local typologies are therefore feasible, i.e. a typology of the vine or acanthus scroll for each site, as elaborated by Crowfoot for Jarash (1931 b, 45). In theory it should be possible to link local typologies together when they coincide and ultimately arrive at a complete typological sequence. Few, however, are the sites like Antioch, Jarash or the Madaba zone, that have produced sequences of inhabited scrolls dated

by inscriptions or by other archaeological means; in most cases excavators try to link isolated samples to existing groups by comparison, regardless of distances. Mosaics are therefore chained together by apparently strong stylistic links which are in fact not only tenuous but often dangerously unsound. The best analogies for the inhabited acanthus scrolls of the mosaics of Mā'in-Beelmon (M. 73 b, Figs. 262-263) lie in the acanthus border of the south transept of the Prophets' Church at Jarash dated 464-465 (Crowfoot, 1931b, 44-45). The other motifs of the Mā'in pavement, however, do not point to the fifth century, so that de Vaux comments: "Comme il n'est pas question d'assigner à notre pavement une date aussi haute, on en conclura que la stylisation plus ou moins avancée de ce motif est un critère chronologique bien fragile". (Vaux, 1938a, 237).

The weakness of the comparative typological method is brought out even more clearly by the Jenah "Mosaic O" (M. 23b, Figs. 160 and 163) whose late fifth century date moves forward to the second half of the sixth century as the result of the redating of the floor of the Imperial Palace of Constantinople (M. 1, Figs. 82-85). Such dates arrived at by stylistic analysis can never stand entirely on their own feet; they exist only in relation to other dates, themselves the result of elaborate comparisons. Dating according to stylistic comparison of motifs being riddled with pitfalls and dating to the year nearly impossible except in a very limited number of cases, one is reduced to dating grosso modo - "fifth-sixth century", for example unless an inscription offers a precise date. Such a grosso modo type of dating is greatly subjective

based on a feeling for the material evolved solely through close acquaintance with similar material.

Thus, faced with material of an elusive character (destroyed, lost, damaged, and badly published) and aware that the previous datings and interpretations are inherently subjective, the researcher whose aim is to produce a synthesis is compelled to return to the original sources, to examine, measure, draw and photograph the material. The first stage of data collecting and processing is followed by one of codification and analysis.

CHAPTER IIAN EXPERIMENT IN ANALYSIS AND CODIFICATION1. Towards a codifying analysis

"Archaeology is the discipline concerned with the recovery, systematic description and study of antiquities" (Clarke, 1968, 12). Clarke continues: "Under this definition we may understand archaeology as having three interrelated spheres of activity. The sphere concentrating on data recovery - principally excavation, the sphere engaged in systematic description - taxonomy and classification, and finally the integrating, synthesizing study generating models, hypotheses and theories. Two of these spheres are concerned with genuine experimental data recovery and in their modern form represent the sensory organs of the discipline - these are (i) excavation and collection (ii) analytical and statistical taxonomy. The third sphere should generate idealized models of hypotheses about the data received and retransmit these models to the experimental aspects for further testing and modification. By the continuous feedback cycle of observation, hypothesis, experiment and idealized model, the models and hypotheses gradually become more adapted to the pattern of the observed data. Gradually the hypotheses may be elevated to theories and ultimately the theories elevated to synthesizing principles - if the results should happily warrant that step" (Clarke, 1968, 14). The Clarkian manifesto has been quoted at length above, for it is on it that there centres the debate which has pitted the archaeologists of the so-called "old school", classicists, Byzantinists and even numerous pre-historians, against the exponents of the "New

archaeology", the Cambridge school of archaeological thought and its followers. Although violently polemical and doctrinal and consequently both objectionable in the eyes of many and to be considered with reservations, Clarke's thesis teaches two lessons: that archaeology is theoretically a discipline in its own right, but still struggling to "find itself" and that standardization of descriptive terminology is called for. This applies equally to Byzantine archaeology which exists perhaps in theory but not yet fully in practice. More important here is the urgency and necessity to abandon normal descriptive language with its subjective ambiguities in the processing of the material, mosaic pavements and architectural sculpture, and to introduce a new method, analytical and codifying.

Clarke's three spheres of interrelated archaeological activities may be adopted but in an adapted form by Byzantine archaeology. The model-generating third sphere is of particular interest here. Clarke points out that as a discipline progresses, models from being "iconic" become "analogue" and finally "symbolic". "Iconic models represent observed attributes registered as iconic symbols - as a code; this lowest level of model frequency follows the need for condensed documentation" (Clarke, 1968, 33). A distribution map, for instance, ranks as "iconic". At the present stage of development of Byzantine archaeology, only iconic models are required. The key word is code which represents both concise documentation and a stepping-stone for analysis.

2. Codes

In 1932-1933 Avi-Yonah produced his catalogue of Mosaic pavements in Palestine which incorporates the first attempt at coding patterns. The tables of patterns were arranged as follows: A, rectilinear borders; B, curvilinear borders; C, circles; D, diamonds; E, lozenges; F, sprigs; H, rectilinear field decoration; I, pieces of ornament; J, curvilinear field decoration. Each pattern is sub-divided numerically. This system simplified to the extreme the description of the geometric zones of pavements. For instance the border of the "Mosaique d'Etienne" (M.31, Figs. 179-180) is described simply as A2 - B15 - A2; that of the "Armenian mosaic" (M.33, Figs. 183-186) as A1 - B3 - A1. Although a pioneer attempt of great value, Avi-Yonah's code is unusable for the inhabited scroll motif which is not included in the range of patterns examined. Thirty years, however, separate Avi-Yonah's attempt from the researches in coding mosaic pavements undertaken in 1963 by the "Laboratoire d'analyse documentaire archéologique du Centre National de la Recherche Scientifique, Paris", under the technical guidance of J.C. Gardin and the academic supervision of Stern.

At the colloquium on Graeco-Roman mosaics held in Paris in 1963, Stern emphasized the difficulties in describing mosaic correctly, in formulating in words what is but pure form. His words are worth repeating: "Le langage de l'archéologue étant issu de celui de l'historien, nous nous trouvons souvent désespérés devant l'objet de notre recherche. Nos termes sont choisis au hasard, dans nos descriptions nous adoptons l'un quelconque parmi les nombreux partis qui

s'offrent à notre choix. Faute d'une terminologie appropriée, nombre d'éléments des ornements échappent à l'analyse..." (Stern, 1965b, 353-354). He also put forward the project of a code covering all aspects of mosaic pavements in Belgian Gaul and the neighbouring Roman territories of Germany and Switzerland. The material covered being 1500 mosaic pavements, such a code could only be the result of the work of a whole group. This was published in 1967 by the "Centre d'Analyse Documentaire pour l'Archéologie (CADA), Paris." The code is divided into three sections, the first concerning the decorative aspects, the second the technique and the third the archaeological data. It includes an index file of punch-cards, a catalogue where the entries are given numbers corresponding to the numbers on the punch-cards and a booklet of patterns which visually clarifies the terminology. Less ambitious and completed in under two years, though also the product of a work-group, is the Répertoire graphique du décor géométrique dans la mosaïque antique which constitutes the fourth fascicule - bulletin (May 1973) of the AIEMA and serves the purpose of a lexicon of geometric patterns.

At an individual level, more modest but none the less useful attempts may be made to codify motifs taken singly. Such an attempt is embodied in the present thesis.

Neither the Répertoire nor the CADA code concerning the Recueil Général des Mosaïques de la Gaule (Tome I: Gaule, Belgique) may be fully used in connection with my analysis of inhabited scrolls.

The Répertoire deliberately excludes vegetal ornament; and, as the inhabited scroll pattern was not used in the Roman

mosaics of Gaul, which were predominantly geometric, it is not included in the CADA code study.

The CADA code deals with all patterns in their relation to one another, unlike my analysis which concentrates on one pattern only. Moreover both the Répertoire and the CADA code are indices; their function is to store data in a numerical form without hierarchical classification, i.e. each pattern or combination of patterns is given a separate number.

My code aims at organizing the data into groups, thus at producing a typology. Whereas the Répertoire and the CADA code as put forward by Christophe (1970) are purely descriptive, my code is both descriptive and analytical.

3. A code for inhabited scrolls

The following code for inhabited scrolls is related to Avi-Yonah's Catalogue and the AIEMA Répertoire, although it deals solely with one motif. It takes into account neither the chronological nor the stylistic factors. It basically classifies types of arrangements of inhabited scrolls without a time dimension. There is no chronological link or sequence between I, II and III; these are separate entities (cf. the code patterns at the beginning of Vol. III).

(i) The capital letters A, B, C, correspond to types of scroll work (cf. Introduction, p. 1).

A is the single running scroll

B is the double or medallion scroll

C is the free scroll in which the stem winds across the available surface in a curvilinear pattern. It is subdivided into:

- C_1 : the scroll freely covers the available surface.
- C_2 : the two central loops at one end of the field form a vertically placed heart-shaped pattern.
- C_3 : includes a central vertical row of medallion scrolls.
- C_4 : combines a central vertical row of medallion scrolls with a horizontally placed heart-shaped pattern on either side of the lowermost medallion scrolls.

(ii) Types of vegetation are indicated by symbols:

O - acanthus

X - vine

* - ivy

(iii) The Roman numerals I, II, III, IV, V, VI and VII describe the arrangement of inhabited scrolls in relation to their issuing-point.

I, II and III concern scrolls in narrow strips or borders.

IV, V and VI concern scrolls in fields.

VII may apply to any sort of surface, border or field.

A panel is considered to be a border halved, hence the mosaic panel at Mampsis (M.52, Figs. 221-223) is described as $A_s \frac{II_2^b}{2}$. The small letter "a" indicates a head, "b" a vase, "c" an acanthus foot, "d" a vine leaf and "e" a tree. The head may be male or female, bearded or beardless, although it appears bearded in all the code diagrams.

I_1 : The scroll issues in one direction from one point.

I_2 : the scroll issues in two directions from one point at one corner of the strip.

II_1 : the scroll issues from two points at the bottom, but in two different zones.

II_2 : there are two points of departure of the scroll, each in the middle of two opposed sides.

III₁: four points of departure, one at each corner.

III₂: four points of departure, one in the middle of each side.

In the case of III₁ and III₂, it is irrelevant that the points of departure are turned inwards or outwards; what matters is their location within the border as a whole.

(iv) IV: the point of departure is centrally placed at the bottom of the field.

IV_a^c is a unique combination of a tree (c) growing out of a cup/vase (a).

V: the placing of the point of departure in the middle of the field occurs only with a vase, thus as Va.

VI: there are four points of departure, one at each angle of the field.

VII: the "inhabitants", e.g. birds, are irregularly dotted over the surface as on the Nisibis archivolt (S.29 a-b, Figs. 67-70).

Thus a scroll is coded in the following manner: first the type of scroll work followed by the type of vegetation, then the location of the point or points of departure. For instance: C₄xIVb (M.40)

AoIII₁a (M.44b).

In some instances, owing to the fragmentary nature of the material, only the type of scroll work and the vegetation are definable. M.60, 61, 63, 64, 65 and 67 are described only as Ao, for they are fragments of a pavement in the form of separate panels. Although the style of the acanthus suggests that they may belong to the same pavement and although three panels (M.60, 63 and 67, Figs. 246 and 249) depict a female bust placed in a corner of a border, implying that the whole

pavement was of type $AoIII_1a$, this cannot be affirmed categorically.

Occasionally the code type or part of it is followed by a question mark, e.g. M.36 is described as Cx (IVb?), M.38b. as CAx?. This indicates that the material being destroyed or lost, it has not been checked and that from the available published data only a tentative suggestion may be made regarding the code type.

When, owing to the fragmentary nature of the material or the lack of published information, it is not certain what type of scroll-work is present, or when, to judge from the publication, it may be one or another, the uncertainty is expressed by a stroke between the two letters representing the possible types of scroll work, e.g. CA/CBx for M.48a.

Where the nature of the point of departure of the scroll is not mentioned, this implies that it is either debatable or a combination of different elements. The pavement of the "Cathedral" at Madaba (M.56) is defined as $AoIII_1$ without specification of the points of departure; it appears from the archives of the Department of Antiquities of Jordan, the pavement having been filled in, that a golden eagle was depicted in three corners of the border and a bearded head in the fourth corner. Some combinations are extremely complicated so that the code has to make use of the notations of set theory.

The Nisibis archivolt (S.29a, Figs. 67, 69-70) is defined as $BxVII(II_1)$. $VII(II_1)$ denotes that the three tiny pigeons are irregularly placed (hence VII), thus modifying the vine scroll that issues from an amphora at either end of

the arch (II_1). Thus $VII(II_1)$ does not mean that VII multiplies II_1 but that it modifies it.

The second Nisibis archivolt (S.29b, Figs. 67-68) is of type $BxVII(\frac{II_2^d}{2})$. As the arch would represent only half a border, II_2^d is halved.

When a complicated pattern appears only once, it is not considered a "type" and therefore the additive principle is used as in the nave of the Cathedral chapel at Jarash (M.82b, Fig. 282) where four amphorae, one in each corner of the field, and four acanthus feet, one in the centre of each side, make up $C_1x[VIb+4(IVc)]$.

As regards the actual components of the scroll, use is made of the graphic analysis of the scroll in the Répertoire (Nos. 121-131), the English equivalents having been established after discussion with Dr. D.J. Smith, British representative of the AIEEMA (Fig. 297).

The use of the term "scroll", however, is inevitably confusing. It may mean the pattern taken as a whole or each volute taken separately, the second meaning being consistently used in my catalogue entries when describing the "inhabitants", e.g. scroll 1: dog; scroll 2: hen, and so on.

Not only does such a code condense information and simplify description, but it is also useful as the means of analysis from which inferences may be drawn. This is evident in the study of the predominance of some patterns of inhabited scrolls over others and the question of pattern books and workshops, as examined in Chapter VIII. Thus at a glance through the list of codified pavements, it is easy to realize that certain types cluster in certain areas. For instance

the pavements of Shellal, Maon-Nirim and Khirbat 'Asīda are of type C_4xIVb ; they also happen to be in the Gaza-Hebron zone. The $AoIII_1$ and $AoIII_{1a}$ types predominate in Madaba, the C_1xIVb and C_1xVIb and C_1xVIc types at Jarash.

CHAPTER III

THE GEOGRAPHICAL DISTRIBUTION OF INHABITED SCROLLS

1. Types of distribution maps

Another kind of iconic model is a distribution map. The present chapter is largely devoted to a study of the geographical distribution of inhabited scrolls and its significance based on various kinds of distribution maps of the material (Maps 1-12). Three kinds of maps are used. A general map of the Eastern Mediterranean basin (Map 1) shows all the sites which have yielded inhabited scrolls in architectural sculpture and on mosaic pavements from the fourth to the seventh century, thus giving some idea of the distribution of inhabited scrolls in eastern Byzantine areas. The inhabited scrolls of Greece, Coptic Egypt, Libya (Cyrenaica and Tripolitania) are indicated, these being neighbouring zones to the focal zone of interest (cf. Introduction pp. 6-7).

The regions which are directly concerned in this study - Asia Minor, present-day Syria, Lebanon, Transjordan and Israel/Palestine - are each represented on two local maps. On one of these two maps are marked the Byzantine sites so far discovered and surveyed (but not necessarily excavated), on the other, sites which have yielded inhabited scrolls.

In the case of Asia Minor and Palestine, the study is elaborated one step further, and a third map is added. These two regions have been covered by historical maps: A Classical Map of Asia Minor (Calder and Bean, 1958) and The Map of Roman Palestine (Avi-Yonah 1936) (which applies equally to the early Byzantine period).

Maps 11 and 8 simply transfer the information contained in these historical maps into dots representing historically attested sites. Thus fruitful comparisons may be made between the historical maps, those depicting surveyed areas and those showing sites which have yielded inhabited scrolls.

2. The significance of distribution patterns

Several inferences can be drawn from these distribution patterns. The general map of the eastern Mediterranean basin demonstrates that inhabited scrolls cluster in two areas: Constantinople and Syro-Cilicia, this "southern cluster" reaching down the Levantine coast and covering Syria, the Lebanon and Palestine with a further extension inland into Transjordan. A tentative explanation for this pattern, in economic and historical terms, is put forward in Chapter IV.

Local maps enable one to make more subtle inferences. Let us examine each area separately.

Syria.

Certain areas of Syria have been thoroughly surveyed since de Laborde (1836-1837) and de Vogüé (1865-1877) - the basaltic Ḥaurān, the volcanic Ṣafā, the region north-east of Ḥamā and the limestone plateau north-west of Aleppo;¹ a few

1. De Vogüé opened the way for the more systematic study of Syria made by Butler's three expeditions, the American Archaeological Expedition to Syria in 1899-1900 (AAES) followed by the Princeton University Archaeological Expeditions to Syria in 1904-1905 and 1909 (PAES). The epigraphic explorations of Mousterde and Mattern revealed a number of sites (Jalabert and Mousterde 1929, 1939; Mousterde 1932; Mattern 1933; Mattern, Mousterde and Beaulieu 1939). Dussaud and Macler (1901) explored the less-known regions of the volcanic Ṣafā and the basaltic Jabāl Druz, south-east of Damascus, covered again by Dunand (1934). Lassus (1936b, 1937) concentrated on the region north-east of Ḥamā and Tchalenko (1953-1958) made an archaeologico-economic study of the limestone plateau north-west of Aleppo. For a list of explorers, particularly covering the limestone plateau, cf. Tchalenko, 1953, 1, 4.

areas, in particular the Euphrates region east of Aleppo, and the Khabūr headwaters, have barely been studied. Hence an unbalanced distribution of the Byzantine material results.

A map of Byzantine Syria as attested archaeologically is not included in the corpus of distribution maps of this thesis; it would only repeat the standard maps of the AAES and PAES with some supplementary information culled from further surveys and would show Syria to be covered with equally distributed dots, except in the unsurveyed zones. The distribution of new sites is generalized over the area already known to have been densely settled and therefore adds nothing to our knowledge. It indicates a high density of population in the early Byzantine period in all regions of Syria including the basaltic desert of the Ḥaurān. A map showing inhabited scrolls in architectural sculpture and on mosaic pavements is, however, included (Map 2). Their rarity (nine examples) is evident and poses several problems. Out of nine examples, four are in architectural sculpture, a minute number in relation to the mass of decorative carving exhibited by early Byzantine Syria in general. This calls for some explanation.

Accident of survival and human destructiveness are in part to blame. Muslim and, perhaps equally fanatical, Christian iconoclasm has defaced carved representations of the human form and even of animals.

Even the fact that basalt is hard to carve and thus is not suitable for decorative sculpture is not a sufficient explanation. The numerous inhabited scrolls carved in basalt and dated from the first to the early third century which are exhibited in the Suweida (Dionysias) museum, testify to the

contrary.² Yet the Ḥaurān, however wealthy in Roman architectural sculpture, is devoid of it from the end of the third century. The only example of Christian figure sculpture in the Ḥaurān is a very crude small relief of a man from the waist up, head mutilated, on the upper part of a gravestone, outside the eastern gate of Shahba-Philippopolis (AAES II, 422). It thus appears that the Roman tradition of architecture and sculpture in basalt vanished. From the late third century, masonry becomes rougher; there are few columns and most of them carry very plain capitals, while mouldings are rare. Most of the sculpted fragments, such as the carved doors of the fourth and fifth century basilicas at Qanawāt with running acanthus and vine scrolls, were looted from antique pagan monuments and reused with the addition of a cross or two.

2. Suweida Museum, main exhibition hall:

- Inv. No. 3: lintel fragment (1.37m. x 0.35m.). From left to right, acanthus scroll containing man playing on a musical instrument; putto emerging from double acanthus. From Qanawāt? Or the temple of Dionysos-Dusares at Siah? cf. Dunand, 1934, 14-15, Pl. V, 3.
- Inv. No. 120: capital (0.65m. x 0.40m. x 0.25m.). Eye flanked by snake and caterpillar; acanthus scrolls filled by crouching hare; flower; flower; bird.
- Inv. No. 121: cornice fragment (0.70m. x 0.51m.). Hand holding ivy and pomegranate (grapes?) scroll with part of Greek inscription MOAIEPOY. From temple of Baalshamin at Siah erected by Maleikath I ca. 23 B.C. and completed by Maleikath II before A.D.4; cf. de Vogüé, 1865-1877, I, 31-39, Pl. 3E (Fig. 298).
- Inv. No. 129: frieze fragment (0.47m. x 0.22m.). Acanthus scrolls containing bull and horse's head; cf. Dunand, 1934, 66, Pl. XXIX, 129.
- Inv. No. 138/139: frieze fragment (0.99m. x 0.54m.).
138 (0.52m. x 0.54m.): woman with bare breasts emerging from and leaning on acanthus scroll.
139 (0.47m. x 0.54m.): forepart of lion issuing from acanthus. cf. Dunand, 1934, 66, Pls. XXX, 138-139.
- Inv. No. 224: lintel fragment (1.35m. x 0.42m.). Forepart of lion issuing from acanthus.
- Inv. No. 234: lintel (1.57m. x 0.34m.). Bust of bearded Jupiter from whose head sprouts two horns continued by vine branches; birds peck at bunches of grapes.

In northern Syria, the situation is different. Soft limestone, easy to carve, is appropriate to decorative sculpture. Sculpted lintels, cornices, mouldings, archivolt - in particular the triumphal arch of the apse as at Qalb Loze (Tchalenko, 1953, II, Pls. CLXIX, 1-2; CLX, 1-2; CCII, 3) - become more ornate throughout the fifth and the sixth century. Vegetal and geometric patterns predominate and the carving of human and animal forms is so rare that examples are easily obscured in the wealth of decorative carving. Vegetal motifs are never naturalistic; the acanthus scroll in particular, which flourishes on all surfaces (as at Qal'at Saman, Fig. 299) is only a decorative theme.

Butler's list of carved representations of human and animal forms (Butler, 1929, 245-246) is supplemented by a few more examples mentioned by Lassus (1936b, 39-40, 112; 1947, 290-295), a few noted by Tchalenko (1953, I, 39, note 3), seven bas-reliefs published by Naṣrallāh (1961), the fragmentary inhabited scrolls from al-Bāra (s.24, Fig. 60) and the fragment of a door jamb (S.27, Fig. 64) lying, unrecorded in the courtyard of Ḥamā Museum. This makes a total of under thirty carved representations of human and animal figures for the whole of Syria between the fourth and the seventh century. Out of twenty examples of acanthus, vine or ivy scrolls recorded by Lassus (1936b) in the region north-east of Ḥamā, two are inhabited but only barely so (S.25, Fig. 61; S.26, Fig. 62). The animals are diminutive, highly stylized and tending to merge with the rest of the geometric pattern; the scroll itself is linear and dry as in the Ḥamā door-jamb (S.27, Fig. 64) - a stark, rigid geometrization which is far

from the buoyancy of contemporary carving on the limestone plateau north-west of Aleppo.

The sculptural traditions may be different, but the common denominator is geometrization which necessarily excludes the human and animal figure, and which by the indefinite repetition of the same pattern heralds the graphic schemes prevalent in Islamic art.

If plausible reasons for the lack of sculpted inhabited scrolls in Syria lie in the loss of the Roman tradition of carving in the south and in a deliberately geometric approach to composition in the decorative carving of central and northern Syria, the apparent rarity of inhabited scrolls on mosaic pavements calls for a different explanation.

Butler's fieldwork in Syria led him to believe that the art of mosaic decoration had been commonly practised in the Byzantine period for pavements but not for walls, vaults or half-domes (Butler, 1929, 247). Excluding the Antioch pavements, the information provided by Butler (AAES, 287-294; Butler, 1929, 247), Lassus (1947, 297-299) and Leroy (1964a, 72-92), brings the total of mosaic pavements known and studied in the early 1960s to a dozen.³ The Belgian excavations of Apamea (Qal'at al-Mudiq) renewed in 1965, have considerably increased the number of mosaic pavements uncovered.⁴ The pavement of a fifth century church at Ḥuwarta, discovered in 1969

3. This excludes occasional marble cubes found scattered in churches at Dār Kītā, Khirbat Taizīn, Bāqirhā, Dair Saitā, Bānqūsā, Daiḥas in the Jabal Bārīshā and at al-Bāra, Sirjilla and Ruwaiḥā in the Jabal Rīhā.

4. For the pavements discovered at Apamea, cf. Balty, J.Ch., 1967, 1969; Balty, J.Ch. and Lemaire, 1969; Balty, J.Ch., Chehade and Rengen, 1969; Balty, J. and J.Ch., and Dewez, 1970; Dulière, 1968, 1969.

by Canivet and Fortuna, is now stocked up in the storerooms of Ḥamā Museum (Canivet, 1970a, 1970b; Canivet P. and M.T., 1971; Canivet and Fortuna, 1968; Morrisson, 1972).

Above all, a large number of mosaic pavements from baths and churches have been discovered between Damascus and Aleppo in the last decade and await conservation (Map 3). Some twelve unpublished large pavements have been lifted but not excavated systematically by the staff of the Damascus Museum. All these pavements are dated to the mid-sixth century by Greek dedicatory inscriptions and most of them bear inhabited vine scrolls. These recent discoveries thus verify Butler's statement that mosaic pavements existed all over Syria, but they drastically alter the map of inhabited scrolls in Syria (compare Maps 2 and 3). The balance tilts heavily in favour of the theme being prevalent in mosaic art. A preliminary examination of these pavements⁵ leads one to reject Tchalenko's categorical statement that mosaic pavements so far discovered in Syria are stylistically linked to Antiochene pavements and do not follow an artistic tradition of their own, that the mosaicists certainly came from large cities and that in any case the materials were necessarily imported (Tchalenko, 1955, I, 52). Since coloured limestone for tesserae was available locally, it is difficult to see why such material should have been imported. In any case, the newly uncovered pavements bear no relation to the Antioch mosaics. They come from country districts, the nearest town being Ḥamā. Moreover they stem from a common tradition and

1. Publication is envisaged in accordance with the wish expressed by the Syrian Department of Antiquities.

fuller technical and stylistic study may define one or more mosaic workshops, perhaps centred on Ḥamā, or more likely itinerant mosaicists whose field of activity lay north of Ḥamā and east of the Orontes.

Lebanon.

Unlike Syria, whose standing monuments are well known, Byzantine Lebanon has yet to be fully studied archaeologically and even historically. Archaeological investigations so far have concentrated on the coast, particularly on large sites such as Byblos, Beirut, Sidon and Tyre, as well as Baalbek. The bulk of mosaic pavements from villas and churches found in the vicinity of Beirut, many depicting inhabited scrolls (Zahrānī, M.20a,b,c,d,e, Figs. 147-157; Bait Mari, M.21, Figs. 158-159; Awza'i, M.22; Jenah, M.23a,b, Figs. 160-163; Khalda, M.25, Figs. 166-169) has contributed to build up a false picture of a Byzantine Lebanon equated solely with the Beirut area. No detailed archaeological map of the Lebanon, at any period, let alone specifically for the Byzantine period, has yet been established. From the results of Kalayan's surveys, which though unpublished, Kalayan was kind enough to let me use, a first attempt of mapping the Byzantine sites of the Lebanon has been made (Map 4). Blank areas are not all explicable by geological features, such as the Anti-Lebanon mountain range, but are also due to the lack of reconnaissance work and systematic surveys in the inland region. A rare exception is the so far unpublished work of Ghadban. He systematically covers the Beka'a, studying the Romano-Byzantine road network, recording milestones and inscriptions and excavating fifth and sixth century tombs which however poor

(small finds are in most cases limited to coarse pottery) bear witness to the density of rural population in the Beka'a in the early Byzantine period. His discovery and clearing of mosaic pavements bearing dedicatory and dated inscriptions, one of which is the church at Nabha⁶ argues against Beirut as the sole artistic centre.

Byzantine sculpture is virtually non-existent. One example only of inhabited scrolls on a limestone lintel was found (S.30, Fig. 71). This lack of sculpture may be due to the complete disappearance of a superb Roman craftsmanship of which the architectural sculpture of the temples of Baalbek is a prime example, simultaneously with the shifting of taste to an ever more popular and fashionable artistic idiom - the mosaic pavement - this being a general trait of the Levant in the fifth and sixth century (Map 5). A regional exception to this rule is represented by the limestone plateau north-west of Aleppo where architectural carving was abundant (Tchalenko, 1953, I).

Transjordan

Map 6, which represents Byzantine Transjordan as known archaeologically, makes conspicuous the extent and intensity of surveys accomplished in the last twenty years by the Department of Antiquities of Jordan, following, checking and extending earlier explorations of Transjordan. Besides individual surveys conducted in conjunction with an excavation,

6. The church at Nabha, 20 km. north-west of Baalbek, was cleared in 1963 by Ghadban and Hajjar. It is dated to 535 by an inscription in the centre of the nave recording the completion of the church and the laying of the pavement under Bishop Michael. Cf. Donceel, 1966, 244-245.

such as Kirkbride and Bennett's explorations of the Petra region, the Survey Section of the Department of Antiquities of Jordan has covered Transjordan from the Palaeolithic to the Ottoman period and produced a series of detailed distribution maps (cf. The Archaeological Heritage of Jordan, Part I, Amman 1973). Regional studies with the aid of aerial photography are in progress. Thus the factor of lack of surveys need not be taken into account in the interpretation of the evidence condensed in distribution maps of Byzantine Transjordan.

Byzantine archaeological remains in Transjordan are very extensive, naturally petering out in the desert south of Karak. A comparison of Map 6 with the maps of Stone Age, Chalcolithic, Bronze Age, Iron Age, Hellenistic and Roman Transjordan shows that most of the Byzantine remains are located at previously occupied sites. Almost every pre-Byzantine site bears evidence of some Byzantine occupation, thus indicating how densely the area was occupied in Byzantine times. The economic infrastructure capable of supporting such a large and prosperous population will be examined in Chapter IV. Particularly characteristic of Byzantine Transjordan is the striking absence of carving in general. The explanation put forward by Crowfoot (1941, 147) is still valid: in the second and third centuries many of the larger cities overbuilt themselves to such a degree that their buildings could neither be used nor maintained by later generations. Large quantities of second-hand material were consequently available to the fifth and sixth century church-builders. Thus the churches at Jarash were a patchwork of

classical fragments. In a stonemason's shop at Jarash two ancient columns were found lying side by side; each had been partly sawn through to make thin paving or revetment slabs, and on each there were some half-sawn slices waiting to be detached. The wide reuse of older architectural work both prevented the evolution of an original style of carving and ultimately led to the disappearance of sculpture in many localities. It is nevertheless significant that inhabited scrolls are not found in Roman architectural sculpture in Transjordan, whereas they are present on the West Bank (cf. Chapter VI, pp.92-94). Plain acanthus scrolls with flowers run across a frieze on the North Gate at Jarash built in 115 (Kraeling, 1938, 121, Pl. XXIIIId), now placed as a lintel above the door of the Jarash Museum. The few diminutive birds placed at random in empty spaces outside the scrolls in a characteristically Hadrianic manner are accidental and do not form an integral part of the scroll composition.

It seems therefore that the theme of inhabited scrolls percolated into Transjordan comparatively late (only in the fifth century) and was then only applied to mosaic pavements, concomitantly with the ever-increasing popularity of this new idiom (cf. supra p. 37).

The most impressive feature of the Byzantine occupation of Jordan lies in the development and extensive use of mosaic pavements centring on Jarash and Madaba. As is evident from Map 7, inhabited scrolls figure on numerous pavements. Reasons for the importance of mosaic art in the Jarash and Madaba regions are reviewed in Chapter IV. An explanation for the popularity of the inhabited scroll motif in general is put

forward in Chapter V, and the question of its predominance in the mosaic art of that area in particular is examined in Chapter VIII.

Palestine

It must first be noted that the term "Palestine" covers both present day Israel and the Jordanian West Bank at present occupied by Israel. The three-map system is adopted here. Map 8 depicts historical Romano-Byzantine Palestine, as reconstructed from textual evidence, from the Map of Roman Palestine (Avi-Yonah, 1936).

Map 9 shows the Byzantine sites surveyed and/or excavated; it is based on various sources.⁷

Map 10 shows the distribution of inhabited scrolls.

It is remarkable that Maps 8 and 9 coincide almost perfectly, thus testifying to the extent and intensity of surveys and excavations in Palestine, more particularly in Israel proper since 1948. Between 1948 and 1958, twenty-nine Byzantine churches and monasteries were discovered; even more impressive is the list of Byzantine sites including churches, monasteries, synagogues and baths given by Yeivin (1960, 38-45) in his account of a decade of archaeological research in Israel, 1948-1958.

7. These various sources are: the map in the Byzantine Section of the Israel Museum, Jerusalem, which records 205 sites, including churches and synagogues; reports of surveys and the files of the Israel Department of Antiquities and Museums. The picture at present conveyed by the Negev zone will necessarily be altered to a considerable extent by the results of the Negev surveys conducted by Cohen. His data are not yet complete and are therefore not included in my Map 9.

Extensive surveys of large areas⁸ have covered all periods so that some idea is obtained of the changes in the density of population in one particular zone. One of the most important conclusions drawn from Cohen's surveys is that the Negev reaches its highest point in density of population in the Byzantine period and that the settlements follow the line of the trade routes (cf. Chapter IV, pp. 58-61).

Intensive localized surveys have been less frequent. The Custodia della Terra Santa has recorded all the Byzantine remains, including cisterns and wine presses in the region of En Kerem (Saller, 1946). The valley of Bet She'an (Scythopolis) has been systematically explored by Zori, with the consequent discovery of churches decorated with mosaic pavements (Zori, 1955), the excavation of the house of Kyrios Leontis (Zori, 1966) and that of the so-called "Samaritan Synagogue" (Zori, 1967b) in Bet She'an itself.

The density of inhabited scrolls (Map 10) is extremely high, thanks partly to extensive surveying and accurate recording. But it is also linked to a high density in mosaic pavements, clustering in four zones: Acco-Nahariya, the Bet She'an valley, Jerusalem and its region and Gaza.

8. Both the investigations of the Sinai peninsula conducted by Aharoni (1957) and the Negev surveys are connected with an acute interest in the Romano-Byzantine roads and the trade network of the Negev, a study launched by Avi-Yonah in the late 1930s and consistently pursued by him (Avi-Yonah, 1936; 1950-1951; 1966b) followed by Aharoni (1954; 1963). Other aspects of this study are represented by the interest in trade roads displayed by Glueck (1957), the recording of the Roman road at Ma'alek 'Aqrabbim by Harel (1959) and the excavations at Avdat (Oboda) and Kurnub (Mampsis) by Negev (1967a). Close examination of settlement patterns as well as excavation of small settlement sites has been undertaken by Cohen (1967; 1968).

Economic reasons underlie the high frequency of mosaic pavements (cf. Chapter IV, pp.61-64) and the four zones may correspond to mosaicists' workshops (cf. Chapter VIII, p.182).

Once more architectural sculpture is rare. Byzantine inhabited scrolls are not found in the areas which have yielded Roman inhabited scrolls - Caesarea, Galilee and Bet She'an (cf. Chapter VI, pp. 92-94), but in the Negev. The prosperity of the Negev in the fifth-sixth century has already been suggested (cf. supra p. 41). There were few early buildings to be plundered, so the Byzantines had to do their own carving. The marble furnishings of churches such as chancel-slabs (Colt, 1962, 50, Pl. XIX, 5) seem to have been imported already carved, probably from one of the large coastal cities, and are in the prevailing late classical taste of the time. White marble with blue veinings was used for church floors; this was imported from Asia Minor. Some pieces of fine, pure white marble came from Greece (Colt, 1962, 48). Architectural details were carved in local limestone, usually the intermediate quality of limestone which is comparatively soft and easily carved, but upon exposure to the weather hardens and becomes quite durable. They were probably executed on the spot by local craftsmen following their own tradition and little influenced by the style in vogue in the large centres. Chip-carving, which makes use of the hammer and the chisel to gouge out patterns, predominates. The designs are simple, of a type that could be laid out on the stone with compass and rule, such as the stylized eight-petalled flower, a motif popular in the Byzantine Negev. It is perhaps significant that the only two examples of inhabited scrolls found in Byzantine Palestine

have been yielded by the Negev and are carved in local limestone in the local tradition (S.32, Figs. 73-74; S.33, Figs. 75-77). The plain scroll is not used as a decorative motif in the Negev. In the absence of evidence one must fall back upon conjecture. Perhaps a craftsman from Haluza-Elousa (S.32, Figs. 73-74) or 'Auja al-Hafir-Nessana (S.33, Figs. 75-77), having been to one of the larger coastal centres such as Gaza or Ascalon and seen material, Roman or contemporary, which is now lost, made an attempt to imitate the motif he had seen. Alternatively a travelling craftsman may have introduced this pattern. He may have carved either of the two pieces but certainly not both; they are far too different stylistically to have been carved by the same hand.

Cyprus

The motif of inhabited scrolls does not seem to have been very popular in Cyprus in Roman or Byzantine times. Although Cyprus is rich in Roman architectural sculpture and mosaics (pavements at Curium, Paphos; vault-mosaics in the first and second century south sudatorium at Salamis) this motif appears only twice in mosaic and twice in sculpture (cf. Chapter VI, p.94, pp108-109). In the Byzantine period it appears only in architectural sculpture (S.17, Figs. 35-39; S.18, Fig. 40; S.19, Figs. 41-42).

Interest in the later Byzantine period, in the painted churches of the Troodhos Mountains and in icons has somewhat retarded the study of early Byzantine Cyprus. Surveys are yet to be conducted; an important site such as Lambousa, the seat of a Byzantine bishopric, on the northern coast, awaits full examination. The silver plates depicting scenes

from the life of David⁹ indicate that there may well be far more early Byzantine material on Cyprus than is already known. It is however quite remarkable that the vast fifth-sixth century basilicas of Constantia (Byzantine Salamis), Soli, Curium, and Paphos have yielded such little architectural decoration.

Asia Minor

For Asia Minor, the three map system has been telescoped into two maps.

Map 11 shows Asia Minor as known historically (it is a copy of A Classical Map of Asia Minor (Calder and Bean, 1958) without the fluvial system, the road network and the names of sites.

On Map 12 are marked the sites which have yielded fourth to seventh century inhabited scrolls as well as the areas so far surveyed, which are hatched in.

Except for Phrygia and a few sites on the west (Ephesus) and south coasts (Side, Perge) where Byzantine remains but no inhabited scrolls have been found, the distribution of inhabited scrolls corresponds with the very few areas properly studied archaeologically: Constantinople, Lycia, Isauria, Cilicia, Urfa (Edessa) surveyed by Segal, the Tūr 'Abdīn studied by Parry, Pognon and Bell, and Antioch-Daphne-Yakto-Seleucia, excavated between 1932 and 1939. The empty zone of the Anatolian plateau is immediately obvious. The rarity of Byzantine remains and notably of inhabited scrolls on the

9. These were found at Kyrenia in 1902. They bear the control stamps of Heraclius (610-629) and are divided between the Nicosia Museum, the British Museum, the Metropolitan Museum and the Pierpont Morgan Collection. cf. Rice, 1963, 63-64, Ill. 54.

Anatolian plateau and east of Kayseri (Caesarea) calls for a tentative explanation.

Lack of sculpture and mosaic pavements may be due to destruction and decay, human interference no doubt playing a large rôle. One example is eloquent: the large cross-shaped Church of the Panhaghia at Tomarza, 49 km. south-east of Kayseri, though it was already used as a quarry when visited by Rott (1908, 182-187, Abb. 59-62) was still standing when photographed by Bell (1924, 59-62); nothing remained of it but a field of small stones (the large blocks had been carried away) when I visited the site on 29th June 1972. Further depredations may be due to the Seljuk and Ottoman Turks. Perhaps the plateau was subject to different artistic traditions which separate it from the capital on the one hand and the southern zone on the other. This may explain the lack of mosaics, but the few pieces of sculpture (for instance those housed in the Kayseri Museum and those reused in the mosques and madrasas of Sivas (Sebaste), those from Amorion, Selçikler, Afyon, Konya and Ankara) prove that there was at least some sculpture.

Whatever the reasons for the lack of inhabited scrolls and Byzantine material in general, the Anatolian plateau was not an uninhabited zone. It was, as now, the granary of Asia Minor, supporting a large agricultural population. The literary sources speak of bishoprics and therefore of cities and smaller settlements, of mansiones and xenodochia for pilgrims and travellers. On his way from Constantinople to Jerusalem in 333, the Pilgrim of Bordeaux passed through fifty-eight mansiones and civitates (Geyer, 1898, 16-18). The

cursus publicus had imposed on the major routes of the Empire a sophisticated organization of mutationes and mansiones. For the pilgrim, resthouses of an ecclesiastical nature were numerous. Official hostels or xenodochia supervised by one member of the clergy sprang up in towns along the main routes; in the 380's Gregory of Nyssa described them as scattered all over the eastern provinces (ep. 2... τῶν δὲ κατὰ τοὺς Ἀνατολικούς τόπους πανδοχείων καὶ καταλυμάτων) and in 437 the route between Constantinople and Jerusalem was well supplied with pandocheia (Vita Mel. 56). Some hostels were established alongside a local shrine; such was the monastery by the shrine of Thecla near Seleucia where Egeria stayed (It.Eg. 23).¹⁰ The Anatolian plateau must have been densely settled (Map 1) with both urban and rural population, and the monasteries, stage-posts and resthouses for travellers and pilgrims provide supporting evidence for this assertion. In spite of much decay and destruction, particularly if the building material outside large towns was mud-brick as it is now, traces of these sites must still exist. The problem is that they have not been sought. In dealing with largely unstudied zones and periods considerable caution is necessary, as is shown by the following example. The picture presented by Anatolia for the Neolithic period in the 1950's was much the same as it is now for the Byzantine period. In 1956, Seton Lloyd categorically declared: "Anatolia shows no sign whatever of habitation during the Neolithic period".¹¹ This has

10. For the pilgrim's journey, cf. Hunt, 1971, of which Chapter 2 is particularly relevant.

11. S. Lloyd, Early Anatolia, Harmondsworth, 1956, 53.

since been disproved by the location of numerous sites and the excavations of two major sites: Hacilar and Çatal Hüyük.

Similarly Romano-Byzantine surveys have tended to skirt the plateau. Interest has focussed on epigraphy, particularly of the Roman period.¹² In 1962, 1963 and 1965, in the course of a survey of coastal cities in Western Cilicia, churches were found at Anemurium, Antiochia ad Cragum and Selinus (Rosenbaum, Huber, Onurkan and Regler, 1967).

As for Cilicia Trachea and Cilicia Campestris, in the early 1950's, Gough went in greater detail over the ground covered by Bent (1890;1891) and Hicks (1890), Bell (1906), Herzfeld and Guyer (MAMA II) and Keil and Wilhelm (MAMA III). The results of his travels, recording of sites, uncovering of mosaic-pavements and partial excavations have only appeared in the form of preliminary reports (Gough, 1952;1954;1955a;1956a; 1956b;1959b;1965). The Cilician survey carried out in 1951 by Seton-Williams (1954) had the advantage of being an all-period survey running from the Neolithic to the Islamic period, so that changes in population density could be observed. After 330 there appears to have been a great increase in the population although many of the settlements must have been only farmsteads. The settled area extended to parts of the plain not previously occupied such as the coastal strip and the plain fringing the Amanus, an important conclusion for the economic background to our enquiry.

12. Cilicia Aspera between the Melas and the Calycadnus rivers was surveyed in 1961, 1962 and 1963 by Bean and Mitford (1962;1965).

Lycia has been studied in the field by Harrison but only from the point of view of ecclesiastical architecture (Harrison, 1960a; 1960b; 1961a; 1961b; 1963; 1972).

Osrhoene has been covered by Segal (1970). The Ṭūr 'Abdīn is still known only from the accounts by Parry (1895), who in the course of his six-month stay at the Monastery of Dair al-Za'afarān recorded the other monasteries and churches in the region; by Pognon (1907) who studied the Semitic inscriptions and by Bell (1910;1913) who made architectural notes. A Michigan University expedition to the Ṭūr 'Abdīn in 1955 has not yet published its results. The Keban region was surveyed in 1966 in connection with the Keban Dam project; one byzantine church was found at Ağın, as was a fifth century bridge at Karamağara (Keban report 1967). Armenia forms an entity by itself. The Black Sea coast and its hinterland in the Trabzon area have been examined in particular from the point of view of the later Byzantine period.¹³

The lacunae in our knowledge of the most important area of the Empire in the early Byzantine period will only be filled by patient groupwork, surveying on foot, systematic recording of houses, field-systems, terracing, sharding of sites and aerial photography. The prehistorians, like Mellaart, have led the way; Tchalenko has provided an economic "model".

However, the cluster of inhabited scrolls in Isauria-Cilicia stretching down to the Levant stems not only from accidents of survival and excavation. The dots in the

13. Cf. Winfield, 1962; Winfield and Wainwright, 1962.

southern cluster are linked by a common background, their environment: a heavily Romanized area, agriculturally and commercially wealthy (through vineyards, olive groves and trade) with large economic and cultural centres. Thus there existed on the one hand the funds necessary for the building and adornment of villas and churches, and on the other hand there persisted a Hellenistico-Roman tradition in art in the process of being modified by the interaction of various influences.

CHAPTER IV

THE ECONOMIC AND HISTORICAL BACKGROUND

The high incidence of mosaic pavements between the fourth and the seventh centuries in Syro-Cilicia and Palestine is an index to the prosperity of that zone. At Antioch there is a slight increase in the later period in the number of pavements found: 53 pavements dating from Constantine to the second Persian attack in 611, in comparison with 45 from the early Empire to Constantine. A much sharper rise in number is recorded in Palestine: from four pavements in the Roman period¹ to 335 in the fourth to sixth centuries.² Jarash and Madaba truly become the cities of mosaics. A fair proportion of these pavements depicts inhabited scrolls, either once, twice or three times on the same pavement. In comparison with the number of floors dating from the Byzantine period, the number of pavements belonging to the Islamic period is negligible.³

Much of the material used in the present chapter is drawn from Downey (1961, 20-23) for Antioch, and Tchalenko (1953, I) for the limestone plateau north-west of Aleppo, Hitti (1957, 193-200) for the Lebanon, and Avi-Yonah (1958a; 1966) and Colt (1962, 257) for Palestine.

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1. Masada (Sofer-Ovadiyah Cat. No.136) and Jericho (Sofer-Ovadiyah, Cat. No.80) both dated to the end of the first century B.C.; Yafia (cf. infra, pp.109-110) and Nablus (cf. infra, p. 106) of the late third century, the latter two including inhabited scrolls.
 2. This excludes scattered tesserae, which could be Roman or Byzantine and the mosaic lining of cisterns.
 3. Khirbat al-Minya (Sofer-Ovadiyah Cat. No.71, with bibliography), Khirbat al-Mafjar (Sofer-Ovadiyah Cat. No. 96, with bibliography) and Quşair 'Amra (Kessler, 1965).

1. Asia Minor

From Constantinople, imperial capital and large economic centre, more material, both architectural sculpture and mosaic pavements, would be expected; however, systematic excavation is impossible in a "living city", so that one must rely on stray finds and rescue excavations. As regards Asia Minor, it is unfortunate that there is no economico-archaeological study of the central zone of the Byzantine Empire, comparable to Tchalenko's study of the Belus, based on textual analysis, archaeological survey and environmental study. From the results of the survey conducted by Seton Williams (1954, 145) in Cilicia, it appears that after 330 there was a great increase in the population. Parts of the Cilician plain including the coastal strip, and the plain fringing the Amanus, which had not been previously inhabited, were then occupied. A similar pattern of demographic expansion is also present at the same time in Syria, the Lebanon and Palestine (cf. infra, pp. 30-31, 36-37, 40-41). Prosperity of the southern zone in the early Byzantine period is indicated by the results of surveys in Lycia, Isauria and Cilicia (cf. supra, Chapter III, pp. 47 - 48). Churches and mosaic pavements were found as far inland as Dağ Pazari (M.4, Figs. 96-101) and Karlik köyü, 36 km. north-west of Adana (Gough, 1959b, 8; 1960a, 5; 1965, 407-408). Moreover, direct imperial intervention may be supposed in some cases. Gough (1972a, 210; 1973, 64-68) suggests that the Emperor Zeno (474-475; 476-491) who was an Isaurian had a direct interest in the programme of the monastery of Alahan (S.21; Figs. 45-53) and that of the churches at Dağ Pazari and Meryemlik. Similarly, in the case



of Anavarza (Anazarbus) destroyed by two earthquakes in the reigns of Justin I (518-527) and Justinian (527-565) after each of which the city was rebuilt and renamed as Justinopolis and Justinianopolis (Gough, 1952, 98), imperial patronage may be postulated. It thus appears likely that Asia Minor, systematically surveyed, would yield perhaps as much material as the Levant. In the present state of knowledge, a detailed economic survey of Asia Minor cannot be put together as can be done for the Levant.

2. Syria

In Syria, attention may be focussed particularly on two areas: the basaltic Haurān with its volcanic soil adapted to vine-growing and its cultivated valleys sown with wheat, rye and barley; and the area of Antioch. The region of Antioch, including the lower Orontes valley and the Amuk plain, was exceptionally fertile, supplying the city with wheat and barley, olive oil and wine, garden vegetables, oil of lilies and oenanthe. Other sources of supply were the large domains of the upper Orontes valley and the plains of Beroea and Chalcis. The limestone plateau of the Belus specialized in "industrial monoculture" (i.e. the grapes were transformed into wine and olives into oil on the spot in vine and olive presses) and there was massive export of oil and wine to Antioch, Samandağ (Seleucia Pieria) and Lattāqiya (Laodicea) which were the outlets to the Mediterranean basin. Tchalenko (1953) has conclusively demonstrated the progressive increase in population of the Belus between the first and the seventh century, particularly in the reigns of Zeno (476-491) and

Anastasius (491-518). This can only be explained by the extension of olive groves, itself presupposing an extension of outlets and increasing demands from these outlets, notably Antioch.

A pointer to the increasing prosperity of Antioch-Daphne between the third and seventh century is the steady increase in the size of houses and of separate rooms. In third century Daphne each habitation block comprised four or five houses. In the sixth century, after the earthquake of 526, the whole quarter was rebuilt; each block consisted then of one large private house with courtyards, porticoes, kiosks and garden. Mosaic floors extended over 100 m². The minimum span of rooms is a further indicator of increasing prosperity. Amongst the pavements dated between 235 and 312, the shortest span of rooms in the House of the Boat of Psyche is 4.00 m. - 5.50 m.; in the House of Menander it is 4.60 m., 5.00 m., 6.20 m. and 8.20 m. The main room of the Constantinian Villa, dated to the fourth century (M.5, Figs. 102-107) is 8.20 m. wide; the minimum span of rooms in the House of Gê and the Seasons (ca. 475) is 8.50 m. and that of the House of the Phoenix (ca. 500) is 10.20 m. The increased size of these rooms necessitated a change in the treatment of the floor decoration. The increase in the number of panels required to fill them involved a complicated layout, impossible to reconcile into a unity; a border with a plain carpet pattern was therefore much simpler. Thus development in domestic architecture played an important role in the new conception of the floor as a single unit without subdivisions (cf. *infra*, Chapter V); hence the popularity of geometric motifs, the

floret-semis and particularly the inhabited scroll, a pattern which could be extended indefinitely in any direction to fit the size of any room, without prejudice to the unity of surface. This is exemplified by the north side of the ambulatory of the Martyrium of Seleucia dated to the late fifth century (M.10, Figs. 124-127), which is filled with a continuous procession of animals and edged by an inhabited vine scroll. The pavement "adheres" to the architecture, following uninterruptedly the curves and angles which it determines.

Outward signs of Christianity are noticeably absent from Antiochene art. Even in the fifth century, mythological themes abound on pavements: the phoenix, symbol of the Golden Age, the venationes or circus games, Oceanus and Thalassa as replacements for Poseidon and Amphitrite; apolausis or leisure and apomerimnia or the rejection of worries are celebrated. A picture of Antiochene life-with carpets imitating pavements, large dining rooms and baths - is thus conveyed: essentially pagan, prosperous and leisurely, as described at length in the Antiokikos of the rhetor Libanius (314-393)⁴ and further evoked in the condemnations uttered from the ambo of the domus aurea or Great Church by St. John Chrysostom, against the wealthy oblivious of their religious duties (Lassus, 1947, 265).

4. Cf. the translation of and the commentary on this Ekphrasis by Festugière, 1961, 23-37.

3. Lebanon

From the mosaic pavements found in the Lebanon an impression is gained of a greater balance between the lay and religious ingredients in early Byzantine Levantine life than at Antioch. Whereas churches decorated with mosaic pavements have been found along the coast (Qabr-Hiram, M.17, Figs. 142-143; Nabī-Yūnus; Zahrānī; M.20a-e, Figs. 147-157) and inland (Bait Mari, M.21, Figs. 158-159; Ghine; Nabha), villas with mosaic floors cluster around the great emporium of Berytus (Awza'ī, M.22; Jenah, M.23 a-c, Figs. 160-163; Khalda, M.25, Figs. 166-169).

The prosperity of the Lebanon was based on the exploitation of natural resources (wood in the Amanus Mountains, copper mines in the Sidon area and iron mines in the neighbourhood of Beirut, chalk quarries near Baalbek, white marble exported from Sidon and Tyre) the cloth industry and foreign trade. The woollen and linen industry based on Lattāqia (Laodicea), Byblos and Tyre enjoyed the advantage of abundant raw material (flax and hemp) and purple dye. Glass was manufactured in Sidon on a large scale. Wine - Berytus had acquired a wide fame for its raisins - olive oil, dates, hides, furs, and wheat flour were exported as well as medicinal and aromatic products, perfumes, drugs, and unguents. Tyre and Sidon continued to provide outlets for South Arabian, Indian and even Chinese trade. Sugar, rice and precious stones from India; spices, drugs, sandalwood and pearls from Arabia, and silk from China, all passed through the Levantine ports. Chinese silk came by inland routes through Iran to Palmyra, or alternatively by way of India to

Antiochia Charax at the head of the Persian Gulf whence it was transhipped to Palmyra, Dura or Petra. It then found its way to Beirut and Tyre where it underwent the processes of dyeing and weaving, although it was also imported in woven form (Hitti, 1957, 193-200). Another interesting aspect of Tyrian industry and trade concerns the lead sarcophagi manufactured on the same models and exported to Palestine. Their type of decoration with the predominance of the vine trellis suited pagan, Christian and Jewish purchasers alike.⁵

4. Palestine

Prosperity in Palestine was of a different order: decentralized and Christian.

Complete surveys of Transjordan and partial surveys of Palestine west of the Jordan river but extending over large areas, have shown that density of settlement (combining the number of settlements and the extent of the cultivated area) reached its peak in the Byzantine period, the relation between Canaanite, Israelite and Byzantine settlement being 1:1.5:5-6. Large stretches of land in the Negev were under cultivation in Byzantine times.⁶ Before examining the

5. On Tyrian lead-sarcophagi, cf. Hajjar, 1965, 98-104, who reviews the question of manufacture, style and dating in the light of the discovery in June 1961 of a hypogeum at Deb'aal in the region of Tyre. It contained 29 lead sarcophagi of Tyrian manufacture dated by associated numismatic finds from the second half of the first to the third century.

Several sarcophagi have also been found in the necropolis of Bet She'arim (Avigad, 1959, 216-217).

6. For lists of surveys, cf. Avi-Yonah, 1958a, 40, notes 1, 2, 3. Also infra, Chapter III, p. 41.

historical causes of this economic and population boom in Byzantine Palestine, the agricultural background must be briefly indicated. Avi-Yonah (Cat. QDAP III, 1934, 61, note 6) lists seventeen presses with crude mosaic floors on the West and East Banks. Saller (1946, 92-100) records dozens of presses, rock-cut cup-marks, basins, pits, vats and channels on nearly all the terraces at En Karim and in its neighbourhood. De Vaux (1939, 82) found two small oil cisterns in a field near Mā'in in a region now totally devoid of any trees let alone olive trees. This clearly indicates that deforestation has since occurred on a large scale.⁷

The presence of some fifteen presses in the Nebo region indicates that the vine and possibly also the olive were at one time extensively cultivated in this region, as is also suggested by terraces and watch-towers, by various passages in the Prophets and by vintage scenes in the mosaic pavements of the churches of Khirbat al-Makkāyyat. The vineyards of Moab, the region of Mt. Nebo, were famous already in the Old Testament. Both Isaiah and Jeremiah interpreted the shouting, singing and rejoicing at the gathering and the treading of the grapes in the presses as symbolizing peace, prosperity and the good will of God,

7. De Vaux quotes the following local story to illustrate his point: a young man left Mā'in and settled in Jerusalem. He lived there for a long time, had children and in old age became blind. Finally he and his family returned to Mā'in. As they were approaching the village, the old man started to bend down. His children said to him, "Father, why do you walk thus?" "So that my head is not caught in the tree-branches", he answered. "But, father, there is not one tree". "Alas! When I left there were here great olive groves."

whereas silence in the fields, destruction of the vines and lack of grapes and wine represented war, misery and the displeasure of God.⁸

In the Church of SS. Lot and Procopius (M.71; Figs. 257-259) and the Church of St. George (M.72a-b; Figs. 260-261) at Khirbat al-Makhāyyat, the pavements depict vine scrolls filled with scenes of people collecting the grapes, transporting them and making wine. The vintage scenes reflect one of the chief activities of the local community, other aspects of their life being represented by shepherds guarding their flocks and hunters and fishermen boating on the River Jordan. The importance of this agricultural background to the interpretation of the vine scroll is examined in Chapter IX, pp. 222-223.

Another region which has yielded numerous pavements,

8. Cf. Isaiah, 8-10:

8. "For the fields of Heshbon languish, /and the vine of Sibmah; /the lords of the nations have struck down its branches, /which reached to Jazar /and strayed to the desert; its shoots spread abroad /and passed over the sea.

9. Therefore I weep with the weep- /ing of Jazar /for the vine of Sibmah; /I drench you with my tears, / O Heshbon and Ele-a'leh; /for upon your fruit and your harvest /the battle shout has fallen. /

10. And joy and gladness are taken /away /from the fruitful field; /and in the vineyards no songs are /sung, /no shouts are raised; no treader treads out wine in the /presses; /the vintage shout is hushed."

This theme is repeated in Jeremiah 48, 32-33. In Jeremiah 48, 11 Moab is compared to good wine; this text has also been found on a stamp perhaps prepared as a seal for wine-jars and dated somewhere between the first and sixth century (Irwin, 1931-1932).

notably depicting inhabited vine scrolls is that of Bet She'an-Scythopolis (M.43-48b; Figs. 205-218). As Rowe (1930, 5) indicates it was famous for its palms and dates, rice, sugar cane, olive trees, corn, flax and reeds for mat-making, but it was particularly celebrated for its wines in the early Arabic period. The Umayyad poet Ibn Saihān, returning home after a secret wine party and asked by his wife where he had been, replied that he had only been drinking: "Wine from the villages of Beyrouth, pure, faultless, or brought from the land of Baisān". Al-'Akhtal (+ 710) mentions that the wine of Bet She'an is particularly "sweet" and "light" and Yāqūt mentions a poem of the poetess Lailā al-Akhyaliya (+ 707) in which she refers to the famous wine of Baisān (Rowe, 1930,5).

The non-literary papyri discovered at Nezzana-'Auja al-Hāfir (Nessana) show that in the sixth and seventh century the inhabitants of this remote desert outpost led a highly developed agricultural life producing grain yields up to seven and eight fold on only 80-100 mm. annual rainfall. 25% of the documents concern the agricultural interests of the community: seed-land, vineyards, gardens, reservoirs, waterchannels, rights to water, crops of wheat, barley, vetch, olives, dates, figs and pomegranates. Vineyards are attested by papyri (Kraemer, 1958, Papyri Colt 16, 31, 34 and 97) and by stone heaps round the site.⁹ Wine-presses are found

9. Stone heaps are the result of digging holes in ground where vines and trees are planted. The dew on stones provides moisture and the stones keep the plants cool. The vines are hand-irrigated from water stored in cisterns. Small channels may also be run on an oblique line from pit to pit, catching a portion of the slope run-off during the rainy season and directing it into the basins. On the ancient agricultural regime of the Negev, cf. Evenari, (Contd.)

in the other Byzantine towns of the Negev: e.g. Kurnub (Mampsis), Avdat (Oboda) and Shivta (Sobata). The evidence that Gaza was a wine centre coincides chronologically with the period of greatest development in the Negev, from the fourth to the seventh century, when agricultural exploitation was at its peak. Not only was Gaza the centre of the wine trade for Egypt and Syria, but there was even a colony of Egyptian wine dealers established at Maioumas, the port of Gaza, according to Mark the Deacon in the late fourth century (Vit. Porphy. 58). The mention of Gaza wine, gazetum or gazetinum by western writers, e.g. Isidorus, Magnus Aurelius Cassidorius and Sidonius Apollonaris, suggests that this wine was exported to the West (Colt, 1962, 257, note). The connection between the Gaza wines and the Negev vineyards is further supported by a parallel traffic in agricultural produce between the Negev farmers and outside interests. Papyri Colt nos. 90 and 91 record the daily sale of dates to Egyptian purchasers, the month and day of sales being indicated according to the Egyptian calendar, unlike other Nessana economic documents. Considering the short interval between sales to the same purchasers, it is assumed that buyers conveyed loads within a radius of 80-95 km. of Nessana. Gaza, therefore, not Egypt, was the most likely place for the disposal of their purchases. In the same way, vintage grapes or wine produced at Nessana and in other Negev towns could have been sold to Egyptian merchants, perhaps the colony of

Contd.) Aharoni, Shanan and Tadmor, 1958, with bibliography; on that of Nessana and the Central Negev in particular, cf. Colt, 1962, 211-269.

wine dealers at Maioumas mentioned by Mark the Deacon.

The whole of Palestine thus appears to have been thriving both agriculturally and commercially between the fourth and the seventh century. Economic growth was much assisted by the peace enjoyed by Palestine between the War of Bar Kokhba (132-135) and the Persian invasion (614) despite a few Samaritan revolts¹⁰ and Arab raids. The Byzantine government also endeavoured to develop the trade route to Elath-Aila as an alternative to Egyptian ports on the Red Sea and as a means of outflanking the main Persian blockade of the land routes to India and China. It is thus understandable that the Byzantine settlements of the Negev cluster along this route joining the Red Sea to the Mediterranean.

Moreover, the adoption of Christianity as the official religion of the Roman Empire changed the status of Palestine from an obscure province to the Holy Land, the centre of worship, economically pampered by the emperors. The canalization of a stream of capital to Palestine resulted in its astonishing prosperity under Byzantine rule and the cessation of this stream accounts for one of the main causes of collapse of this rule in the seventh century. Three stages, with overlaps, are detectable in this influx of capital (Avi-Yonah, 1958a). A first period of public investments under the Constantinian dynasty was characterized by the importation of marbles, precious stones, and gold and silver for the adornment of buildings. These donations stimulated

10. There were Samaritan uprisings in 484, 529 and 556; cf. Parkes, 1949, 79-80 and Abel, 1952, 355-359. On Arab raids, cf. Vasiliev, 1956, 311, 315-316.

employment. In Jerusalem and its vicinity three huge basilicas were erected simultaneously - the Anastasis, the Eleona and the Church of the Nativity at Bethlehem, - providing work for construction workers, quarrymen and transport workers. The extent of imperial liberality and the magnitude of the sums involved may be gauged from the statement by Mark the Deacon that the Empress gave 200 pounds of gold, i.e. 14,400 nomismata, for the construction of a church in Gaza (Vit. Porphy. 53-54.)

This was followed by a period of private investment up to the death of Eudocia, the separated wife of Theodosius II, in 460. The unsafe position of the Roman aristocracy, threatened with Gothic and Vandal invasions at the beginning of the fifth century led its members to accumulate transportable capital, i.e. gold and jewels, so that at a moment's notice they could board a ship at Ostia and flee to the East. Poemenia, a pious aristocrat who built the Church of the Ascension on the Mt. of Olives, the two Melanias - the Elder and the Younger - and a circle of rich ladies around St. Jerome thus injected refugee capital into Palestine. The greatest private benefactor was the Empress Eudocia who spent 20,480 pounds of gold, or 1,500,000 gold pieces, at a time when two gold pieces were sufficient to keep a person for one year.

The tourist-trade, at that time pilgrimages, and the export of relics provided another source of income (Hunt, 1971, 58-89). The late fourth-early fifth century was an age of relic-hunters. Eudocia possessed not only the relics of St. Stephen but also the chains of St. Peter and a painting

of the Virgin allegedly by St. Luke. The bones of Joseph were brought to Constantinople in 395, those of Samuel in 406, of Zechariah and Habakkuk in 412, of Gamaliel and of St. Stephen in 415. The inflow of foreign capital ceased after Eudocia, which brought about a period of stagnation and crisis. Public building was resumed under Justinian with the construction of the Nea Church of the Theotokos in Jerusalem and the rebuilding of the Church of the Nativity at Bethlehem. Reforms in civil and military administration, the protection of frontiers, renewed governmental expenditure on public works and a once more thriving industry and commerce gave a new lease of life to cities like Jarash (Gerasa) that had slumped in the mid-and-late fifth century owing to a disturbed countryside and the threat of Arab raids. Arab tribes within and beyond the frontier provided new markets and new means of commercial contact with the eastern world (Heyd, 1885-1886, Chapter I). Under Justinian, the tribes from the Euphrates to the Red Sea, already exposed to Byzantine culture and religion and transformed into commercial agents, were consolidated under the rule of the Ghassanid al-Ḥārith ibn Jabalah, King of the Arabs (Sauvaget, 1939a, 120-126). After Justinian, capital imports ceased, the unproductivity of past investments in the hands of the clergy began to be felt and the economic boom came to an end.

One visible result of the prosperity of Byzantine Palestine was the concentration of funds in local hands, and these local patrons undertook the building and decorating of churches and monasteries. One striking difference in mentality

between the wealthy Antiochenes and their Palestinian counterparts is that the Antiochenes invested their money on private buildings, villas and baths¹¹ whereas the Palestinians spent theirs on ecclesiastical buildings, whether churches or synagogues. In Syria, judging from the newly-discovered pavements (cf. supra, pp. 35-36) the proportions are equal.

In sixth-century Palestine almost every town and village could boast several ecclesiastical establishments erected by local patrons. Thus Madaba had eleven churches, Khirbat al-Makkāyyat had four, and eight churches were built at Jarash (Gerasa) between 464 and 565. This indicates a different type of society combined with a different distribution of wealth: a select and small urban society of wealthy Antiochenes whose culture retained a strong pagan flavour as opposed to a rural society of relatively wealthy landowners in Syria and Palestine. This flood of religious building and decorating activity suggests either greater religious fervour on the part of the inhabitants of Christian Palestine in contrast to the materialistic Antiochenes or that donors gratified their vanity by giving funds for building and decorating churches. Such activity at all events pleased God, made their generosity immortal and secured

11. Of the 53 pavements found at Antioch-Daphne dating from Constantine to 611, only three decorated an ecclesiastical building: the Kaoussie Church (ca. 350; annexes dated 420-442; latest additions ca. 520-530); the Martyrion of Seleucia of the late fifth century (M.10, Figs. 124-217) and the Church in Machouka (mid-sixth century). Of the six pavements depicting inhabited scrolls (M.5-M.10, Figs. 102-127) only one comes from a Christian building: the Martyrion of Seleucia (M.10, Figs. 124-127). The others come from villas.

the gratitude of the community; the inscription accompanying the mosaic pavements of the building usually made it clear that they would be the envy of their fellow-citizens (cf. Chapter IX, pp. 214-216).

The vast number of churches and mosaic pavements is thus due to an economic factor - the prosperity of Palestine. The predominance of mosaic pavements over all other forms of decoration is partly explained by the loss of the Roman tradition of carving, as already outlined (cf. supra, pp. 37-39). Another explanation currently put forward is that owing to the lack of marble quarries in Palestine and the neighbouring regions, marble had to be imported, which made it expensive and little used; on the other hand limestone for mosaic inlay was abundant locally with the result that mosaic was used extensively and ousted marble inlay (Sofer-Ovadia, Cat, 75). This explanation is refuted by the very fact that marble was imported although the scale of import is difficult to gauge. Constantine specially sent marble columns for the Church of the Holy Sepulchre; Eudoxia presented thirty pillars of green marble to the newly-built cruciform church at Gaza. Slabs in smaller sections were imported on a large scale for paving, screens and pulpits. The marble furnishings of the churches at Shivta (Sobaita) in the Negev appear to have been imported already carved, probably from one of the large coastal cities. The white marble with blue veinings came from Asia Minor and some pieces of fine pure white marble even came from Greece. Admittedly very little marble remains on sites in Palestine; it has mainly disappeared into lime-kilns-seven were found at Samaria by Crowfoot in 1931 - to

make whitewash; this does not mean however that marble was not imported.

A further factor which should be taken into consideration in determining the reasons behind the increase in mosaic pavements, but which is difficult to gauge, is fashion. From the fourth century, taste in the eastern provinces shifted increasingly to the mosaic pavement as an artistic idiom, perhaps as the result of influence from North Africa, or from Antioch where a long tradition of mosaic art had prevailed from Hellenistic times.¹² The increasing popularity of the inhabited scroll motif is also to be noted: depicted once in second century Antioch, in the border of the Judgment of Paris in the House of the Atrium, it appears once in late third century Cyprus, four times in late third century Syria, twice in late third century Palestine and once in early fourth century Cilicia (cf. Chapter VI, pp. 99-110), and six times on Antiochene pavements between the mid-fourth and the sixth century (M.5-M.10, Figs. 102-127). But it is depicted countless times in Syria and Palestine in the fifth and sixth century (cf. catalogue, Vol. II). Fashion but more specifically a new attitude to the floor as a spatial unit, accounts for such popularity, as will be seen in the following chapter.

12. Such a view may have to be modified if more Roman pavements are found in the eastern provinces, but this is the picture as it now stands.

CHAPTER V

TECHNIQUE AND COMPOSITIONAL PRINCIPLES: AN ANALYTICAL
STUDY OF INHABITED SCROLLS ON MOSAIC PAVEMENTS.¹

1. Technique

Study of the technique of laying mosaic pavements involves an examination of the various types of bed underlying mosaic pavements, and of the stones used for the tesserae. In general attention has in the past been focussed on style rather than on technique. Few excavation reports include a study of the bedding or a list of types of stone with the proportion of, e.g., glass tesserae to coloured limestone tesserae. It should be noted that laboratory analysis of beds underlying pavements and of tesserae can be carried out only on samples taken from the pavements at the time they are cleared, thus before lifting, restoration and

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1. Although the sections which examine the inhabited scroll motif from the point of view of artistic composition, patterns and rhythms also concern inhabited scrolls in architectural sculpture, throughout this chapter emphasis is laid on mosaic pavements which predominate in the fourth-seventh century period and form the basis for a coherent approach to the motif. Technical study of the examples in architectural sculpture is lacking. General type of stone (without a safe indication of provenance) and depth of carving is the only information given in my catalogue and in the case of inaccessible material, e.g., S.I, Figs. 1-2, even depth of carving could not be measured. It would have been desirable to examine the marble examples according to the type of marble used; this information might have produced various groupings or clusters of the material according to quarries. Thin-sectioning and analysis of marble fragments require only a very small sample. All the marble examples, however, are from the Istanbul Arkeoloji Müzesi. The Turkish Antiquities Laws forbid the export of samples of archaeological material for analysis. There are facilities, however, in the Mäden Fakültesi of the Istanbul Teknik Universite. In view of the limited time spent in Istanbul in June 1972, these facilities were not used and marble analysis was not attempted.

relaying or consolidation. Unfortunately, most of the pavements depicting inhabited scrolls (even those cut up into panels) have been consolidated, and it has thus proved impossible for me to carry out such analysis. In the case of mosaics in Turkey where tesserae are loose (M.2a-b, Figs. 90-94; M.4, Figs. 96-101; M.10, Figs. 124-127) the Antiquities Laws forbid such samples to be taken.

a) Beds.

The various constituents of the beds of mosaic pavements have been examined in less than a handful of reports (three out of the four analyses which have been done concern pavements depicting inhabited scrolls).

The lower floor of the Peristyle Court of the Great Palace of the Byzantine Emperors in Constantinople (M.1, Figs. 82-89) rested on a dump of made ground. Over it the foundation for the mosaic consisted of a 60cm. thick layer of small stones covered by a spread of clayey gravel 5cm. thick. Above this was a layer of mortar similar to pozzuolana and in this the mosaic flooring was set. In Palestine, the foundation of the Hammām Baisān pavement (M.44a-b, Figs. 209-211) consisted of 23cm. of rubble and earth followed by 7cm. of cement made from a mixture of lime and plaster of Paris with the tesserae deeply embedded in it.

An attempt has been made to use comparative analysis of the beds for dating purposes. In 1935 Saller, clearing the mosaics of the Chapel on the Mount of the Beatitudes, observed that the section near the apse which had simple geometrical designs commonly attributed to the fourth or

fifth century (Saller, 1946, 150, Pl.22) was partly replaced by a considerably later mosaic with more complex designs. The earlier mosaic lay on a single bed of lime into which the large cubes were inserted and below it lay bedrock or stones. The later, sixth century pavement had two beds: one of white lime, 1.5cm. thick, and below it a second bed of lime and ashes, 3cm. thick, resting on stones.

Similarly, in the Memorial of Moses on Mount Nebo (M.69, Figs. 253-254) the plain white mosaic indicated in Fig. 253 near the seventh and ninth columns also has one bed whereas the rest have two (Figs. 300-301). The same practice was followed at Khirbat al-Makhāyyat; the surviving traces of mosaic floor in the Church of Amos and Closis which is the oldest rest on one bed only, whilst two beds (Fig. 302) underlie the mosaics of the Church of St. George (M.72a-b, Figs. 260-261): a lower stratum of lime and ashes 1.5cm. thick (c) resting on earth and stones (d) and an upper stratum of lime 2.5cm. thick (b) in which are set the cubes 1cm. high (a). Saller himself admits that from the cases observed so far a secure chronological principle cannot be established without further investigations. His, however, was the first step in a technical approach to the study of Syro-Palestinian mosaic pavements, an approach which has not been followed up. Two points should be emphasized. Plaster being made from material derived from geological sources, analysis of beds would provide a geological date but no indication as to the actual date of the laying of the

pavement. However, it might be possible for it to be of general chronological usefulness, e.g. if it showed that a certain type of plaster was used in certain periods, once a wide range of pavements within a given geographical zone such as Syro-Palestine had been analysed. The importance of such single elements would only appear within a wider framework. Even if further study demonstrates that mosaic bed analysis does not provide a chronological clue, it may still become a determining factor in the identification and location of workshops and artisans.²

(b) Tesserae.

The raw material of early Byzantine mosaic floors was almost exclusively the many coloured limestones found in abundance in Anatolia and Syro-Palestine. Tesserae of marble or glazed ware were used sparingly. Glass tesserae, mainly for blue and green, were produced locally. In the Glass Court at Jarash were found lumps of glass melt of different colours - light blue, dark blue, light green, grey and dark red - altogether weighing over 120lb. These were presumably part of the stock in trade of a glass factory at the time of an eighth-century earthquake (Crowfoot, 1931b,5); the colours are similar to those of the cubes used in fifth and sixth century pavements. Tesserae samples of some pavements depicting inhabited

2. Only a small fragment of mosaic pavement about 5cm. x 5cm., with the bedding still adhering to it, is required for analysis. Analysis is being carried out by the Research Laboratory of the National Museum of Antiquities of Scotland, Edinburgh, on two samples, one from the Church at Nahariya (M.18, Figs. 144-145) and the other from the synagogue at Gaza (M.38b; Figs. 194 and 199).

scrolls have been analyzed. At Misis (M.2a; Figs. 90-92), green tesserae were of a hard, clayey limestone; red and yellow of a fine, crystalline limestone; black of a crystalline, bituminous limestone; and white tesserae were of marble. Red clay and blue and green glass were also used.

Testing of tesserae samples has been even more detailed in two cases: the mosaic floor of the Imperial Palace, Constantinople (M.1, Figs. 82-89) and that of the Hammām Baisān (M.44a-b; Figs. 209-211).

In the Imperial Palace Floor, limestone was used for pink, red-tinted grey, grey-blue, grey-green, moss-green and light brown; limestone with foraminifera for brick-red, grey, black and white; oolitic limestone for dark brown; iron stained limestone with shell fragments for dark red; "iron sand" (quartz cemented by iron oxide) for purple; marble for less common white, and artificial glass for sea-blue, emerald green and irridescent yellow.

A tentative provenance was suggested for the stone used for one of the six colours most prominent in the Hammām Baisān pavement. White tesserae were of a marble which might have been local but seemed unusually white; light green was a frit-coloured green with iron; dark green was green glass with iron; olive green was glass coloured with iron, and dark blue was glass coloured with copper, but black was specifically a bituminous limestone from the Yarmuk or the Wadi 'Arab.

Pavements uncovered more recently have not been subjected to stone analysis. This is a great pity for much valuable

information has thus not been extracted from them, and after consolidation, restoration or lifting, it is too late - as already mentioned (cf. supra p. 67) - to undertake such an analysis. It might be helpful to suggest some of the conclusions that could be drawn from such analysis. But the suggestions which follow can only be regarded as tentative given the lack of analysis to underpin them.

Analysis of a wide range of pavements can determine the origin of the stones used for cubes. This may in turn suggest that the raw material was imported in bulk or by a travelling craftsman.

For example, if analysis of tesserae of the mosaic pavements in the Bet She'an region in the mid-sixth century shows that black tesserae were consistently cut from a bituminous limestone found only in the Yarmuk and the Wadi'Arab, this would suggest import of the raw material.³ Such imports of material could have been expressly for mosaics; alternatively mosaicists could have used left-over lumps of stone imported for building and other purposes. Usually, of course, the coloured limestone locally available throughout Syria and Palestine was employed. The distribution of various types of stones of specific provenance found in dispersed pavements may point to a travelling craftsman with his small stock of stones

3. It would be valuable to count by experiment the number of tesserae of a standard or varying sizes that can be cut from a lump of limestone of a given size; then to calculate how many tesserae of one colour and type - black bituminous limestone for instance - are used in one pavement; then the total number of black bituminous limestone tesserae used in the pavements of the Scythopolis region and finally arrive at the amount of stone necessary. From seeing mosaic restorers at work, it would appear that there was very little wastage.

unavailable locally, using both this stock and raw material found locally.

These are only two of the kind of answers that cluster analysis should provide.⁴

Colour alone without stone analysis cannot be used as a control for the following reasons. The dominant colours of most pavements are limited to black, white, yellow- and red-ochre and green, as is evident from the entries of the catalogue of the present study. Moreover, except for green and blue glass, which is readily identifiable, it is impossible to determine by eye alone whether a certain dark red - for instance - is of a fine crystalline limestone or of an iron-stained limestone with shell fragments.

Provenance can only be ascertained by geological identification. Therefore type and colour of tesserae have to be examined together. In a cluster analysis where the range of types and colours of stone and their percentages in relation to each other were the only information available, a picture would be obtained whereby pavements would fall into spatially distributed clusters to be understood in relation to the geological distribution map of types of stones and their colours. The clustering together of certain types and colours could be explained by the availability of raw material and imports could then be detected. If pavements exhibiting a relatively high proportion of dark brown oolitic limestone are found in an area where that rock does not occur in nature, import may be suggested.

4. For cluster analysis, cf. Clarke, 1968, 515-518, 534-543.; for its use in locating workshops cf. infra Chapter VIII, pp. 186-189.

In the case of a cluster analysis of inhabited scrolls where all available attributes are assembled in order to locate workshops, as outlined in Chapter VIII (pp. 186-189) type, colour and percentages would be additional attributes; likewise in the case of a cluster analysis applied to all pavements bearing all types of motifs, not only inhabited scrolls. The clustering together of a wide range of attributes - patterns, measurements of pavements, type of stone tesserae, colours, size of tesserae to the dm^2 , and type of bedding - would of course ultimately be the surest method of identifying workshops. In fact, neither bedding analysis nor the geological analysis of tesserae is available so that cluster analyses of pavements with or without inhabited scrolls lack information of critical importance and can produce only partial but still useful results.

Size of tesserae and the number of tesserae to the dm^2 may also be taken as a chronological criterion although the value of this criterion diminishes with the extension of opus tessellatum to the whole pavement.

In second and third century pavements at Antioch and in Syria depicting inhabited scrolls, the counts are extremely high:

(i) Atrium House, Antioch (second century), Judgment of Paris panel. Type BxII₂a.

Tesserae: 0.5cm. x 0.5cm. (black ground); 0.4cm. x 0.5cm. or 0.4cm. x 0.2cm.

No. of tesserae to dm^2 : 324

- (ii) Mariamin, Syria (third quarter of the third century),
 Type AoIII₂a.
 Tesserae: 0.4cm. x 0.3cm.;
 No. of tesserae to dm²: 440
- (iii) Shahba, Syria (mid-third century),
 Type AoIII₁a.
 Tesserae: 0.5cm. x 0.5cm.
 No. of tesserae to dm²: 380
- (iv) Shahba (mid-third century).
 Type BxIII₁a.
 Tesserae: 0.6cm. x 0.4cm.
 No. of tesserae to dm²: 156

After the fourth century, the count drops. A list of tesserae sizes and numbers of tesserae to the dm² for each mosaic pavement depicting inhabited scrolls is appended to the catalogue of Vol. II (List 2A). A frequency histogram has been drawn (Diag. 1) from which three qualities of pavements can be distinguished: (1) coarse pavements with 20 to 60 tesserae to the dm²; (2) a middle quality with 60 to 110 tesserae to the dm²; (3) fine work with over 110 tesserae to the dm².⁵ A fourth, so-called "mixed", group consists of pavements in which smaller tesserae are used for certain areas such as faces, arms, hands and legs. For instance in the field of the pavement of the Hammām Baisān (M.44a) the tesserae count is 108, but for bodies

5. This differs significantly from the three groups distinguished by Avi-Yonah, Cat-QDAP III, No.2, 1938, 72. His pavements, however, include plain mosaic floors, such as linings of cisterns and presses, hence his group 1 consisting of very crude pavements (4-10 tesserae to the dm²).

and faces it is 167. A similar example is the pavement at Sede Nahum (M. 48a) where the count is 90 in the field, but 150 in legs and bodies. The difference in the counts according to the area on the pavement is around 50 tesserae to the dm². Only three pavements exhibit a much greater difference. In Room "L" of the Monastery of Lady Mary at Bet She'an (M.43) the tesserae count is 103 in the field, but 361 in the faces. In another fragment from Bet She'an (M.46) the count is 100 in the field, but 196 in the arms, legs and face. In the Church of the Holy Apostles at Madaba (M.56) the count is 60 in the field, but 400 in the faces.

The inhabited scroll of the Imperial Palace, Constantinople (M.1) stands alone as regards quality of workmanship with a count of 420 in the field, and 437 in faces. It is followed at a considerable distance by the border of the House of the Rams' Heads (M.8) at Antioch with 239 tesserae to the dm².

It should be noted that different counts are often obtained from pavements in which the tesserae are of the same size. For instance, the tesserae are 1cm. x 1cm. both in the House of the Bird Rinceau, Upper level (M.9) at Antioch and in the Martyrion of Seleucia (M.10); however the tesserae count is 144 for the former and 48 for the latter. Such a discrepancy is due to the way the tesserae have been laid, in a regular order and closely together as in M.9, or loosely, the bed being visible in the interstices as in M.10.

Except for the two examples cited above, the highest

tesserae counts are recorded in fourth century inhabited scrolls: on the Constantinian Villa floor (M.5) at Antioch where the count is 160 in the field but 182 in the faces, and in the Church of the Nativity at Bethlehem (M.35) where the count is 200 tesserae to the dm^2 . However, within the fourth to seventh century period, the tesserae count does not drop at a regular pace. Owing to the lack of specific chronological data,⁶ it is impossible to draw a graph by plotting the number of tesserae to the dm^2 of each pavement against a time scale of 400-600. Without the aid of a graph, it is clear from List 2B, which lists the pavements chronologically with their respective tesserae counts, that the count does not follow a predictable pattern of decrease in the tessera count (which would be the equivalent of a smooth curve) corresponding to an increase in the size of the tesserae. If it did, the lowest counts would be expected from late sixth century - early seventh century pavements. But this is not so. The latest inhabited scrolls in the series examined, those from the Church at Mā'in (M.73a-b), have 80-90 tesserae to the dm^2 ; they thus fall into Group 2 to which belong the majority of fifth-sixth century inhabited scrolls in mosaic pavements as shown by the histogram.

The outliers in the histogram, i.e. the pavements with

6. Most publications do not provide tesserae counts, which moreover cannot be made on pavements which have been filled in. This is unfortunate, particularly for a series of closely dated pavements such as the inhabited scrolls of the Glass Court and the Churches of Jarash (M.74a-82b; Figs. 265-282), the majority of which are dated by attached inscriptions.

the lowest (Group 1) and the highest (Group 3) tesserae counts, appear to cluster in geographical zones or sub-groups. How far the inhabited scrolls in these zones are artistically linked, and to what extent they correspond to schools or workshops, is difficult to assess if other elements are not taken into account. Besides two isolated inhabited scrolls, in the Martyrion of Seleucia (M.10; tessera-count: 48) and in the "Animal Mosaic" at Urfa - Edessa (M.16; tessera-count: 58), Group 1 may be subdivided geographically into sub-group 1 A (Jerusalem) and sub-group 1 B (Madaba and its region). Sub-group 1 A consists of two fifth-sixth century inhabited scroll pavements from Jerusalem: the "Mosaïque d'Etienne" (M.31; tessera-count: 55) and the "Orpheus Mosaic" (M.33; Tessera-count: 44 in the field, but 100 in bodies and faces).

Sub-group 1 B which is centred on Madaba, includes, in Madaba itself, inhabited scrolls in the "Cathedral" dated 562 (M.55; tessera-count: 30) and two panels from the pavement of the house of Ksar Hanna (M.58a, tessera-count: 51; and M.58b, tessera-count: 50). The pavement of the Church at Kfer Abu Sarbut (M.68; tesserae counts: fragment 1-69, fragment 2-52) also falls within this sub-group. A third sub-group, 1 C, is represented by one pavement depicting two inhabited scrolls at Suāfiya near Amman (M.89a-b), the count for the border being 60 and that for the field 54 tesserae to the dm².

A set of marginally low to middling counts, on the border line between Groups 1 and 2, is provisionally entitled Group 1/2. It is confined to the Sidon-Beirut

area. It includes inhabited scrolls dating to the first half and middle of the sixth century at Zahrānī (M.20b-e; tesserae-counts: 55,55,88 and 76), Bait Mari (M.21; tessera-count: 60) and Room "m" of the Villa at Jenah (M. 23a; tessera-count: 44). The highest counts - Group 3 - are as already mentioned, from Constantinople (M.1) and Antioch (M.8). Within the "mixed" group (cf. supra, p. 75) where conspicuously there are two different densities, a sub-group is detectable in Bet She'an and its region, and is represented by M.43, M.44a, M.46, M.47 and M.48a-b.

A common workshop or mosaicist for the members of each group or sub-group is not necessarily implied. The importance of the factor of the tessera-count in the identification of workshops will be judged from the use made of it in Chapter VIII, but other elements must also be taken into account, such as code type, measurements of pavements, diameter of scrolls, composition, stylistic elements and date.

(c) Laying a mosaic pavement.

No Byzantine Vitruvius has left a text book with instructions for the laying of mosaic pavement; no excavation has yielded drawing implements, and drawing books have not been preserved. Thus in the absence of contemporary descriptions, or aids, the laying of a pavement must be reconstructed entirely from internal evidence. The current theory runs thus (Avi-Yonah, 1935, 27; Sofer-Ovadia 1963, 75). The mosaicist would probably sketch the overall pattern of the whole floor on a layer of fine

wet mortar which formed the upper surface of the foundation, the equivalent stage to the sinopia in fresco. He would then lay down the cubes composing the design, outline them with two or three rows of white tesserae and finally fill in the remaining surfaces. However, in view of the speed at which wet mortar dries, it seems unlikely that the mosaicist did in fact sketch his pattern in this way. Two alternative methods may be envisaged of which the first is also highly unlikely. In the first, the mosaicist would have drawn his pattern in a layer of fine powdered mortar, as one draws pictures on the sand with a stick. He would then have sprinkled water over the area where he intended to start, mixed the water and the mortar in situ and proceeded to lay the tesserae. This method would however result in an irregular upper foundation layer which would tend to subside. Alternatively - and this is the more likely method - the pavement may have been dealt with in sections. In the case of inhabited scroll pavements, the parcelling out of both borders and fields into square areas, each containing a scroll is evident. The Hammām Baisān pavement (M.44a-b, Figs. 209-211) may be reduced to a grid of squares 0.55m. x 0.55m., each filled by a scroll. The mosaicist would therefore have laid the already mixed layer of mortar and water over an area approximately 0.55m. x 0.55m. or slightly larger depending on the size of scrolls, and filled it in. He would have begun with the design, then executed the outline or contour lines and finally filled in the background before moving on to the neighbouring square. The craftsman's skill is

borne out by the fact that it is impossible to detect on the surface the joining points between the squares.

Several workmen could thus be working over the same pavement simultaneously, following a basic drawing. The laying of the pavement in sections is particularly clear in the case of the acanthus scroll border of the Ḥammām Baisān (M.44b, Fig. 209). The original plan was almost rectangular. The northern side, however, was made 20cm. larger than the southern side. The mosaicist probably first completed the central panel, making it rectangular, and then filled the border, beginning from the north-western corner. While proceeding eastwards, he seems to have noticed the divergence of the wall from the perpendicular line and therefore began to fill out a white margin. Having turned the north-eastern corner, he went southwards, but the available space was becoming gradually narrower; so he abandoned the outer wave crest, turning it into a narrow red band. He made the head in the south-eastern corner much smaller than the two others. From the south-eastern corner, the artist made the border gradually widen out, but still kept it narrower than the others. The scrolls on the southern side were made smaller and except in the beginning there were none of the crosslets or sprigs which were sprinkled over the other sides.

2. Composition

(a) Focal points.

A study of the artistic composition must concern itself with the focal points and the dominant compositional

lines along which the pavement or the sculpture bearing inhabited scrolls is organized.

The problem is to know how the eye is intended to follow the labyrinth of scrolls. The various arrangements of focal points correspond to the patterns of the code used in this thesis. There is either one focal point (Types I₁, I₂, IV and V), two (Types II₁ and II₂), four (Types III₁, III₂ and VI) or none at all. The lack of focal point may be real, if the scroll is of A, B or C₁ type and issues from nothing; it may be only apparent, as in panels of Type I₁, where the linear rhythm of the scroll, which develops horizontally or vertically, is so strong that the eye follows it automatically and pays no attention to the focal point, i.e. the point where the scroll issues. Similarly in the case of over-all scroll field designs, the internal organization or pattern (C₂, C₃ and C₄) is obscured by the exuberance of the scroll, e.g. in the Qabr Hiram floor (M.17, Figs. 142-143). Thus the eye is lost in the profusion of volutes, their inhabitants and the movement within each volute.

(b) Multiple view-points.

Another aspect of the study of composition concerns the way in which pavement should be viewed. It is easy to forget that the onlooker walking on a pavement sees it differently from the way it is seen in a reduced form such as on a drawing or photograph. In a reduced state the whole composition is grasped immediately whereas the onlooker's eye grasps only part of it; to "perceive", to

"understand" the composition, the onlooker must move. In this movement lies the fundamental difference between the Roman pavement with one focal point, i.e. a scene included in the emblema in the middle of the room, which imposes a single predominant orientation, and the early Byzantine pavement which is "readable" from several points of view.⁷ The floor space, instead of being broken down into independent units, is treated as a single unit. The classical principle of pictorial space as a rational, illusionistic analogue of reality is replaced by the dominance of an abstract space in which the artist arranges objects with complete freedom. He may place them upside down or obliquely, taking into consideration only such architectural considerations as the location of the entrance or of other features such as the chancel or apse. The pavement of the first antechamber of the Church of Zahranī (M.20b, Figs. 149-150, No. 11 of plan, Fig. 147) was to be looked at upon entering through the ambulatory; consequently on the long sides, some of the animals enclosed in vine scrolls have their feet on the side of the walls. The orientation of the inhabited scroll decoration of the first two antechambers, that of the inscription in front of the door to annexe No. 3 (M.20c, Figs. 151-152, No.12 of plan, Fig. 147) as well as the encroaching of the mosaic onto the thresholds, prove that circulation was from the ambulatory to annexe No.3. The décor and the inscription of the diaconicon (M.20e, Figs. 154-157, No. 14 of plan,

7. This is conclusively demonstrated by Lavin, 1963, 185-203, followed by Kitzinger, 1965a.

Fig. 147) suggest that circulation was from east to west. It thus appears that circulation was in two opposite directions towards the baptistery (M.20d, Fig. 153, No. 13 of plan, Fig. 147). The clerics coming from the sanctuary through the diaconicon, and the lay people coming from the ambulatory outside the church, reached the baptistery by two different routes.

These floors only make sense if the onlooker walks about the room, both in the interior and along the circumference. The inhabitants of scrolls in borders normally have their feet or base towards the centre of the room, so that the onlooker must move around the room from the inside to comprehend the decoration. Thus a new kind of unity replaces the static balance of independent parts of classical pavements; it is organic since one group inevitably leads to the following group, and dynamic since movement is essential to the perception and understanding of the floor. Focal points are present (cf. pp. 81-82) but they do not provide an insistent orientation, only accents. The organically flowing design of the inhabited scroll provides the best solution to the problem of a uniform design both infinitely extendable and offering a variety of possible viewpoints, hence its popularity within this context of change in the approach to and treatment of mosaic pavements.

(c) Patterns and Rhythms.

The succession of creatures incorporated in the scrolls - e.g. chukor partridge, gazelle, lion, hare, duck and so on - does not follow a meaningful order. No pattern is apparent

in the arrangement of subjects or group of subjects. Occasionally two or three successive scrolls form a scene: a vintager leads his donkey to the wine press or a hunter spears a bear or a lioness; but one scene is never allowed to fill more than four scrolls. Moreover there seems to be no rule as to the number of scenes within each pavement (some pavements have none, e.g. the "Armenian Mosaic," Jerusalem, M.33, Figs. 183-186, whose scrolls are filled by isolated birds) and their position in relation to one another.

Scenes are juxtaposed with little or no connection. A group of two women, a cockerel, a dog, a goat and a leaping animal is placed beside a baptism scene, with which it does not seem to be connected, on column S.6 (Fig. 11). Scenes of the chase in woods and scenes of agricultural labour and vineyards are depicted side by side, without the characters in the one seeming to be aware of what happens in the other; a branch separating two scrolls may indicate a complete change of scene or a convenient division of one subject.⁸

The arrangement of birds, hares, baskets and fruit used as stop-gaps is equally haphazard, as is the direction in which the single figures and the scenes move. Some move towards the centre, others towards the border, others form self-sufficient units. Figs. 303-305 illustrate a range of rhythmic patterns. A regular flow in one direction, for instance in circular motion as in M.20c, Figs. 151-152, is rare. The rhythm is usually syncopated

8. The relative frequency of certain motifs and their popularity in sculpture and mosaic are examined in Chapter VIII, pp.146-155.

with an irregular succession of isolated figures and groups of scenes. Some pavements, however, are exceptionally well-organized rhythmically. In the Church of the Holy Apostles at Madaba (M.56, Figs. 236-238) accents are lent to the inhabited acanthus border not only by the heads in the corners but also by the figure of a child placed approximately in the middle of each side (scrolls 3, 13 and 21).

The combination of symmetry, centralization and a vertical axis present in the inhabited scroll fields of the Church of the Priest John (M.70, Figs. 255-256), the Church of SS.Lot and Procopius (M.71, Figs. 257-259) and the Church of St. George (M.72a-b, Figs. 260-261) at Khirbat al-Makhāyyat, is pushed to an extreme point in the Church of Elias, Mary and Soreg at Jarash (M.84a, Figs. 284-285). Not only do all the figures except the bird beside the cage (scroll 1), the doves at the basket (scroll 16) and the bustards above the palm, face the centre, but the constructional lines also tend towards the centre. The guiding lines of the composition are determined by the palm which represents the centralized vertical accent. One group of mosaics, including the pavements of Gaza (M.38a, Figs. 194-198), Maon-Nirim (M.40, Figs. 201-203) and Shellal (M.39, Fig. 200) presents the same symmetrical rhythmic arrangement: the animals move towards a static central axis of medallion-scrolls filled with inanimate objects, vases, baskets, a bird in a cage, an eagle with outstretched wings viewed frontally, or an inscription. Thus a vertical central static axis

counterbalances and resolves a series of dynamic horizontal accents in contrary motion.

These pavements in fact represent the tail-end of a devolution in the treatment of inhabited scroll fields from fixed focal points to organic composition, followed by a progressive rigidity in the organization of rhythms and accents and an increasing symmetry, as will be discussed in Chapter VII (cf. infra, pp. 136-137).

Both in borders and in fields, the relative proportions of the objects are subordinated to the exigencies of the spaces to be filled, the spaces corresponding to the scrolls always being equal. Thus a duck and a man sitting on a basket (M.44a, Fig. 209, scrolls 35 and 36) or, in three juxtaposed scrolls a child on a chariot, two pheasants pulling the chariot, and a bull (M.56, Figs. 236-237, scrolls 21, 20 and 19), are represented side by side in the same size. Hares, cocks and quails are made equal in size with horses, boars or tigers. Where two birds are squeezed into a scroll they are represented half the size of a bird to which a whole scroll is allotted, even if in nature they are several times as big (M.44a, Fig. 209, scrolls 9, 14, 27 or M.40, Figs. 201-202, scrolls 10,20). Baskets which in some cases fill a whole scroll (M.44a, Fig. 209, scroll 48; M.47, Fig. 214, scroll 5) are shown in other scrolls as quite small and placed on the backs of donkeys or men (M.44a, Fig. 209, scrolls 2 and 26; M.71, Figs. 257 and 259, scroll 11).

The mosaicist thus did not see the pavement as a collection of objects to be represented but as a group of

spaces to be filled by an agglomeration of isolated episodes and single figures.

The recurrence of basic layouts combined with the haphazardness displayed in the choice of fillers, their related positions and their direction of motion suggest that generally there were no patterns of whole pavements. Instead, basic schemes were used as is apparent in the code used in this thesis, and a range of separate themes were applied. The themes comprise either isolated figures such as the hare eating grapes or the bird encaged, or whole scenes, e.g. the vintager and his donkey or the combat between the mongoose and the snake.⁹

The combination of the various themes with one of the basic schemes, variations in the themes, technique and style are the characteristics which make it possible to recognize the mosaicist and in particular to determine workshops.

9. The question of themes and hence of pattern-books is dealt with in Chapter VIII, pp. 163-164.

CHAPTER VI

DETAILED ANALYSIS OF SOME PRE-BYZANTINE INHABITED SCROLLS IN THE EASTERN MEDITERRANEAN

Some pre-Byzantine inhabited scrolls in architectural sculpture and on mosaic pavements will now be reviewed in detail. Since they are mostly unpublished, in particular the Syrian examples, they are described at an unusual length in the text, rather than being relegated to an appendix. Their relevance to a study confined within the limits of the fourth-seventh century lies in the degree of difference from later examples which can be detected and in the extent to which they hint at or determine later developments.

1. Inhabited scrolls in architectural sculpture

The inhabited scroll motif had a wide currency in the Roman East. In most areas which have yielded early Byzantine inhabited scrolls, Roman variants of the same motif, particularly of Hadrianic date, have also been found. To the list of the main examples of sculpted inhabited scrolls in the Roman eastern provinces, notably at Aphrodisias, Palmyra and Baalbek, given by Toynbee and Ward-Perkins (1950, 30-37), may be added a certain amount of material which was either overlooked in their survey or which has been found more recently.

a) Asia Minor

In the garden of Adana Museum there is a second-third century grey crystalline marble slab (L.(max.) 0.74m., H.(max.) 0.35m.; depth of carving 5cm.; Type Ao; Fig. 306) from Şar (Comana Cappadociae), 75km. south-east of Kayseri (Caesarea). It probably belongs to the frieze above the cella doorway

of the small Roman temple known as the Ala Kapi. It depicts a boar protome emerging in relief from an acanthus scroll (Harper and Bayburtluoğlu, 1968, 155-156, Pl. LVa). The terminal flowers of the whorls of a running single acanthus scroll (Type Ao) on a frieze in five fragments from the third century Temple of the Olbian Zeus at Uzuncaburç (Diocaesarea), 30km. North of Silifke (Seleucia), enclose protomai of a goat, two sheep, a horse, two boars, a bull, a lion, a lioness and a dog (Fig. 307).

In a short report on his survey in June-July 1955 at Bodrum (Hierapolis Castabala) in the eastern Cilician plain, Gough briefly mentions Roman frieze blocks taken from older buildings and incorporated in one of the two early Byzantine churches; amongst them was a frieze of inhabited scroll type with animals and human figures emerging from the acanthus decoration (Gough, 1956b, 33), perhaps not dissimilar to the inhabited scrolls on the south and north façades of the third century triumphal arch at Anavarza-Anazarbus (Gough, 1952, 110-113).

b) Syria

The basalt first-second century inhabited scrolls of the Syrian Ḥaurān have already been listed and described (cf. Chapter III, p. 32 n.2). The antithesis of the sculptural tradition of the Ḥaurān, which in spite of its orientalizing elements (Avi-Yonah, 1961, 50) is still very much infused with the Graeco-Roman spirit, is the sculpted decoration of Qaşr al-Abyaḍ, also known as Qal'at or Khirbat al-Baiḍa. An outlying fortified post of the Roman Province of Arabia, 110km.

south-east of Damascus, Qaşr al-Abyaḍ displays limestone doorways carved with flowing scrolls, leaves and flowers which have animals striding through them. Originally attributed to the Ghassanids who ruled over Felix Arabia from the fifth to the seventh century (Vogué, 1865-1877, 70), the dating of its building has been pushed back by Dussaud and Macler (1901, 46) to some time between the second and the fourth century; Sauvaget (1939b, 24-26) considers it to be Umayyad. Its over-luxuriant vegetation incorporates elements of Graeco-Roman art: arcosolia, bead and reel and vine scroll, but the sculptor's imagination has outstripped the classical rules and made him set the images of fanciful beasts in a geometrized vegetal (but undefinable) medallion scroll: a goat attacked by a jackal, a gazelle, a falcon, a humped bull, a winged elephant and a winged lion. The vine scroll frieze containing alternate vine leaves and bunches of grapes, and one small pheasant, is geometric but has a strong rhythmic quality (Fig. 308). This overwhelming decor running over the mouldings, the vegetal patterns encircling animals, the combination of geometrization with rhythmic patterns, herald the façade of the eighth-century desert palace Qaşr al-Mshattā, 30km. south-east of Amman. It is an art which apparently stands on its own (though an exploration of Southern Arabia, notably the Yemen, a zone which had commercial and possibly cultural links with India, Persia and Egypt, might yield more examples of this art). Yet this decoration bridges the gulf between Roman and Islamic art, both thematically (by the motif of inhabited scrolls and other elements) and stylistically. It could be dubbed Graeco-Oriental or Graeco-Persian but equally well Proto-Byzantine or Proto-Islamic.

c) Palestine

The Graeco-Roman sculptural legacy is strong in the synagogues of Galilee. The Jews borrowed Hellenistic architectural and ornamental art forms, including images of animals and human beings (cf. Chapter IX, p. 214). Amongst the badly mutilated and damaged limestone fragments of the friezes running along the façades of the late second-third century synagogue of Capernaum (Tell Hūm),¹ are blocks depicting barely discernible lion protomai issuing from acanthus whorls.²

Round the inside walls of the basalt third century synagogue of Chorazin (Khirbat Keraze), 4km. north of Capernaum, ran friezes ornamented with figures framed in vine branches or acanthus leaves. The acanthus motif encircles on one stone a Medusa head; on another a struggle between a centaur and a lion. The medallion grape-vine is filled, on one fragment, by two men in a wine press, treading the grapes with both feet, while a great bunch of grapes dangles above them. On another, from left to right, the scrolls contain a man standing with a rod in his raised right hand and a bunch of grapes in his lowered left; a man standing on the left and a

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1. Against Loffreda's dating of the synagogue of Capernaum to the last decade of the fourth-middle of the fifth century (Loffreda, 1973, 37-42), Avi-Yonah (Editor's Note in Loffreda, 1973, 43-45) reiterates the arguments put forward by Foerster, 1971, 207-211 for a second-third century date.
 2. In the garden dépôt of the Custodia della Terra Santa near the synagogue, lie four blocks, part of the inhabited acanthus scroll frieze (Type Ao).
 Block 1: L. (max.) 0.82m.; H. 0.65m.; d. 0.40m.; depth of carving 1cm. Badly damaged. Lion or bear (claws on feet) coming out of an acanthus flower (Fig. 309).
 Block 2: L. 0.54m.; H. 1.05m.; d. 0.55m. Animal perhaps in centre.
 Block 3: L. 0.58m.; H. 1.16m.; d. 0.58m. Image mostly erased.
 Block 4: L. 0.57m.; H. 0.90m.; d. 0.53m. Image mostly erased.

woman sitting on the right, a bunch of grapes hanging above them, a woman and a man sitting, the latter with arm outstretched to an overhanging bunch of grapes. Another fragment now in the Tiberias Museum (L. 0.44m., H. 0.32m., d. 0.17m.; depth of carving 1cm., interior diam. of scroll 14cm.) depicts a she-wolf or a lioness suckling her two whelps (Fig. 310). Kohl and Watzinger (1916, 147-173) effectively demonstrated that gables, arches and acanthus, lions, eagles and vine scrolls were taken over directly from pagan temples in Syria. In fact the external appearance of some synagogues was so like that of pagan temples that even pious Jews (when strangers in some foreign place) bowed to a pagan temple, mistaking it for a synagogue. The frequency of such mistakes is proved by the thrice-repeated Talmudic statement: "If he (saw an idolatrous shrine), mistook it for a synagogue and bowed down to it - surely his heart was to heaven" (Babylonian Talmud, Sanhedrin 61b, 62a, 62b).

Totally different in treatment are the second century marble frieze fragments scattered around the theatre at Bet She'an (Scythopolis). Protomai of hounds (Fig. 311), a goat and a lioness speared by a naked hunter leap out of an acanthus scroll stemming from a bearded head on the corner-block stone end of the frieze and from an unbearded head at the other end (Type AoII₁a).

At Caesarea, amongst the marble blocks lying near the theatre, an unpublished grey-white marble block, possibly of second century date (L. 1.04m.; H. 1m.; d. 0.63m.; Type Bx) is decorated with a vine scroll (L. 1.04m.; W. of scroll pattern including an upper and a lower row of egg-and-dart

motifs 0.24m.; W. of actual scroll pattern 0.15m.). The elongated scrolls (L. 24cm. x H. 11.5cm., depth of carving 1cm.) contain from left to right: a vine leaf, a vine leaf and a bunch of grapes, a pigeon, a thrush or crow (L. 20cm.), a vine leaf and a bunch of grapes.

d) Cyprus

On Cyprus, two Roman sculpted inhabited scrolls survive. The second century marble sculpted frieze of type Ao in the courtyard of St. Nicholas Cathedral in Famagusta is thought to have been brought from Salamis to Famagusta at a later date. From left to right, a lion running to the left is pursued by a horse; thereafter all the animals move to the right; a lioness leaps towards a gigantic flower in the following acanthus scroll; the head and forelegs of a deer emerge from a whorl; a rabbit leaps up to munch a bunch of grapes; a lion (Fig. 312) pursues a bull moving towards a flower; a deer follows a horse to look at which a hound turns its head backwards to observe.

A fragment of a limestone relief showing a lion leaping towards a hound through acanthus foliage, in the Roman store-rooms of Nicosia Museum, is undated and of unknown provenance, but it closely resembles the Famagusta scroll.

The theme of inhabited scrolls was therefore frequently treated in the Roman eastern provinces, but without stylistic unity. The inhabited scroll is simply a pointer, but the stylistic divergences apparent if only from the examples cited above indicate the extent to which Roman cultural unity was breaking down at the end of the third and the beginning of the fourth century.

Various styles virtually coexisted in the same region (Bet She'an is only 42km. away from Capernaum), the reasons for this being differences in material (marble as opposed to limestone), local traditions and artistic influences. Avi-Yonah (1961) makes a convincing case for the resurgence of the old Oriental native stratum (mainly Nabatean) in the art of Syria and Palestine at that time. However, even the orientализing trends present at Qaṣr al-Abyaḍ are of a different type from those affecting the basalt carving of the Ḥaurān. It is also interesting to note that examples of sculpted inhabited scrolls of the late third and early fourth century are few, a sudden revival taking place in the fifth and sixth century. At Jarash (Gerasa) between 307 and 440 there is no epigraphic material. The reasons for this gap must be sought in the third-fourth century period of crisis; the Roman world was splitting apart, undermined by political instability and facing barbarian invasion. Between 245 and 270 the frontiers collapsed in rapid succession. Client kings took over political control in the provinces; Zenobia of Palmyra, for instance, ruled over part of the eastern provinces from 267 to 270.

Out of the late Roman revolution of the third and fourth century a different civilization emerged. But "however well the men of the fourth century 'Age of Restoration' may have adjusted themselves to a new political and social situation, seismic shifts in their religion and culture stood between them and the classical world of 200" (Brown, 1971, 45).

These changes and shifts took place at various levels. In the sphere of art and sculpture in particular, the Roman

tradition of carving disappeared from Southern Syria, Transjordan and the Lebanon. In Palestine the old Roman zone of Galilee was abandoned in favour of the Negev (cf. Chapter III, pp. 42-43). In Asia Minor, the new capital, Constantinople began to surpass the western and southern coastal cities.

In the sculpted inhabited scroll stylistic changes are apparent. The Roman inhabited scroll confined to borders and bands - the overall scroll design was introduced only in the fifth century - was characterized by three-dimensional naturalism and great depth of carving as exhibited by the fragment from Şar (cf. supra, pp. 89-90) or the Hadrianic inhabited scroll friezes from Aphrodisias (Mendel II, No. 493, pp. 178-184, Fig. 313). As will be stressed in the next chapter (pp. 137-140) in keeping with the stylistic changes which affected architectural sculpture in general from the fourth century, the treatment of the inhabited scroll moved towards a greater degree of stylization depending for its effect more on the contrast of light and shade than on modelling, and laying stress on a two-dimensional pattern rather than on three-dimensional realism. Protomai and foliate-skirted creatures were abandoned and replaced by isolated figures, principally birds. Hunting scenes as on the Aphrodisias friezes were superseded by vintaging scenes (S.3, Figs. 5-6; S.7, Fig. 12; S.10, Figs. 19-20; S.15, Figs. 30-32). Symmetry was introduced (S.1, Figs. 1-2; S.4, Figs. 7-8). Simplified and stylized, the ornament relied increasingly on the rhythmic repetition and the formal balance of the pattern rather than on realism. Whereas the Roman inhabited scrolls are exuberant and dynamic, i.e. the movement in the pattern is irregular, the Byzantine examples are restrained and

rhythmically organized.

2. Inhabited scrolls on mosaic pavements

In mosaic art the loss of naturalism is also clear though the change is from restraint to exuberance, linear to overall rhythm and border to field. The ingredients of the traditional inhabited scroll confined to borders included the III₁ compositional form, i.e. four points of departure of the scroll, one at each corner of the border. The scroll tended to be of A type (single scroll) although the medallion scroll (B) is also found as in the border of the Judgment of Paris panel from the second century House of the Atrium, Antioch (cf. Chapter VII, p. 113, n.4) and the late third century Shahba 2 pavement (cf. infra, pp. 103-106). The points of departure are heads (a). The scroll is predominantly of acanthus (o). The ground is black and the scrolls are filled with hunting scenes and putti as on the Shahba 1 pavement (cf. infra, pp. 102-103) and the Mariamin pavement (cf. infra, pp. 103-106). The Shahba 2 pavement represents the first step towards the Byzantine treatment of the inhabited scroll motif. The ground is white; vintage scenes are introduced and a great variety of animals are depicted (boar, horse, dog attacking a hare, fox, goat and spotted deer) as opposed to the lions and lionesses of the Shahba 1 pavement. Birds which were naturally small in the House of the Atrium pavement increase in size to the extent that in sixth-century pavements they are depicted as large as zebras (M.38a, Figs. 195-197) or elephants (M40, Fig. 201). The chukor partridge and pigeons of the Shahba 2 pavement are

already large, e.g. the chukor partridge and the hunting putto next to it are nearly equal in size. Moreover the birds are placed outside the scrolls filling empty spaces together with bunches of grapes, vine tendrils and vine leaves; the horror vacui characteristic of fifth-sixth century pavements is already present.

The inhabited scroll border and field of Room 1 of the late third century House of Dionysos at Kato-Paphos represents a further stage of development and embodies North African compositional elements as will be discussed below (cf. p. 109). Lavin (1963) emphasizes the value of the inhabited scroll as a corollary for the development he outlines in connection with the hunting pavements of Antioch. He demonstrates conclusively that artistic influence was transmitted from North Africa in two directions: to the west (Italy, Gaul and Spain) and to the east (Constantinople, and through inter-provincial relations to the eastern provinces). This is evident both stylistically and numerically. The North African heritage in terms of the layout and style of mosaic pavements, in particular those depicting inhabited scrolls, is examined in Chapter VII, p. 109. If the quantity of inhabited scrolls is taken as an index, it is significant that from a climax in the second-third century, the count in North Africa drops drastically in the course of the fourth century.³ Conversely, the popularity of the

3. To the inhabited scroll pavements of Zliten, Ouled-Agla, the drunken Dionysos from Carthage, the triumph of Dionysos from Sousse, the triumph of Dionysos from El-Djem and the Dionysos-and-Icarius mosaic from the villa of the Laberii at Oudna (Toynbee and Ward-Perkins, 1950, 41, with bibliography), Kourba, Hippo, Banasa and Thuburbo Majus (Lavin, 1963, 221-222, with bibliography), Bir-el-Caid, Cherchel, Carthage and Henchir M'Rira (Lavin, 1963, respectively, 214 note 134; 232, 233, 238, with bibliography), the following
(Contd.)

inhabited scroll on mosaic pavements, which had been limited in the Roman period in the eastern provinces,⁴ increases from the late third century and reaches a peak in the late fifth-mid-sixth century. The period of increasing popularity and incipient stylistic and compositional changes as the result of North African influence is represented by half a dozen pavements, most of which were discovered recently. These are two pavements from Shahba, the Mariamin mosaic, a pavement found in Nablūs in the spring of 1973, the Dirke mosaic in the Adana Museum, the floor of the tablinum of the House of Dionysos at Kato-Paphos and the pavement of the Yafia' synagogue.

The unpublished "Mosaic of the four Seasons" (called the Shahba 1 pavement) found at Shahba-Philippopolis by Dumand in 1938 and now exhibited in the Suweida Museum (3.55m. x 3.53m.) combines an emblema which depicts Ge, the Earth, offering the gifts of the Seasons to Bacchus and Ariadne, with an acanthus scroll border (Type Ao III₁a). A head is depicted at each corner of the border: in the bottom left corner,⁵ a beardless head (1, Fig. 314) wearing a type of

Contd.) may be added: the tepidarium pavement of the Baths of Themetra (Foucher, 1958, 17-34); the pavements of the House of Silenus and the House of Tertulla at Thysdrus (Foucher 1961, 23-30, 46-51) and the nave mosaic of the basilica of Reparatus dated to 285 by an inscription in Orléansville (Prévost, 1847-1848, 653-669, esp. 659-665). For the fourth-seventh century inhabited scrolls, cf. Appendix II, pp. 239-249.

4. There is only one example in second century Antioch, in the House of the Atrium, at the time of the motif's greatest popularity in North Africa.
5. The pavement is described as seen exhibited in a vertical position on a wall of Suweida Museum, hence the terms "top", "bottom" and "right" and "left" sides. The same applies to the other pavement from Shahba, cf. below pp. 102-103.

grey metallic helmet from which sprout acanthus sprays like plumes, in the bottom right corner a sorrowful, bearded head (2) from which rise spiky red-ochre and grey acanthus leaves; in the top right and left corners, a beardless chubby-cheeked head (3 and 4) is enveloped by large grey and yellow-ochre acanthus leaves. Each side of the border contains four scrolls. The sequence of scrolls on the lower side between heads 1 and 2 is interrupted by a naked genius from whose thighs issue acanthus leaves which join the scrolls on either side. From head 1 to head 2, the scrolls enclose: a putto, naked but for a red mantle attached round his neck, carrying a small hunting dog and walking to the right (scroll 1); an ibex (scroll 2) leaping to the right but looking back towards the putto; a leopard moving to the right (scroll 3) facing the spear of a putto (scroll 4) moving to the left.

From head 2 to head 3, the scrolls contain: a flamingo (scroll 5) moving to the right but looking back to a lion leaping to the left (scroll 6). Scrolls 7 and 8 are destroyed; in scroll 9, a hand may indicate a putto.

From head 3 to head 4, a tiger (scroll 10) moves to the right but looks back to a naked putto (scroll 11) with a yellow-ochre mantle, holding a round red shield and advancing to the right in pursuit of the tiger. A lion (scroll 12) leaps to the left towards a putto holding a round shield and advancing to the right (scroll 13).

From head 4 to head 1, a stag moves to the right (scroll 14); a rectangular red shield on the left of scroll 15 suggests a hunting putto; a bull leaps to the left (scroll 16) towards a putto (scroll 17), naked but for a red mantle round

his neck, moving to the right and pointing his bow and arrow towards the bull (Fig. 315).

The scrolls are 50cm. in diameter; the tesserae are 0.5cm. x 0.5cm. and there are 380 tesserae to the dm². The ground is black.

The acanthus scrolls on the side between heads 3 and 4 are treated in a different manner from the scrolls on the other sides. The acanthus sheath is alternately yellow-ochre and red-ochre, encircled by a grey ring; the acanthus sprays are alternately red-ochre, yellow-ochre and grey; each spray is divided into two zones by a chequered black-and-white or yellow-ochre-and-white central stem, the inner zone being edged in white; a pomegranate fills triangular empty spaces. The acanthus has a peculiar fluffy quality in contrast to the spikiness and the contorted, agitated quality of the acanthus on the three other sides. The same range of colours is used: red- and yellow-ochre, pink and grey, but in an impressionistic way and with more white highlights.

Another notable feature of the border is that whereas the figures on the sides between heads 2 and 3, 3 and 4, and 4 and 1 look inside the pavement towards the emblema, those on the side between heads 1 and 2, look outside, perhaps towards an entrance.

The combination of the change of treatment of the acanthus, the presence of visible joints (to the right of head 1, to the left of head 2 and below heads 3 and 4) and the position of the lower side, suggest that the border was worked in four sections by at least two different hands.

Next to the Roman villa which yielded the "Mosaic of the four seasons", Amer excavated in 1970 a set of four rooms of another villa with mosaic floors. In three rooms, geometric motifs surround an emblema depicting an Oceanus head, Orpheus and the beasts and the wedding of Aphrodite and Ares. In the fourth room (4.80m. x 4.83m.), a vine scroll border (Type Bx III₁a) surrounds an emblema depicting the love-making of Ariadne and Dionysos watched by Herakles and the silenus Maron (called the Shahba 2 pavement). The entrance to the room lies to the west. At each corner of the border (3.65m. x 3.65m. outside measurements) is a head: in the bottom left corner a youthful female head (1) wearing a metallic headdress with grapes attached may represent Autumn; in the bottom right corner, a beardless tanned head (2) is perhaps Summer; in the top right corner, a female head (3) with a crown of ivy leaves may be Spring and in the top left corner an old man's head (4) with white hair and beard is Winter. All heads are turned outwards as are the figures in the scrolls. Each side has three medallion scrolls (Fig. 316).


From head 1 to head 2, the scrolls contain: a naked putto walking to the left and balancing on his shoulders a rod at either end of which dangles a basket (scroll 1), a deer turned left but its head turned right (scroll 2), a naked putto kneeling as he gathers grapes (scroll 3). A small bird turned left pecks at a bunch of grapes in the lower triangular space between scrolls 2 and 3.

From head 2 to head 3, a horse gallops right (scroll 4); a putto walks to the left (scroll 5); a dog (scroll 6) pursues

to the left a hare leaping out of the scroll into the lower triangular space between scrolls 5 and 6.

Between heads 3 and 4, a boar (scroll 7) attacks a naked putto (scroll 8) moving to the left, spear in hand; a chukor partridge turned left occupies the lower triangular space between scrolls 8 and 9; a fox (scroll 9) leaps right, its head turned backwards.

Between heads 4 and 1, a goat (scroll 10) leaps to the left; a putto (scroll 11) walks to the left, his red mantle over his left arm; a fox (scroll 12) rushes to the left (Fig. 317).

The scrolls measure H. 37cm. x L. 56cm.; the tesserae are 0.6cm. x 0.4cm., and there are 156 tesserae to the dm². The ground is white. The vine stem consists of one row of yellow-ochre tesserae and two rows of red-ochre tesserae. Grey vine tendrils with numerous twirls  and dark grey-green vine leaves sprout out everywhere; bunches of grapes fill free spaces. Each grape has a red-ochre contour, a white centre and pink filling.

Both pavements from Shahba are tentatively dated to the late third century, a terminus ante quem being provided by the reign of Philip the Arab (244-249), whose short reign gave a great impetus to his native city.⁶

The mosaic of Mariamin (Figs. 318-319), 50km. south-west of Ḥamā, discovered in December 1960 and now exhibited in the

6. The only publication so far is a brief anonymous article in Connaissance des Arts, No.230 (Avril 1971) 25, More accurate dating of these pavements would necessitate a full study of both the pavements found by Dunand in 1938 and the new discoveries.

Hamā Museum, provides another variant on the combination of an emblema with a scroll border in the central part (5.37m. x 4.25m.) of a rectangular house oriented east-west. In the central panel (3.80m. x 2.78m.), young women play musical instruments; in the south-western corner, two little winged putti press underfoot a leather bottle so as to send air into the organ. It is interesting to note that in the upper part of the organ's base, a light ochre band 25cm. high is decorated with four acanthus scrolls of type Ao, cream-coloured and white, each scroll measuring H. 16cm. x W. 19cm. From left to right the scrolls enclose a dog turned right, a dog turned left, a gazelle lying turned right and a deer turned left. This is indirect evidence for the use of the inhabited scroll as a decorative pattern on musical instruments and perhaps also on furniture.

The width of the acanthus border (including the outer border of triangles and black and white fillets) varies: 0.80m. on the east side; 0.92m. on the west; 0.82m. on the south; 0.79m. on the north. The border is of type Ao III₂a. In the middle of each side is a head wearing a headdress of leaves topped by two horns: the heads on the north and south sides are female; on the east and west sides they are male with beard and moustaches, on these latter sides an ancient repair is visible although the artist has tried to conceal it with a three-petalled flower.

The corners of the border are filled with four winged, naked putti, seen from a three-quarter view, who either emerge from a sheath of acanthus, or have a sheath of acanthus coming out of their thighs. The putto carrying a gazelle on his

left shoulder in the north-east corner represents Spring; the putto in the south-west corner is Autumn; those in the other two corners are winged, hunting putti.

The north and south sides contain six scrolls each; the east and west sides, four. The figures look inside the pavement towards the central panel. On the west side, from left to right, a naked putto (scroll 1), holding a lasso, and looking back over his shoulder runs to the left away from a bear (scroll 2); a naked putto (scroll 3) moves to the right spearing a bull which attacks him (scroll 4).

On the north side: a leopard (scroll 5) leaps towards the north-west angle figure; a tiger springs to the right (scroll 6) attacking a naked putto (scroll 7) who holds a round shield in his left hand and runs to the right whilst looking back at his pursuer; a boar (scroll 8) turned right attacks a hunting dog (scroll 9) turned left; a naked putto, his mantle over his left arm, moves to the left (scroll 10, Fig. 319).

On the east side: a naked putto, his mantle around his left arm and floating to his right (scroll 11), aims his bow and arrow to the right towards a gazelle running to the right (scroll 12); a naked putto (scroll 13) holding in his right hand a small knife teases a lion (scroll 14) turned to the left.

On the south side: a leopard (scroll 15) turns left; a naked putto with a blue belt around his waist (scroll 16), turned right, brandishes a weapon with a crescent-shaped end; a humped bull (scroll 17) turned left attacks him; a putto (scroll 18) carries a rectangular shield and moves to the right; a lion (scroll 19) attacks to the right a putto (scroll

20) who holds a knife in his outstretched right hand.

The scrolls measure H. 51cm. x W. 53cm.; the tesserae are 0.4cm. x 0.3cm. and there are 440 tesserae to the dm². The ground is black; the dominant colours are dark green, dark red, red-and-yellow-ochre. The acanthus leaves are well cut out and edged in white; tendrils twirl round both sheaths and leaves; flowers fill empty spaces. The pavement is dated to the third quarter of the third century on the basis of comparison between the hairstyles of the musicians in the central panel and that of empress Otacilia, wife of Philip the Arab, as depicted in sculpture and on coins (Zaqzuq and Duchesne-Guillemin, 1970, 101-104, 116).

An emblema mosaic pavement with a border of type Ao III₁a was accidentally found in the Spring of 1973 in Nablūs in the course of building works.⁷ It has been temporarily filled in. Dated tentatively by Avi-Yonah to the late third century, it is related in pattern-type and style (e.g. black ground) to the Syrian late third century inhabited scroll mosaics. It may well represent the southernmost point of extension of an impetus first given to the arts in central and southern Syria by Philip the Arab.

Also traditional in layout is the so-called Dirke mosaic in Adana Museum of which only four fragments remain.⁸ The actual fragment depicting the punishment of Dirke (H. 1.67m,

7. It is unpublished. I was fortunate enough to be allowed to look at the black and white photographs of the pavement, kept in the archives of the "Section of the occupied territories" in the Israel Department of Antiquities and Museums.

8. On the Dirke mosaic, cf. Budde, 1972, 25-29, ill. 31-46.

W. 1.87m., Inv. No. 4691) has an acanthus scroll border of type Ao. The busts of a boar and a lion emerging from acanthus whorls on a black ground alternate with flowers. The figures are turned to the outside whereas on the following two fragments they are turned inwards towards the central scene.

The other three fragments depict from the inside to the outside: a black band on a white ground, a plaited interlace, a frieze of hunting erotes and an acanthus scroll border. In the first fragment to the left (H. 1.77m., W. 1.26m., Inv. No. 4699), a naked eros walks to the left using his bow and arrow; to the right stands another eros holding a lance and turning to the right; above this scene, three acanthus scrolls enclose three pomegranates, a roe-deer protome and a flower, all the motifs being directed to the right (Fig. 320). In the middle fragment (H. 1.83m., W. 1.47m., Inv. No. 4703) a bear leaps towards the eros of the preceding fragment; two acanthus scrolls in the border are filled with a multipetalled flower and a cruciferous flower. The acanthus border of the third fragment (H. 1.56m., W. 1.93m., Inv. No. 4702) which depicts a jackal leaping to the right of a plane tree and attacking an eros armed with a lance and a knife, is lost.

The mosaic is dated by Budde on stylistic grounds from 250 to the second decade of the fourth century. The metallic angular shape of the yellow-ochre and dark green-grey acanthus with white tips holds an intermediary position between the acanthus of the Tarsus mosaic (Fig. 321)⁹ and that of the Constantinian Villa Floor, Antioch (M.5, Figs. 102-107); the

9. On the Tarsus mosaic, cf. Tekan, 1952 and Budde, 1972, 121-126.

hunting erotes are paralleled by the erotes riding dolphins from the House of the Boat of Psyche Pool 5 at Antioch (Levi, 1947, I, 185-186; II, Pl. XLI) dated between 235 and 315, but their heads are reminiscent of the heads of the hunting erotes from the Constantinian Villa.

A different approach to pavement layout is present on Cyprus. The pavement of room I (11.50m. x 8.50m. approximately) of the House of Dionysos at Kato-Paphos built in the second half of the third century and destroyed in the earthquakes of 332 and 342, combines a rectangular central field depicting a vintage scene surrounded by a border of acanthus scrolls beyond which is a zone of antithetical peltae, surrounded by three narrow bands separating the peltae from the outer border. The latter is a variation of the Greek key pattern with a narrow white band running round the edge of the room; a panel representing the Triumph of Dionysos occupies the east narrow side of the room. The central vintage scene includes vines from which hang bunches of grapes and vintagers collecting, carrying or loading grapes on pack animals. A Cupid holds the expanded plumage of a peacock, birds perched on the vines peck at bunches of grapes, another Cupid attacks a bull with a spear, a serpent creeps up round the trunk of a vine, a crouching hare eats grass, a deer and a mule wander amongst the vine, a third Cupid flies among the vine and a donkey carries baskets loaded with grapes.

The acanthus scroll border (Fig. 322) is of type Ao III₂a with a male head in the middle of each side; each scroll is filled with a bird, a pair of apples or a daisy.¹⁰

10. On the House of Dionysos, cf. Nicolaou, 1963, 1967 and 1968.

The tesserae (1cm. x 1cm.) are in white, brown, green and black hard limestone or marble.

The North African idea of an overall pattern of trees with people and animals dispersed across the surface - a version of the asaratos oikos applied to vegetation, as represented by the third century pavement of the House of the Aviary, Carthage (Lavin, 1963, 213-214, Fig. 31)-operates here, superseding the classical system of an emblema with a border (Lavin, 1963). The composition, however, is even looser than on North African pavements; vintagers, peacock, trees are placed haphazardly on a white ground; perspective and relativity in size are not respected. Although the panel of the Triumph of Dionysos suggests one viewpoint, the central panel demands multiple viewpoints to be understood. Whereas on second and third century North African pavements, the inhabited scroll appears either as a border or a field design and in Syria only as border, the combination of vine, field and acanthus border in the House of Dionysos heralds fifth and sixth century Syro-Palestinian pavements. The inhabited scrolls of the House of Dionysos represent therefore a geographical and chronological landmark in the eastwards transmission of artistic influence and development from North Africa.

The only remaining portion of the inhabited acanthus scroll design (Type Ao) running around the circular central design (which perhaps depicts the symbols of the Twelve Tribes of Israel or the Zodiac) in the nave of the synagogue of Yafia, 3km. south-west of Nazareth, is now exhibited in the

Israel Museum, Jerusalem, (Figs. 322-323).¹¹ The fragment, L.(max.) 1.08m., H.(max.) 0.80m., Inv. No. 69-885, shows a tigress (Fig. 324) emerging from the acanthus, one of her hind paws still hidden behind the foliage. The scrolls have an internal diameter of 48cm., the tesserae which are very tightly and regularly laid are 0.7cm. x 0.8cm. and there are 170 tesserae to the dm². The ground is black; the design is carried out in red- and yellow-ochre, grey, pink and white.

The acanthus is edged in white with either a pink filling and a red-ochre central stem, or an inner contour line of blue and grey tesserae with a pink filling but a yellow-ochre and white chequered patterned central stem. A pomegranate occupies the lower right corner of the fragment.

The pavement is dated by Sukenik to the late third-early fourth century (Sukenik, 1951a, 18); its layout heralds that of the fifth and sixth century synagogues with Zodiac cycles: Naaran (Goodenough, 1953, I, 253-256; III, Fig. 644), 'Isfiya (M.19, Fig. 146), Bet Alpha (M.47, Figs. 214-215), and Hammath-Tiberias (Goodenough, 1953, I, 214-216.)

It was precisely in the fifth and sixth century that sculpture was superseded by mosaic and that the developments already apparent in the pavement of Room I of the House of Dionysos at Kato-Paphos, for example, found their full expression.

11. On the Yafia' synagogue, cf. Avi-Yonah, 1958b, 62; Goodenough, 1953, I, 216-218; III, Figs. 989-994; Isserlin, 1952, 46-47; Saller, *Cat.*, 84-85; Sofer-Ovadia, *Cat. No. 194(3)*, p. 73; Sukenik, 1951a, 1951b; Vincent, 1921, 434-438; Yelvin, 1960, 43; Notes and News, *IEJ* 1 (1951), 250.

CHAPTER VIITHE DEVELOPMENT OF THE INHABITED SCROLL FROM LATE IMPERIAL
TIMES TO THE SEVENTH CENTURY

The present chapter does not aim at tracing in detail the stylistic history of the inhabited scroll from late Imperial times. For the early period, the analyses of the successive styles of the motif by Levi (1947, I, 489-517) and by Toynbee and Ward-Perkins (1950) remain fundamental. The major changes and developments in the treatment of the inhabited scroll between the second-third century material, predominantly the North African series of mosaic pavements, and the fourth-seventh century material contained in the catalogue will be considered here. An attempt will be made to evaluate the predominance of some types of scrolls and their arrangements over others within the fourth-seventh century period, using for this purpose the lists of codified inhabited scrolls in architectural sculpture and on mosaic pavements (Lists 3 and 4).

As already noted in Chapter II (pp. 23-27) each codified item is represented by a sequence of symbols or attributes. One attribute at a time may be chosen; by consulting the lists, and without necessarily referring to the catalogue entries or the figures, one can make a frequency count of the chosen attribute in each medium. For instance, the relative popularity of the vine, acanthus and ivy can be determined simply by noting how frequently the symbols "x" (vine), "o" (acanthus) and "*" (ivy) occur on the lists. This is the manual version of the scanning technique followed by

the computer at the first stage of a cluster analysis. At a later stage two attributes are examined together, then three, and so on.

1. Border and field


The double origin of the inhabited scroll motif corresponds to the two basic types of surface into which an inhabited scroll may be fitted: the border or strip (Types I, II, III) and the field (Types IV, V, VI).

Levi (1947, I, 491) points out that the scroll, whether of acanthus or vine, containing human heads, derives from the Hellenistic garland with fruit, grapes and vine leaves entwined with a ribbon and with theatrical masks set in the corners and sometimes in the middle of each side. Examples in sculpture of the garland interrupted by heads range from the second century B.C. marble lintel of the north parados of the theatre at Pergamon¹ through Hellenistic and Roman sarcophagi. The easternmost specimen is a frieze fragment of the Gandhara school.²

In mosaic art, the garland was the most frequently used motif for emblema frames on floors and walls from the first decade of the first century B.C. to the end of the third century. At Antioch the motif is still used in the early

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1. The ivy wreath is interrupted by four comic masks of the Silenus type, bald and with long ears, alternating with three bearded tragic masks with long, hanging wigs. Cf. Mendel II, No. 287 (344), pp. 47-49. The frieze is exhibited in Room 17 of the Istanbul Arkeoloji Müzesi.
 2. Frieze fragment in mica schist from Pakistan, dated second to fifth century. L.(max.) 0.17m., H.(max.) 0.155m. City of Birmingham Museum and Art Gallery Inv. No. 1264. Depicts two naked putti supporting a scale-patterned garland from which hang three pomegranates.

sixth century; it occurs in the border of the Honolulu Animal Mosaic (Room 3) in the House of the Worcester Hunt (Levi, 1947, I, 365; II, Pl. CLXIVd). The garland here, however, is turned into a schematic wreath of leaves interrupted in the centre of each side by a small bust within a white medallion (Fig. 325).³ Between the late third and the early sixth century, the garland was superseded by the scroll⁴ in sculpted friezes and on mosaic panels and borders.

3. A male head enclosed in a medallion is one of the two points of departure of the acanthus scrolls of the border of the fourth-fifth century mosaic of Dominus Julius in Carthage. It is placed in the centre of the upper border (cf. Appendix II, p, 243).
4. The earliest vine scroll with central masks is found in the second century House of the Atrium at Antioch, in the border of the Judgment of Paris panel. Mosaic panel (1.70m. x 1.70m.; Judgment of Paris emblema: 1.16m. x 1.16m., W. of vine scroll border: 0.28m.) in the Galerie du Phénix, Louvre. Excavated in 1932, catalogued in 1942 under Inv.No. MA 3443. Type BxII₂a.
- In lower border, from left to right, scroll 1: bunch of grapes pecked at by European bill-eater between scrolls 16 and 1; 2: finch; bearded head; 3: warbler or thrush; 4: damaged.
- In right border, from bottom to top, scroll 5: finch; 6: bunch of grapes; 7: quail; 8: bunch of grapes.
- In upper border, from right to left, scroll 9: grasshopper; 10: bunch of grapes; beardless head; 11: bunch of grapes pecked at by finch; 12: mutilated bird.
- In left border, from top to bottom, scroll 13: bunch of grapes; grasshopper perched on upper stem; 14: nut hatch perched on upper stem and pecking down at vine leaf; 15: peacock moving left and extending over scrolls 14 and 15; 16: damaged.
- Measurements of scrolls: external: L. 35cm. x H. 20cm.; internal: L. 30cm. x H. 15cm.
- Tesserae size: 0.5cm. x 0.5cm. in ground; 0.4cm. x 0.2cm. in birds and heads.
- No. of tesserae to dm²: 324.
- Black ground; dominant colours: yellow- and red-ochre, green (glass), blue (glass). Marble tesserae. Tendrils twirl around vine stems (3 rows red-ochre tesserae; 2 rows grey tesserae).
- Grapes  wine-red contour or brown contour pink filling or yellow-ochre filling.

Ref. LEVI, 1947, I, 15-20; II, Pls. Ib, CXLVib.
Fig. 326.

The motif of the overall vine trellis covering a field may have originally imitated a real vine-arbour as if reflected into an underlying pool. This analogy of the vine-arbour with a ceiling brings to mind those geometric pavements that reproduce the patterns of coffered ceilings (Levi, 1947, I, 509-510).

The vine trellis was thought of as having shoots climbing up along four pilasters in the corners, hence the four corner amphorae from which stem the vine shoots - a consistent arrangement of vine scroll fields on second-third century North African pavements (Type VIb).

In architectural sculpture the overall vine trellis is introduced in the fifth-sixth century: on Constantinopolitan columns (S.5, Figs. 9-10; S.6, Fig.11) and capitals (S.34, Figs. 78-80; S.35, Fig. 81) and on chancel-slabs both from Constantinople (S.8, Figs. 13-14; S.11, Figs. 21-22; S.12, Figs. 23-25) and the Negev (S.33, Figs. 75-77). Preference is still given to borders or strips; this is inherently due to the nature of the architectural elements which can be carved. They are predominantly in the form of bands, whether horizontal, e.g. friezes, or vertical, e.g. pilasters or door-jambs. From the areas west of the Levant and western Asia Minor only one inhabited scroll is of an overall vine design, that on a marble parapet of the ambo at the South basilica at Aliko on Thasos (cf. Appendix II, p.253).

Whereas the use of the scroll as a field is prevalent from the late first to the late third century on North African pavements, the position changes in the fourth-seventh

century period: borders are most frequently depicted.⁵

In Asia Minor, Syria and Palestine inhabited scrolls were confined to borders in the second-third century, as is evident from the Dirke mosaic in the Adana Museum and from the pavements of Shahba, Mariamin, Nablūs and Yafi'a (cf. supra, Chapter VI, pp.99-110). Between the fourth and the seventh century, however, they are depicted in fields (56 cases) nearly as frequently as in borders (58 cases).⁶

An innovation characteristic of Palestine and Trans-jordan in the sixth century is the combination on the same pavement⁷ of an inhabited scroll border framing an inhabited scroll field, the border being acanthus and the field vine.⁸

2. Vine (x), acanthus (o) and ivy (*)

In architectural sculpture, in contrast to the period preceding the fourth century when vine and acanthus scrolls

5. Inhabited scroll fields are found in the following fourth-seventh century pavements: at Cherchel, in the House of the Asinus Nica at Djemila, at Sidi Abich, in the "Byzantine House" at Sousse and in Church No. 2 at Sabratha, making a total of five, all of vine (x).
Inhabited scroll borders are found in the Cresconius basilica at Djemila (o), at Constantine (o), in Carthage - in the Louvre panel (x), the Dominus Julius mosaic (o) and the Hunting mosaic (o), at Kheredinne (o), at Bir Ftouha (o and x), in the baptistery of Kelibia (x), at Furna (o), at al-Muwassat (o), at Apollonia (x), Cyrene (x) and Qasr Lebia (x), making a total of fourteen, eight of acanthus (o) and six of vine (x).
6. Two fragmentary panels may originally have been either from a border or a field (M.30, Fig. 178; M.46, Fig. 213). They are therefore excluded from the counts.
7. This excludes separate depictions of inhabited scrolls in different parts of the same building, as in the Church of St. George, Jarash, where there are three inhabited scroll pavements unconnected with each other (M.77a-c, Figs. 272-274).
8. Bet She'an-Scythopolis: M.44a-b, Figs. 209-211; Jarash: M.74a-b, Figs. 266-267, M.77a-b, Figs. 272-274; M.78a-b, Fig. 274; M.79a-b, Figs. 275-278; M.80a-c, Figs. 279-280;
(Contd.)

were almost equally depicted with a slight preference for the acanthus, the fourth-seventh century sees the predominance of the vine scroll in Asia Minor, Syria and Palestine. Out of 36 examples,⁹ 29 are vine scrolls, four are acanthus scrolls, one is an ivy scroll, one combines the vine and the acanthus and one is either vine or ivy (cf. List 5).

In Egypt, the Alexandrian piece depicts an inhabited vine scroll, but the acanthus is more frequent on Coptic sculpture (eight cases of acanthus scrolls as opposed to three of vine scrolls). In Greece the vine (four cases) appears slightly more frequently than the acanthus (three cases). The only example in the Balkans, apart from Greece, is of a vine scroll.

It is difficult to gauge the significance of these counts in neighbouring zones. No inferences may be made for example from the North African material: one recorded inhabited vine scroll at HENCHIR el-BEGUEUR, Algeria, and vine scrolls and acanthus scrolls of an unspecified number at Gsur el Berber in Tripolitania (cf. Appendix II).

It is interesting to note that of the minor arts only Coptic textiles make an extensive use of the inhabited acanthus scroll; in ivory, silverware, jewellery, preference is given to the inhabited vine scroll (cf. Appendix I). Thus Coptic Egypt appears to stand apart from the rest of the eastern provinces taken as a whole; as one might expect from the strongly individualized nature of Coptic art.

Contd.) M.81a-b, Fig. 281; M.82a-b, Fig. 282; M.84a-b, Figs. 284-286; Suafiya: M.89a-b, Figs. 291-294.

9. S.17 (Figs. 35-39) which includes 66 fragments of different chancel screens is excluded from the counts.

On North African mosaic pavements where the acanthus scroll was previously little used,¹⁰ the vine scroll retains its Roman popularity to a certain extent. Between the fourth and the seventh century, there are eleven examples of inhabited vine scrolls and eight of inhabited acanthus scrolls.¹¹

In the Levant, the acanthus scroll¹² gives way to the vine scroll in popularity. Between the fourth and the seventh century, out of 116 pavements, 64 depict inhabited vine scrolls, 49 acanthus scrolls, one an ivy scroll, one scroll is either vine or ivy and one is perhaps vine (cf. List 6).

Both in architectural sculpture and on mosaic pavements, the inhabited ivy scroll appears so rarely that it is numerically negligible.

10. Room A of the early third century House of the Dionysiac Procession at El-Djem exhibits an acanthus scroll field (Foucher, 1963, 36-42, Pls. VII-X). The pavement of the "ambulatory" surrounding the central portion of the frigidarium in the villa at Thuburbo Majus is covered by an inhabited acanthus scroll (Levi, 1963, 218, Fig. 48, with references).

11. Cf. supra, p. 115 n. 5.
 Vine scrolls: Cherchel; House of the Asinus Nica, Djemila; Carthage Louvre panel; Bir Ftouha; Kelibia baptistry; Sidi Abich; "Byzantine House", Sousse; Sabratha; Apollonia; Cyrene and Qasr Lebia = 11.
 Acanthus scrolls: Cresconius basilica, Djemila; Constantine; Dominus Julius mosaic; Hunting mosaic, Carthage; Kheredinne; Bir Ftouha; Furna and al-Muwassat = 8.

12. Acanthus scrolls are depicted on the Shahba 1 pavement, at Mariamin, Nablus, in the border of Room of the House of Dionysos at Paphos, on the Dirke mosaic at Adana and on the Yafi'a synagogue fragment, hence a total of six. Vine scrolls appear on the Shahba 2 pavement and in the field of Room 1 of the House of Dionysos at Kato-Paphos. For all the above pavements, cf. Chapter VI, pp. 99-110.

3. Border/field and vine/acanthus/ivy

The combination of two attributes may also be examined. Of particular interest is the frequency relationship between border/field scrolls and vine/acanthus/ivy scrolls.

Counts are made of the frequency of combination of attributes A,B,C,I,II,III,IV,V,VI with x,o,* . Each item of the first set is combined in turn with each item of the second set, e.g. the frequency of Ax is examined, then of Ao, A*, Bx, Bo and so on. To facilitate the task of dealing with mosaic pavements, two separate lists of borders and fields have been drawn up (Lists 7 and 8).

In architectural sculpture in Asia Minor and the Levant the inhabited vine scroll border is most frequently found (21 cases); the overall vine field appears eight times, the acanthus border four times, the ivy border, the vine and acanthus border and an ivy or vine border once each (cf. List 9).

On North African pavements the inhabited scroll fields in the fourth-seventh century continue as before to be exclusively of vine (five cases) but the acanthus border predominates (eight inhabited acanthus borders as opposed to six inhabited vine borders). The numerical increase in numbers of the inhabited vine scroll border, from one in the Roman period to six in the fourth-seventh century period, is also significant.¹³

13. The border of the pavement of the early third century House of the Triumph of Dionysus at Sousse depicts a vine scroll issuing from four vases (Type Ax III₁b). Cf. Foucher, 1960, 47-48, Pl. XXIII. In the fourth-seventh century period, vine scroll borders are found on the Louvre Carthage panel, at Bir Ftouha, Kelibia, Apollonia, Cyrene and Qasr Lebia.

In the east, the inhabited vine scroll field is most popular (54 cases), followed by the acanthus border (46) and the vine scroll border (9). The inhabited acanthus field is depicted twice only, at Khirbat al-Makhāyyat (M. 70, Figs. 255-256; M.72a, Figs. 260-271). There is one case of an ivy scroll border, one which may be vine or ivy, one perhaps of vine and one field perhaps of vine (cf. Lists 10 and 11). In the case of two fragments, one of vine (M.30, Fig. 178) and the other of acanthus (M.46, Fig. 213), it is impossible to determine the nature of the arrangement, border or field.

As is clear from the lists of borders and fields (Lists 7 and 8) which include a date for each pavement, the popularity of a certain type of arrangement, e.g. an acanthus scroll border or a vine field, has no chronological significance within the fourth-seventh century period. It cannot be suggested for instance that acanthus scroll borders were popular only in the fourth century and were superseded by the vine scroll field in the fifth century. The various arrangements were used concurrently throughout the period examined, preference being given, however, to certain arrangements. The significance of geographical distribution, namely, the extent to which certain arrangements cluster in some zones will be discussed in the next chapter.

The vine scroll field, formerly a North African trait, shows increasing popularity in the Diocese of Oriens in the fourth-seventh century period - the scroll border, both of acanthus and of vine - a trait more associated with third century Cilician and Syro-Palestinian inhabited scroll pavements -

grows in popularity in North Africa in the same period. These developments suggest reciprocal influences, a west-east movement followed by a reflux. This theory is supported by the composition and style of the overall vine scroll pavements at Djemila, Cherchel, Sousse and Sabratha and the Cyrenaican examples of inhabited vine scroll borders (cf. infra, pp. 126-127).

4. Points of departure of the scroll: number (I,II,III,IV, V,VI) and nature (a,b,c,d,e).

In architectural sculpture in the majority of cases (22 out of 36) (cf. List 12), no points of departure for the scroll are distinguishable. The factor of destruction should be taken into account as it has affected most of the material in the catalogue. Only fragments of the original pieces are available and the point of departure of the scroll is often missing.

Of the remaining fourteen pieces, thirteen are of scrolls in borders or strips. Of these eleven exhibit one point of departure;¹⁴ one has two points of departure (S.29a, Figs. 67, 69 and 70) and in only one case do the scrolls issue from four points - one vine leaf at each corner of the border (S.31, Fig. 72). The head (a) occurs twice as a point of departure (S.9, Figs. 15-18; S.15, Figs. 30-32), the vase (b) four times (S.18, Fig. 40; S.19, Figs. 41-42; S.27, Fig. 64; S.30, Fig. 71), the acanthus foot (c) twice (S.4, Figs. 7-8; S.7, Fig. 12) and the vine leaf (d) four

14. Type III₁b is represented by the border of the pavement of the House of the Triumph of Dionysus at Sousse. Cf. supra, p. 118 n. 13.

times (S.22a-22b, Figs. 54-57; S.29b, Figs. 67-68; S.31, Fig. 72). The two points of issue of the scroll on S.29a (Figs. 67 and 69) are undefinable (cf. List 12).

As regards inhabited scrolls in fields, there are either no issuing points (S.5, Figs. 9-10; S.6, Fig. 11; S.34, Figs. 78-80; S.35, Fig. 81), or if the piece is fragmentary, the point of departure is missing (S.8, Figs. 13-14; S.10, Figs. 19-20; S.11, Figs. 21-22). The scroll issues from a vase in one case only (S.33, Figs. 75-77).

In only one case in Egypt, a pilaster from Bawit, the scroll issues from a point of departure, a vine leaf (cf. Appendix II, p. 251). In Greece there are two specimens of scrolls issuing from one point, in both cases from an acanthus foot (pilasters in the Church of St. Demetrios, Thessaloniki and doorway from a church in Athens; cf. Appendix II, pp.252-254). On the Aliki ambo parapet, the vine scroll stems from a vase centrally placed at the bottom of the panel (IVb).

Thus the predominance of the sole point of departure characteristic of Roman inhabited scrolls in architectural sculpture continues, but the acanthus foot is superseded by the vase and the vineleaf.

The points of departure of vine scrolls on second-third century North African pavements are most frequently four vases, one at each corner of the field (Type VIb) or of the border (Type III₁b).

On the late third century pavement of Thuburbo Majus, vine scrolls forming heart shapes stem from four acanthus feet (Type VIc) as in Room 42 of the early fourth century

Villa at Piazza Armerina in Sicily.¹⁵ In Room A of the early third century House of the Dionysiac Procession at El-Djem, which exhibits an acanthus scroll field, the stylized acanthus develops from the edges of the baskets carried on their heads by four young maidens or canephors.¹⁶ The four female busts of the Seasons enclosed in oval medallions formed by the second tier of acanthus scrolls on the axis of the diagonals prefigure the portrait busts in the vine design of the vault decoration of the Mausoleum of Sta. Costanza, Rome (337-350).¹⁷ In the middle of each of the long sides is depicted an Oceanus head carrying an elaborate formation of acanthus leaves; from his beard depart acanthus leaves extended by scrolls. The Oceanus heads, the busts of the Seasons and also the ringlets that link together the acanthus scrolls are ingredients reused much later on eastern pavements.

In North Africa between the fourth and the seventh century, the arrangement changes to one vase placed at the centre of one short side of the floor (Type IVb) or two vases, one in the middle of each short side (Type 2IVb). As already noted (cf. supra pp.119-120), borders increase in numbers. Owing to the general lack of pavements and to inadequate published descriptions, it appears that the points of departure of the scrolls are distinguishable in one case only:

15. Cf. Lavin, 1963, 244-251 (esp. 247-248, Fig. 59) with references.

16. Another interpretation of the theme of the canephors is represented by three male figures supporting a concave shield with scalloped edges with above them, to the left, a stork from whose beak hangs a lamp with a red flame in the centre, in the central area of the south-east exedra of the Church of St. John the Baptist (531) at Jarash (M.79b, panel 1, Figs. 276-277).

17. On Sta. Costanza, cf. Stern, 1958.

in the border of the Dominus Julius mosaic, Carthage (cf. Appendix II, p. 243). The acanthus scrolls issue from a male head in a medallion and from a naked male bust, each in the middle of the long sides (Type Ao II₂a).

In the Levant, the most popular arrangement, as regards inhabited scroll borders (cf. Lists 13 and 14), excluding 27 specimens without a point of departure,¹⁸ is the scroll departing from four points (17 cases), predominantly in III₁ form, i.e. a point of departure is placed at each angle of the border. There is only one case of III₂ type arrangement: a vase is placed in the middle of each side of the border (M.20e, Figs. 154-157).

The scroll issues from one point - a vase - in three cases (M.15, Figs. 136-137; M.21, Figs. 158-159; M.73a, Fig. 262) and from two points, also vases, once (M. 2bii, Fig. 94). M.5 (Figs. 102-107) exhibits six points of departure, four acanthus feet, one at each corner, and two heads, one in the middle of two opposite sides. From the published data it is impossible to determine whether the point of departure of the scrolls on M. 7 (Figs. 111-113) are four or six. In the category of the four point arrangement, preference is given to heads (10 cases),¹⁹ followed by acanthus feet (4) and vases (2). The vine leaf is not depicted. M.55 (Fig. 235) makes use of a unique combination of three golden eagles and one bearded head.

18. M.59, M.62 and M.66 are considered as one pavement; M.58a and M.58b likewise. M.60, M.61, M.63, M.64, M.65 and M.67 are also taken to represent one pavement.

The inhabited vine border of the Nicopolis Basilica A (cf. Appendix II, pp.255-256) also enters the category of borders without a point of departure.

19. Cf. infra, pp. 143-144.

The treatment of inhabited scroll borders in the fourth-seventh century period perpetuates established patterns. The five third century pavements in Syria, Palestine and Cyprus directly preceding the series examined exhibit inhabited scroll borders of types III₁a and III₂a.²⁰ The acanthus scroll predominates (four out of five). On the Shahba 1 pavement, the sequence of scrolls on the lower side between the first and second scrolls is interrupted by a naked genius from whose thighs issue acanthus leaves which join the scrolls on either side. On the Mariamin pavement, besides the four heads, one in the middle of each side, four winged, naked putti fill the corners of the border. Seen from a three-quarter view they either emerge from a sheath of acanthus or have a sheath of acanthus coming out of their thighs. This Roman trait particularly frequent in sculpture,²¹ is abandoned in the early fourth century; when more than four points of departure are needed, the acanthus foot is used in combination with heads, e.g. M.5 (Figs. 102-104).

In fields (cf. Lists 15 and 16), excluding 20 examples lacking a point of issue, the prevalent arrangement has the scroll departing from one point (24), mostly placed at one

20. Type III₁a: Shahba 1 (Ao III₁a), Shahba 2 (Bx III₁a); Nablūs (Ao III₁a). Type III₂a: Mariamin (Ao III₂a + 4 putti); Paphos (Ao III₂a).

21. The foliate-skirted creature, whose source is traced back by Toynbee and Ward-Perkins (1950, 5) to Hellenistic gold diadems, figures largely in architectural sculpture, notably on Hadrianic marble frieze capitals from the east courtyard of the Baths of Aphrodisias, now exhibited in Room 17 of the Istanbul Arkeoloji Müzesi (Mendel II, No. 494 (2271), pp. 185-187; No. 495 (2270), pp. 187-188). Another version of the same motif is represented by a fully dressed female figure emerging from an acanthus leaf as on a second century marble capital from Heracleia of Marmara-Perinthos, now in Room 2 of the Istanbul Arkeoloji Müzesi (Mendel III, Appendice, No. 1341 (65), pp. 547-548).

end of the field (21) but also in the centre of the floor (2). The position of the vase of M.49 cannot be determined.

Nine pavements exhibit four points of departure; one has two (M.20a, Figs. 147-148), one has eight (M.82b, Fig. 282)²² and one is undetermined (M.26, Figs. 170-171).

In the category of pavements with scrolls issuing from one point, the vase appears 21 times and the acanthus foot twice (M.44a, Figs. 209-211; M.77b, Figs. 272-273). Two peculiar points of departure are also found: a vase emerging from an acanthus foot (M.33, Fig. 183)²³ and a tree from which sprout vine stems (M.84a, Fig. 284). The vase is also depicted seven times in the four-point arrangement and once in the two-point arrangement (M.20a, Figs. 147-148). The acanthus foot appears twice in the four-point arrangement (M.57b; M.71, Fig. 257).

The nave field of the Cathedral chapel at Jarash (M.82b, Fig. 282) has an amphora at each angle and an acanthus foot in the centre of each side of the square.

Thus the North African vine scroll field was widely adopted in the east. But it also underwent major changes, as will be shown below (cf. infra pp.129-133). The four-vase arrangement was introduced into the repertory of eastern mosaicists but these in turn evolved a new type characterized by a sole point of departure at one end or in the centre of

22. The earlier border version of the scroll field with eight points of departure is represented by the garlanded border with eight masks of Room 1 of the House of the Boat of Psyche (235-312) at Antioch (Levi, 1947, I, 167-172; II, Pl. XXXVb).

23. The motif of the vase emerging from an acanthus foot appears in the mosaic of the apse of the early seventh century church of Panayia Angelokistos at Kiti, Cyprus (Papageorghiou, 1965, 2, 9-11, Pls. I-III).

the field. Significantly the "eastern" arrangement - whereby a vase or acanthus foot on one side of the pavement from which vine stems spread forth - is present in North Africa in the fourth-seventh century period. It is found in an apsidal chapel of a fourth century basilica at Cherchel (Caesarea; type $C_1 \times IVb$); in the choir of an undated church at Sidi Abich (Type $C_2 \times IVb$) and in Sabratha Church No. 2 (Type $C_3 \times IVc$) dated to the early years of the Byzantine reconquest. The fifth-sixth century pavement of the Byzantine House at Sousse (Hadrumeta) characterized by a date palm growing out of a vase and from which issues a vine scroll (Type $C_1 \times IV\frac{e}{b}$) is paralleled only by the pavement in the north aisle of the Church of St. George at Khirbat al-Makhāyyat dated by an inscription to November 540 (M.72b, Fig. 260; Type $C_1 \times IV\frac{c}{a}$). A palm tree from which issues a vine scroll, but without a vase, is also depicted in the sixth century Church of Elias, Mary and Soreg at Jarash (M.84a, Fig. 284; Type $C_1 \times IVe$).

The (2IVb) pavement type of the floor of the frigidarium in the House of the Asinus Nica at Djemila-Cuicul (Type $BC_1 \times 2IVb$) is unique in North Africa in that period; the only antecedent is the mid-third century pavement of the tepidarium in the Baths of Themetra (Foucher, 1958, 29-33, Pl. XVIII), and in the east it is found only once in the nave of the Church of Zahrānī at the end of the fourth century (M.20a, Figs. 147-148; Type $C_1 \times VII (2IVb)$).

Moreover, the bestiary depicted, including chukor partridges, guinea-fowl, geese, hare, bulls, deer and dogs, is far wider in range than the previous Roman bestiary, which comprised simply birds, lizards and a few deer and lions.

This bestiary is comparable to the bestiary of Levantine inhabited scrolls. A transmission of patterns or at least of influences from the Levant to North Africa appears likely. In the case of Cyrenaica, the import of craftsmen may even be tentatively suggested. Unlike North Africa, Cyrenaica had no established school of mosaicists, and the churches are the product of a vast Justinianic building programme. The iconography of their mosaic pavements points towards Syria and not Constantinople (Ward-Perkins, 1958, 191). To attempt greater precision a full study with technical details of the Cyrenaican mosaics is necessary.²⁴

It should be stressed that the position of the vase or vases does not constitute a chronological criterion. The four corner vases and the single vase in the centre of the base were depicted simultaneously throughout the fifth and sixth century.²⁵ The implications resulting from the geographical distribution of these two arrangements in particular will be examined in the next chapter. It suffices to point out here that the four-vase arrangement is found in coastal Phoenicia (M.17; M.20b; M.23a) and in Jarash (M.76b; M.79a; M.80b; M.83); the field type with four acanthus feet is exclusive to the Madaba region (M.57b; M.71). The group constituted by inhabited scroll fields with the vase or acanthus foot at one end, usually the western end of the pavement, divides itself geographically into eight areas:

24. A study of Cyrenaican churches by Ward-Perkins with a contribution on mosaics by Rosenbaum is to appear shortly.

25. Dates for the catalogue numbers on Lists 13 and 14 are obtainable from List 3.

Cilicia (M.4), the Ḥamā region (M.13,; M.14), the Jerusalem area (M.27; M.29; M.31; M.33; M.36), the southern limes (M.39; M.40; M.42), the Bet She'an area (M.43; M.44a; M.45b), Mt. Nebo (m.69), Jarash (M.77b; M.80c; M.81a; M.84a; M.86) and Suāfiya (M.89b).

5. Relation between points of departure (a,b,c,d,e) and species of the scrolls (x,o,*)

Although the vine stem usually and logically issues from a vase or a vine leaf - the latter only in architectural sculpture -, and the acanthus scroll from an acanthus foot, the sculptor and the mosaicist have sometimes indulged their fantasy.

In architectural sculpture, a vine scroll issues twice from a head capped by leaves (S.9, Figs. 15-18; S.15, Figs. 30-32); from an acanthus foot stems a vine scroll (S.7, Fig. 12); and in one instance both the vine scroll of the upper border and the acanthus scroll of the left border both originate from an acanthus leaf at the left corner of the border (S.4, Figs. 7-8).

In inhabited scroll borders of mosaic pavements of the four-point arrangement type, a vine scroll is associated once with heads (M.6, Figs. 108-110), the normal combination being of heads and acanthus. An ivy stem is connected once with vases (M.45a, Fig. 212) and from four acanthus feet originates what may equally be a vine or an ivy scroll (M.20d, Figs. 147 and 153). Vine scrolls issue from two acanthus feet, one at each end of a panel at Misis (Mopsuestia; M.2bii, Fig. 94).

In fields, vine scrolls spread twice from four acanthus feet (M.57b; M.71), twice from an acanthus foot at the western end of the panel (M.44a, Fig. 209; M.77b, Figs. 272-273) and once, more strangely from a tree (M.84a).

This shows the decline in naturalism by the sixth century. The vegetal ornament, as will be shown below (cf. infra, pp.137-143), degenerates into an ornamental motif; this allows the artist to graft together vegetal specimens regardless of reality.

6. Formalization and geometrization

A major compositional change is evident from the first-third century North African corpus of inhabited scroll fields on mosaic pavements and the eastern fourth-seventh century pavements. It lies in the increasing organization of the pavement and in the formalization of patterns made by the scrolls. The loose exuberance of the late first century Zliten inhabited acanthus field scrolls persists in the overall pattern of trees with people and animals dispersed across the surface - a version of the asaratos oikos applied to vegetation, as represented by the fragmentary late second century mosaic pavement of the frigidarium of the Baths of Bir el-Caid, near Sousse.²⁶ A bowl, a peacock, a gazelle,

26. On the Zliten floor, cf. Aurigemma, 1926, 205-232, Figs. 130-145. On the pavement of the frigidarium of the Baths of Bir el-Caid, cf. Foucher, 1958, 5-14; 1960, 106-107, Pl. LVa,b,c, LVI, LVIIIb. On the House of the Aviary, Carthage, cf. Lavin 1963, 213-214, Fig. 31, with bibliography. On the pavements of the Villa of the Laberii at Oudna, and those at Kourba and Thuburbo Majus, cf. Lavin, 1963, 221-222, with bibliography. On Room 10 of the House of Silenus at Thysdrus, cf. Foucher, n.d., 27-30, Pls. XI-XII. On the tepidarium of the Baths of Themetra, cf. Foucher, 1958, 29-33, Pl. XVIII.

a crane, an owl, a grasshopper, a lizard, a partridge and a kneeling, naked, winged youth are separated from each other by vine stems and tree branches spread haphazardly across the surface. A better-known example is the third century pavement of the House of the Aviary in Carthage.

A frequent alternative to the vegetal asaratos oikos is the diagonal overall design predominant in the second century. Its evolution ultimately led to its replacement on eastern pavements by a grid pattern of formalized scrolls. The earlier stages of this development may be followed in North Africa itself.

In the late first-early second century Dionysius and Icarius pavement of the Villa of the Laberii at Oudna, the arching stalks springing from the diagonals sprout branches that weave over the entire surface. Although some floors of the later third century, such as Room 10 of the House of Silenus at Thysdrus still exhibit this looser type of arrangement, in the majority of depictions the lush display is gradually reduced, simplified and organized more abstractly. The rigid symmetry in composition of the late third century mosaic in the Small West Baths at Banasa is characteristic of this evolution.

Example of scrolls forming heart shapes as they issue from the vase or the acanthus foot are found throughout the third century: in the early third century pavement from Kourba, the mid-third century pavement of the tepidarium of the Baths of Themetra and at Thuburbo Majus. Although an extreme pictorial exuberance reappears at the end of the

third century at Thuburbo Majus, it is an organized exuberance, far from the looseness of the vegetal asaratos oikos.

The North African diagonal pattern combines a central accent at the point of intersection of the diagonals, with the four accents provided by the points of origin of the diagonals. The centralized focal point lies in the emblema depicting Dionysiac scenes. For instance in the House of Silenus at Thysdrus, a hexagonal emblema represents Silenus reclining on a couch whilst three children, encouraged by a naked woman, bind him with a garland. The rectangular emblema in the middle of the vine field pavement of the tepidarium of the Baths of Themetra depicts the rape of Auge by Heracles. Alternatively the central focal point lies in a medallion²⁷ enclosing a bust, as in Room A of the House of the Dionysiac Procession at El-Djem, on the Kourba pavement and in Room 42 at Piazza Armerina. At Thuburbo Majus, although the emblema or medallion is omitted, the central accent is made by a leaping putto.

Following Lavin (1963), it has been shown above (cf. Chapter V, pp. 82-84) that the approach to the floor underwent major changes: from being conceived as an illusionistic space broken down into independent units predominantly with a single orientation imposed by the emblema, the floor was

27. Centralized medallions enclosing female busts are found on mid-fifth century carpet-pattern floors at Antioch: on the Mosaic of Ananeosis (Levi, 1947, I 321; II, Pl. LXXIII); on the Mosaic of Megalopsychia (Levi, 1947, I, 337-345; II, Pl. LXXVIb) and in the House of Ge and the Seasons (Levi, 1947, I, 346-347; Pl. LXXXIIa-b). Cf. also Lavin, 1963, 210-212.

treated as a single unit, a solid, opaque and unified surface.

In accordance with this evolution, eastern mosaicists allowed the overall vine trellis to be treated as a unit, a field in its own right rather than as a field playing the rôle of an extended border surrounding the emblema or medallion. Moreover, the diagonal focal lines were eliminated by disrupting the additive principle which governed the North African diagonal design. Two possibilities were then available: (i) removing the central accent whilst keeping the four accents in the corners, or (ii) keeping the central accent whilst removing the four corner points. In the second case, the central accent was displaced from the centre of the pavement (this design appears only twice on M.20c and M.52) to the middle of one side, usually the side at the entrance of the room. The point of departure of the scrolls, either the vase or the acanthus foot, thus leads the onlooker into the maze of scrolls. It loses its quality of compositional focal point to become a "positional" or "vision" point. It is from it that the onlooker steps into the field, physically by walking onto the surface or visually by taking it as a point of departure in "reading" the pavement. The vase or acanthus foot is frequently flanked by birds, e.g. peacocks, and there is a tendency to a symmetrical development of the vine stems; this reinforces the rôle of the sole point of departure.

The elimination of the diagonals implied a different kind of arrangement for the scrolls; namely the overall grid pattern which was already inherent in the borders was extended

to the field. Inhabited scroll fields of the fourth-seventh century period are reducible to grids of squares, each filled by a scroll, as is particularly clear from the Hammām Baisān pavement (M.44a-b, Figs. 209-211). The rhythm resulting from parallel, horizontal and vertical rows of scrolls geometrically reduced to circles, whether open or closed, weakened the four points of departure of the scrolls in their rôle of accents, so that compositionally the effect is similar to that of fields with four accents, e.g. the Kabr Hiram pavement (M.17, Figs. 142-143) or with none, e.g. pavements in the Church of St. John (M.70, Figs. 255-256) and in the Church of St. George (M.72a, Figs. 260-261) at Khirbat al-Makhāyyat. In both cases the eye is lost in the linear rhythm combined with the profusion of scrolls. The pavement has become a "carpet" dominated by a repetitive, geometricized pattern, thus a "carpet design".

Levi (1947), I, 504-516) has traced in detail the simplification of the scroll, the degeneration of the vegetal ornament, the progressive geometrization of the motif till in the sixth century the scrolls are essentially geometric constructions in an organic disguise. This disguise is often quite thin, as in the east border of the nave in the synagogue of Bet Alfa (M.47, Figs. 214-215) or in the border of the transept pavement in the Nicopolis Basilica A (cf. Appendix II, pp. 255-256).

The rarity of the motif of the inhabited scroll in Greece is interpreted by Sodini (in press, 109, n.1) as a sign of the chronological precedence of Greek pavements over the pavements in Syro-Palestine and Libya, or as a matter of

choice, preference being given in sixth-century Greece to geometric patterns. The second suggestion appears more likely as the geometric version of the inhabited scroll which consists of roundels, rectangles and other geometric forms enclosing birds and plants, is found in Greece. The mosaic pavement at the entrance of the Delphi Museum, for instance, depicts animals enclosed in octagons.

The geometric version of the inhabited scroll is present in most areas where the inhabited scroll is very popular and in the same period. Against the garden wall of the Church of St. John the Baptist at Byblos, a fragmentary mosaic panel depicts interlinking circles, ellipses and diamonds, enclosing a pigeon, a pomegranate tree, a godrooned vase and a parrot, a red pativ tied around its neck.²⁸ On a fifth-sixth century pavement in the Russian monastery of the Mount of Olives, Jerusalem, 35 interlinking rectangles and circles contain notably an ibis, a flamingo, doves, ducks, lemons, a pomegranate, a leaf, grapes and two dogs (Avi-Yonah, Cat. No. 117 - QDAP II, No. 4, 1932, 167, Clermont-Ganeau, 1899, 329-337). In the fifth-sixth century synagogue at Caesarea, chukor partridges, ducks and flamingos are amongst the zoomorphic elements enclosed in interlinking medallions (Sofer-Ovadia, Cat. No. 33). In Room 11 (7.80m. x 3.70m.) of the sixth century Baths at Tiberias, beribboned pigeons,

28. This panel measures: L.(max.) 2.69m.; W.(max.) 1.82m. A second, rectangular, panel in the garden of the Church measures 4.06m. x 1.43m. It exhibits the same geometric patterns (circles, ellipses and diamonds) as panel 1, but it is heavily damaged and the inhabitants are barely visible.

cranes, ducks and fishes fill the B14-J8 geometric motifs (Sofer-Ovadia, Cat. add.; Kitzinger, 1965b, Pls. 19-21). Part of the pavement of chapel "G" in the Monastery of Lady Mary (ca. 567) at Bet She'an (Scythopolis) exhibits a scheme of medallions containing birds, notably two peacocks (Avi-Yonah, Cat. No. 20 - QDAP II, Nos. 2-3 (1932), 143-144; Fig. 205).

Thus the geometric version of the inhabited scroll was used as an alternative to or as a variation of its vegetal counterpart; for instance the east border of the nave in the synagogue of Bet Alfa, which depicts a highly stylized inhabited scroll (M.47, Figs. 214-215), corresponds to the west border with squares containing baskets of fruit, a bunch of grapes and a vessel with fruit (Sukenik, 1932, 42, Pl. XXIII). The mosaicist could choose either a purely geometric scheme or a vegetal ornamental design, both being extendable into any direction, and thus fitting the size of any room. Into this design he inserted animal and vegetal elements called from a common repertory.

The inhabitants of both schemes are similar. In the geometric pattern, however, the birds are isolated from each other; whereas the inhabited scroll allows for a succession of connected figures or scenes. The wider range of possibilities, e.g. scenes of the chase and of vintaging, afforded by the inhabited scroll, perhaps explains its greater popularity in mosaic art; on Coptic textiles, the geometric scheme predominates (cf. Appendix I). Moreover, despite its simplification and geometrization, it had an exuberance lacking in geometric schemes.

The predominantly linear rhythm of the inhabited scroll pattern is further illustrated by counts made of scroll types in borders and fields (cf. List 17).

In borders, the single running scroll (A) predominates (54 cases). The medallion scroll (B) is found twice alone (M.47, Figs. 214-215; M.73a, Fig. 262) and as an alternative to A in some sections of the border of the House of the Bird-Rinceau (upper level) at Antioch (M.9, Figs. 115-123). Type AC₁ appears once (M.2bii, Fig. 94).²⁹ In fields, the overall scroll devoid of internal patterns (C₁) prevails (28 cases). Type C₂, in which the two central loops at one end of the field form a vertically placed heart-shaped pattern, appears five times; C₃ - which includes a central vertical row of medallion scrolls - three times, and C₄, which combines C₃ with a horizontally placed heart-shaped pattern on either side of the lowermost medallion scrolls, is found in four instances. The overall medallion design (B + C₁) is rare (M.20c, Figs. 147, 151-152). There are several hybrids (seven of CA, two of CB and two of CA or CB). It is significant that three out of four specimens of the C₄ group come from the southern limes area of Palestine (M.39, Fig. 200; M.40, Figs. 201-203; M.42, Fig. 204) as also one out of the three members of the C₃ group (M.38a, Figs. 195-198). The extent to which this "regional group" may correspond to a workshop based on Gaza is discussed in the following chapter. Another "regional group" may be represented by two C₂ pavements from Bet She'an-

29. It is a hybrid type, a cross between A and C₁; it covers the whole surface of the panel but is not a true field.

Scythopolis (M.43, Figs. 205-208; M.44a, Figs. 209-211). Omitting M.42 (Fig. 204), which is dated to the fifth century, it is interesting to note that the pavements of types C_2 , C_3 and C_4 , i.e. those displaying the most organized and geometrized patterns, are all of the sixth century. From the carpet design, in which the equality of value given to all accents is such that ultimately there are no accents, the next step is represented by the reorganization of the floor along an axis and the reintroduction of symmetry. Rhythmic symmetrical grouping with antithetic groups of beasts placed symmetrically at both sides of an axial row mainly filled with objects such as baskets or vases, is displayed by all the C_2 , C_3 and C_4 pavements. As has already been observed (cf. Chapter V, p.87) these represent the tail-end of a devolution in the treatment of inhabited scroll fields.

In architectural sculpture, type A scroll predominates (22 cases). The medallion scroll (B) appears five times in borders and is combined once with an overall field design as type BC_1 (S.33, Figs. 75-77). All overall fields are of type C_1 (cf. List 15).

7. Pattern-making and the loss of naturalism.

In view of the fragmentary nature of fourth-seventh century sculpted inhabited scrolls and also of stylistic, regional differences, it is difficult to comment in general terms on changes in the treatment of inhabited scrolls from the second century. Loss of naturalism, simplification and a tendency towards pattern-making, however, characterize the majority of pieces, as is made clear by a comparison of the

Hadrianic inhabited scrolls of Aphrodisias (Mendel II, No. 493, pp. 178-184, Fig. 313) with any of the examples entered in the catalogue. From a relief modelled in surfaces the design was transformed either into an optical pattern of contrasting lights and shades, effected by undercutting or alternately into an abstract pattern outlined by borders in relief cut in planes. These two branches of pattern-making, distinguished by Avi-Yonah (1942;1948) in his study of the evolution of plant ornament, correspond to two ornamental possibilities, the "free", i.e. the field, and the "confined", i.e. the border or strip. The "free" field invites a naturalistic composition; it allows the sculptor to spread the branches, leaves, tendrils and grapes as he chooses and to give them the form he prefers. This accounts for the light and shade treatment of the Justinianic overall scrolls, columns (S.5, Figs. 9-10; S.6, Fig. 11) and capitals (S.34, Figs. 78-80; S.35, Fig. 81).

The vine scroll designs in the Church of St. Polyeuktos, Constantinople dated to 524-527 (Harrison and Firatli, 1966, Figs. 6 and 7) display a comparable treatment (Fig. 327).

In confined spaces, stylization is more natural; a complex process, it is accompanied by changes in form of subsidiary decorative elements, grapes, leaves and tendrils as in the Syrian examples (S.25, Fig. 61; S.26, Fig. 62; S.27, Fig. 64; S.31, Fig. 72).

One should be wary, however, of equating naturalism with "free field", and stylization with "confined space". Two-dimensionality and simplification are present on fragmentary chancel slabs from Constantinople (S.10, Figs. 19-20; S.11,

Figs. 21-22) and the Negev (S.33, Figs. 76-77). In the latter case, the trellis has lost its vegetal quality and is reduced to a criss-cross pattern of double lines. On the other hand, the vine scroll with birds pecking at the grape clusters on the southern door of the Alahan East Church (S.21, Figs. 46-53) is treated in a colouristic manner.

The stiffening of the scroll winding within a restricted space and the conventionalization of the acanthus leaves, the vine leaves and the bunches of grapes are best observed in the Diocese of Oriens, particularly in Syria. Amongst fourth-seventh century inhabited scrolls in architectural sculpture, the angular grape-vine figures on two door jambs, in the sixth-century "Domed Ambulatory Church" at Dağ Pazari (S.22a-b, Figs. 55-57) in Isauria, and in the Ḥamā region (S.25, S.26, S.31) respectively. Lassus' survey of the region north-east of Ḥamā has in fact demonstrated the almost exclusive domination of the angular shape of grape vine, whether inhabited or uninhabited, in that area from the fifth century (Lassus, 1936b-1937, 126-127, Pls. XVI; XXII, 2). In all these examples, the animals are diminutive, highly stylized and tend to merge with the rest of the geometric pattern, as exemplified also by the Ḥamā door-jamb (S.27), so that the general effect is that of a stark, rigid geometrization. The acanthus scroll is reduced to an imbricated pattern of circular bands terminated by spikes, as at al-Bāra (S.24, Fig. 60) and Dair al-Za'afarān (S.28, Figs. 65-66).

Grapes form bunches of various geometric shapes, with their surface stylized by geometrically regular granulation.

The wavy and triangular scroll generally implies triangular clusters of grapes filling the resulting angles as in the border of the chancel-slab from Rasm al-Qanafiz (S.31, Fig. 72). The triangle is dissolved into its component grapes, each marked by a dot,³⁰ as in the chancel-screen from Taşucu (Holmi, S.20, Figs. 43-44).

An alternative shape is the elongated bunch with elongated grapes, rather like a fir cone (S.8, Figs. 13-14; S.10, Figs. 19-20).

The linear compositional rhythm particularly characteristic of friezes predominates, except in overall scrolls. The only example of pure symmetry - and in this case symmetry of a very complex nature - is provided by a fifth century lintel in the Kariye Camii (S.1, Figs. 1-2). Not only do the scroll fillers correspond to each other across the central axis but the birds are also placed antithetically two by two on either side of a basket or a vase. The symmetry of the border of a relief from the Church of St. John Stoudion (S.4, Figs. 7-8) cannot be fully verified owing to the destruction of the right side of the panel, but it is probable, the central cross being flanked by a dog and a pigeon on either side.

Similar geometrization of the acanthus, the vine stem, vine leaves and bunches of grapes is detectable on mosaic pavements. Vine stems consist of concentric rows - usually

30. This is particularly clear on a sixth-seventh century basket capital now in Room 19 of the Istanbul Arkeoloji Müzesi. Its vegetal decoration consists of triangular bunches of grapes alternating with ivy leaves. Cf. Mendel III, No. 1239 (2730), pp. 463-464.

two or three - of tesserae in a regular and determined succession of colours, e.g. red-ochre, yellow-ochre and wine-red.

Pattern-making in colours is even more prominent in the acanthus motif. The impressionistic and subtle use of colour nuances as exhibited by the acanthus of the late third century Shahba 1 pavement (Fig. 315), is abandoned; from the fourth century, the acanthus is rarely of more than two colours. The arched leaves forming the scrolls and indented only in the inner section of the whorl, are successively of alternate colours. For instance, if scroll 1 has a red-ochre upper arched leaf but a yellow-ochre lower one, scroll 2 will have a yellow-ochre upper arched leaf and a red-ochre lower one. Thus on the Damascus Gate mosaic (M.32, Figs. 181-182), there is an alternation between a red-ochre filling of leaves with pink and white contours, and a grey-green filling with light blue-grey and white contours. Occasionally this basic scheme is complicated by the division of each "arch" or spray into two or three colour zones. In the Church of the Holy Apostles at Madaba (M.56, Figs. 236-238), the acanthus sprays are divided into two zones by a central band consisting of one row of yellow-ochre tesserae and one row of wine-red tesserae. Half of each spray is grey, the other half is alternately yellow-ochre and pink to red-ochre; the tips of the leaves are contoured in white. The acanthus feet separating the scrolls are alternately turned downwards or upwards. This alternation in colours and directions emphasize the linear, symmetrical rhythm.

Vine leaves are frequently subdivided into two or more colour zones: half grey and half yellow-ochre (M.20c, Figs. 151-152), half blue and half dark or phosphorescent green, half grass-green and half phosphorescent light green, half green and half black (M.44a, Figs. 209-211), half black and half grey-brown (M.48a, Figs. 216-217).

Bunches of grapes are round or elongated (M.20c, M.44a). The range of ways in which the tesseræ are arranged in various kinds of grapes are examined in the following chapter. The varying treatment of acanthus leaves, vine leaves, tendrils and grapes, when used as stylistic criteria, supplies important data for the determination of workshops. It is reviewed in the following chapter.

An important point of difference between Roman and fourth-seventh century inhabited scroll pavements lies in the colour of the background. The Roman use of black as a background in scroll borders still appears on a few pavements, notably in Room 4 of the Constantinian Villa at Antioch (M.6, Figs. 108-110) and on the Damascus Gate mosaic (M.32, Figs. 181-182). Black is replaced by white already in the late third century pavement of Shahba 2 (cf. *infra*, p. 103). The background of fields thereafter continues to be white. It is, however, often barely visible, so cluttered is it with bunches of grapes, tendrils and even birds and small animals filling the spaces between the scrolls, e.g. as on the pavement of Hazor Ashdod (M.27, Figs. 172-173) and in Room "L" of the Monastery of Lady Mary at Bet She'an (M.43, Figs. 205-208). Crosslets and twigs are spread in empty areas in acanthus scroll borders (M.44b, Figs. 209-211; M.56,

Figs. 236-238). In vine scroll fields bunches of grapes extend everywhere against the law of gravity: not only downwards but also upwards and sideways (M.44a, Figs. 209-211). Horror vacui is a prominent feature of inhabited scrolls in the fourth-seventh century period. It is connected intimately with the carpet-field and pattern-making.

8. Scroll fillers

Both in architectural sculpture and on mosaic borders, animal protomai go out of fashion. They are still found in architectural sculpture in second-third century Cilicia, in the Temple of the Olbian Zeus at Uzuncaburç (Diocaesarea) and in Galilee, in the synagogue of Capernaum (cf. infra, pp. 90-92). In mosaic art, the acanthus scrolls of the border of a fragmentary hunting pavement from Constantine enclose the protomai of two bears, two lionesses, a boar and a horse, as on the pavement of the curved peristyle at Piazza Armerina. Fragments of acanthus scrolls enclosing animal protomai from a fourth-fifth century church at Bir Ftouha, near Carthage, are the last recorded examples of protomai in mosaic scrolls.³¹

Although they were once taken to be representatives of the Seasons - by Mendel, for instance, describing the Damascus Gate mosaic (Mendel III, No. 1306 (1604), pp. 511-514) - the heads at the corners of borders have lost their attributes as Seasons. The differentiation of aspect as exemplified by the heads of the Shahba 2 pavement, Autumn being represented by a

31. The theme of the animal protome on North African mosaic pavements is studied by Blanchard-Lemée (1974, 242-244).

youthful female head wearing a metallic headdress with grapes attached, Summer by a beardless tanned head, Spring by a female head crowned with ivy leaves and Winter by an old man's head with white hair and beard, is not apparent any more. Two beardless heads correspond to two bearded heads diagonally across the pavement but in no way do they symbolize the Seasons. The old theme of the Oceanus head, which became the vegetal head of the Semitic Hadad and was subsequently equated with the Seasons, is finally debased in uniformity.³² Moreover, in the Madaba region, it is replaced by portraits of a young man and a young woman (M.58a, Fig. 242; M.58b, Fig. 243), and by the heads of Tyches (M.60; M.63, Fig. 246; M.67, Fig. 249). The most successful and nearest attempt at the humanization of the head in a scroll is embodied by the portrait of the so-called Goth in the acanthus scroll of the Imperial Palace, Constantinople (M.1, Figs. 86-87).

The gradual disappearance of the putto from the repertory of scroll fillers may also represent a form of humanization of the motif which moves from the realm of mythological fantasy to that of rural reality. The vintaging putti of the North African pavements are replaced by vintagers leading their donkeys to the wine press, carrying baskets of grapes or treading the grapes. The last examples of vintaging putti date to the mid-fourth century: on the fragment of a

32. On the transformations of the Oceanus head into a representative of the Seasons, cf. Foucher, 1963, 139-142. Oceanus heads are also found in sixth century architectural sculpture, on two marble capitals in Room 19 of the Istanbul Arkeoloji Müzesi. Cf. Mendel II, No. 748 (599), pp. 546-548 and No. 749(2253), pp. 548-549, Fig. 328.

sarcophagus comparable to the porphyry sarcophagus of Constantina, Constantine the Great's daughter, who died in 354 (S.3, Figs. 5-6) and in the border of Room 4 of the Constantinian Villa, Antioch (M.6, Figs. 108-110). Hunting putti, naked but for a kilt, spear bears and lionesses on the border of the sixth-century House of the Worcester Hunt, Antioch (M.7, Figs. 111-113) and in that of the Church at Naharriya (M.18, Figs. 144-145). The hunters, horsemen, farmers and vintagers of the pavements from the Churches at Khirbat al-Makhāyyat (M.70 - M.72b, Figs. 255-261) are real people, dressed in the style of the sixth century. Quadrupeds are prominent in the bestiary; the exotic zebras, giraffes and elephants depicted on the floors of the synagogues of Gaza (M.38a, Figs. 195-198) and Maon-Nirim (M.40, Figs. 201-203), speak of contacts with the hinterland, Arabia, India, and also Egypt. In a peculiar way, the naturalism lost in composition owing to the organization of the pavement and the geometrization of the scroll is recaptured in the inhabitants of the scroll.

CHAPTER VIII

PATTERN-BOOKS, "REGIONAL GROUPINGS", SCHOOLS, WORKSHOPS
AND ARTISANS

Before one attempts to define "regional groupings" and workshops, the question of pattern-books must be examined in relation to the motif of the inhabited scroll. The problem is tackled here in the light of the identification of botanical, mammal and ornithological species depicted in fourth-seventh century inhabited scrolls in architectural sculpture and on mosaic pavements,¹ combined with an examination of the frequency of depictions of the various species and within them, of their members.

1. Pattern-books

(a) Percentages of depictions

Counts have been made of the frequency of depictions of animals (a), birds (b), fish (f), human figures (h), inanimate objects (ina), insects (ins), scenes and monograms (sc), and vegetal elements (v) as scroll-fillers. Architectural sculpture and mosaic pavements are treated separately. The results are:

Architectural sculpture:	Type	No. of depictions	%
	b	86	41.8
	a	56	27.2
	v	20	9.7
	h	18	8.7
	ins	14	6.8
	ina	8	3.9
	<u>sc</u>	<u>4</u>	<u>1.9</u>
	Total	206	100%

1. The mammals were identified by Dr. A.S. Clarke, Keeper of Natural History at the Royal Scottish Museum, Edinburgh, and the birds by Mr. I.A. Lyster, Assistant Keeper of Natural History, Royal Scottish Museum, Edinburgh.

Mosaic:	Type	No. of depictions	%
	b	399	29.7
	a	370	27.6
	v	324	24.2
	h	119	8.9
	ina	116	8.7
	ins	9	0.7
	f	3	0.2
	Total	<u>1340</u>	<u>100%</u>

Thus, both in architectural sculpture and on mosaic pavements, birds are the most frequent scroll-fillers, followed by animals, vegetal elements and human figures. The rarest representations are of whole scenes, mainly religious as the Baptism scene of S.6 (Fig. 11), and monograms (S.24, Fig. 60) in architectural sculpture, and of fish in mosaic. The rarity of fish and sea-shells is not surprising; the inhabited scroll is a vegetal motif, hence a terrestrial one too, and logically fish have no place in it. The presence of two fish as incidental space-fillers between the acanthus scrolls of the mosaic pavement of the Church of the Priest John at Khirbat al-Makhāyyat (M.70, Figs. 255-256), and that of a sea-shell enclosed in a vine scroll on the pavement of the Church of Dair as-Ṣalīb (M.15, Figs. 136-137) are no doubt due to a passing fancy of the mosaicist.

Within each Type or group, counts have also been made of the frequency of depictions of its various members. Each group is examined separately from the point of view of architectural sculpture and of mosaic pavements (cf. Lists 19 and 20). For uniformity of treatment all frequencies are quoted as percentages, thus allowing direct comparability.

The numbers of occurrences can be ascertained readily by reference back to the two main lists above.

Insects² include bees (35.7%), caterpillars (21.4%), lizards (28.6%), a snail and an unidentifiable insect (7.1%) in architectural sculpture; lizards (33.3%), unidentifiable insects (22.2%), a beetle (11.1%), a caterpillar (11.1%), a grasshopper (11.1%) and a tortoise (11.1%) on mosaic pavements. It is interesting to note that insects, which are abundant in Hellenistic and Roman inhabited scrolls (Toynbee and Ward-Perkins, 1950, 2), are confined in the fourth-seventh century period to classicizing inhabited scrolls: on the column fragment depicting a Baptism scene (S.6, Fig. 11) and on three capitals, two of which were found in 1972 (S.34, Figs. 78-80; S.35, Fig. 81), both from Constantinople. Likewise in mosaic art, insects are depicted only on pavements exhibiting classical ingredients, e.g. protomai (M.8, Fig. 114) or naked hunting putti (M.18, Figs. 144-145), or on those treated in the classical manner (M.1, Figs. 82-89). A beetle appears in the acanthus scroll of the Constantinian Villa Floor, Room 1 (M.5, Figs. 102-103 and 105), a caterpillar in the border fragment from the House of the Rams' Heads, Antioch (M.8, Fig. 114), three lizards, a grasshopper and a tortoise on the Imperial Palace floor, Constantinople (M.1, Figs. 82-89) and two centipedes (?) in the border scroll of the Church at Nahariya (M.18, Figs. 144-145).

2. The group is one of convenience whose title is not definitive; the tortoise and the lizard are included in the insect group to avoid having a separate, tiny group of reptiles. The snake appears as a mammal for similar reasons of convenience, being usually associated with the mongoose.

The naturalistic trend of classical art which tended to depict birds, insects, and small beasts in their relative sizes and in their native setting, was gradually superseded by a fanciful incongruity which used human figures and larger animals, e.g. dogs, bulls, horses, bears, panthers and lions, as scroll fillers. In fourth-seventh century inhabited scrolls, except in the isolated cases cited above, insects and small beasts are replaced by larger and occasionally exotic ones, e.g. elephants (M.40, Figs. 201-203), giraffes and zebras (M.38a, Figs. 194-197) as will be discussed below (cf. infra, pp. 161-163).

Inanimate objects are limited in architectural sculpture to baskets (62.5%) and vases (37.5%).³ The range of objects is much greater on mosaic pavements; it includes vases and amphorae (20.0%); baskets (19%), baskets containing grapes (10.3%), pomegranates (4.3%), apples (4.3%), figs (0.9%) or unidentifiable fruit (5.2%); bird cages (8.6%); jars (4.3%); empty bowls (1.7%); bowls of fruit (1.7%); cups (1.7%); bags for the transport of grapes (1.7%); ritual objects (9.5%) and decorative elements (2.7%).

The motif of triangular bags used for the transport of grapes, depicted in sets of three, is confined to the Bet She'an region, appearing on the Ḥammām Baisān floor (M.44a, Fig. 209) and at Bet Alfa (M.47, Fig. 214). A similar bag full of grapes is carried by a donkey in scroll 25 of the

3. Vases which are the points of departure of scrolls are excluded from the counts. They are only included if enclosed by a scroll, as on the Hazor Ashdod pavement (M.27, Fig. 172). For the range of vases depicted cf. Figs. 329-331.

Ḥammām Baisān floor. On all other pavements where donkeys are represented carrying bags or baskets full of grapes, the bag or basket has a round bottom with a knob and a large rim, as on the pavements of Kfer Abu Sarbūt (M. 68, Fig. 252), of the Church of SS. Lot and Procopius at Khirbat al-Makhāyyat (M.71, Figs. 257 and 259) and of Suāfiya (M.89b, Fig. 291).

The ritual objects are exclusively depicted on synagogue floors, at Maon-Nirim (M. 40, Fig. 201) and Bet She'an (M.45b, Fig. 212). They include the citrus fruit or ethrog (3.4%), the seven-branched candlestick or menorah (2.6%), the ram's horn or shofar (1.7%), the branch of palm, myrtle and willow or lulab (0.9%) and an incense vessel (0.9%).

Decorative elements are rare: discs (0.9%) at Serdjillā (M.11, Figs. 128-129), a Solomon's knot (0.9%) and a volute (0.9%) at Mā'in (M.73a, Fig. 262). Inscriptions are also found (6.9%), either filling a scroll as on the pavement of the Gaza synagogue (M.38a, Fig. 195) or included in the scroll in association with an object, e.g. a menorah (M.45b, Fig. 212), or a human figure, e.g. Gê, the Earth (M.70, Fig. 255), John Ammonius (M.72b, Fig. 260), Mary, Elias and Soreg (M.84a, Fig. 284).

Human figures. In architectural sculpture putti are most popular (44.3%), followed by shepherds (16.7%), women (11.1%), undefined human figures (11.1%), a peasant (5.6%), an orans figure (5.6%) and a female bust (5.6%). Except for the "human figures" and the orans (S.23, Figs. 58-59) and the female bust (S.32, Figs. 73-74), the other human figures are from Constantinopolitan pieces (S.3, Figs. 5-6; S.5, Figs. 9-10; S.6, Fig. 11) and a Nicomedian baluster

(S.15, Figs. 30-32). These examples are exceptional. The general tendency is to replace the human figure, such as the hunting putti of the Aphrodisias friezes (Mendel II, No. 493, pp. 178-184, Fig. 313), by animals and particularly birds.

On mosaic pavements hunting and vintaging scenes are well represented, the former by hunters (29.4%), the latter by vintagers (10.1%), men leading donkeys carrying baskets of grapes (5.0%), flute players (5.0%) and grape-treaders (3.4%). Other rural activities are represented by shepherds (6.7%), a reaper (0.8%), and a peasant (0.8%). Children (5.0%) also appear, as well as offerers (3.4%), putti (2.5%), female busts (2.5%) such as a Tyche on the Damascus Gate mosaic (M.32, Fig. 181), a female bust holding a duck at Bet Alfa (M.47, Fig. 214) and Gê in the Church of the Priest John at Khirbat al-Makhāyyat (M.70, Fig. 255). A woman holding a basket of fruit (0.8%), a negro (0.8%) and mutilated human figures (7.6%) are also depicted. In contrast to the preceding period (cf. Chapter VII, pp. 144-145) and to architectural sculpture, putti appear rarely and exclusively on Antiochene inhabited scroll pavements, in Room 2 of the Constantinian villa (M.6, Figs. 108-109) and in the House of the Rams' Heads (M.8, Fig. 114). Naked hunters who are in fact overgrown putti spear lionesses and tigers in the acanthus scroll borders of the House of the Worcester Hunt, Antioch (M.7, Figs. 112-113) and of the Church at Nahariya (M.18). The Worcester Hunt figures are completely naked except for a triangular kerchief round their neck; the Nahariya hunters wear a loin-cloth and a similar kerchief, except for one

completely naked hunter (scroll 42). All the other human figures at Nahariya are naked except for a loin-cloth, a piper sitting on an overturned basket (scroll 7), a young man pulling a horse by a rope (scroll 20) a man sitting cross-legged (scroll 63) and a man kneeling (scroll 73). These are remnants of the classical inhabited scroll lingering on into the early sixth century in isolated examples; the general trend by this time is to depict fully-dressed figures in the fashion of the period⁴ both in keeping with a prudish tendency also apparent in the depiction of sexless animals, at Khirbat al-Makhāyyat for example, and with an actualisation of the motif linked to its rural background (cf. Chapter IX, pp.222-223).

Vegetal elements. Excluding the acanthus and the vine which are native to Asia Minor and the Levant and whose relative popularity in depictions of scrolls has already been discussed (cf. Chapter VII, pp.115-117), vegetal scroll fillers in architectural sculpture consist of vine leaves and bunches of grapes (45.0%), vine leaves (40.0%), undefined fruit (10.0%), and a bunch of grapes (5.0%). The list is far more varied for mosaic pavements, including pomegranates (21.0%), flowers (17.3%), bunches of grapes (16.4%), leaves (13.0%), fruit (9.3%), pears (5.2%), ivy leaves (4.9%), vine leaves (2.5%), melons (2.5%), almonds or ivy leaves (1.5%), paprika pods (1.2%), palms (0.9%), tray-like flowers (0.9%), vine leaves and bunches of grapes (0.9%), quinces (0.6%), apples (0.3%), artichokes (0.3%), a sunflower (0.3%), a tree (0.3%), and a

4. On sixth century fashion as known from the pavements of Khirbat al-Makhayyat, cf. Saller and Bagatti, 1949, TN, 77-78.

twig (0.3%). Except for the pomegranate imported in Antiquity from Africa into Palestine, the palm tree imported from Egypt and the melon, all the other vegetables, fruits and plants were native to Asia Minor and the Levant; by the fourth century even the imported species were grown locally (G.P.I, 204-217).

Animals are represented in architectural sculpture by bears (10.7%) and dogs (10.7%), rabbits (8.9%), deer (7.1%), lambs (7.1%), lions (7.1%), boars (5.4%), bulls (5.4%), goats (5.4%), horses (5.4%), foxes (3.6%), reindeer (3.6%), a cow (1.8%), a camel (1.8%), a gazelle (1.8%), a squirrel (1.8%), a bear or lion (1.8%), a bull or sheep (1.8%), a deer or dog (1.8%), and a few unidentifiable animals (7.1%).

Within the range of animal depictions on inhabited scroll pavements, the dog ranks as most popular (8.6%), closely followed by the hare or rabbit (8.4%), the lion (7.3%), the deer (5.9%) and the bull, the gazelle, and sheep which are depicted equally often (5.7% each). After the goat (5.4%), the count drops with the leopard (4.3%), the donkey (3.2%), the bear and the horse (3% each), the tiger (2.7%), the lioness (2.4%), the fox (1.9%), the ibex, the mongoose and the snake (1.6% each), the boar (1.4%), the antelope and the cat (1.1% each). Elephants, giraffes, lambs, lionesses with cubs, and rams rank equal (0.8% each); the cow, the ox, the panther, the reindeer and the tigress appear very rarely (0.5% each); the bush buck, the camel, the hedgehog, the jackal, the onyx, the rhino, a rodent, the wolf and the zebra appear once only (0.3%). 5.1% of the animals cannot be

identified or are simply described as "animals" in publication. The identification of some is not secure; there are a few examples of donkeys or horses (0.8%), antelopes or gazelles, bulls or cows, and deer or goats (0.5% each), and one of a bear or lion, a cat or tiger, a cat or leopard, a dog or wolf, a fox or dog and a lamb or sheep (0.3% each).

Birds are principally of small varieties in architectural sculpture. Besides 30.2% which are either unidentifiable or described as such in publication, there are pigeons (20.9%), crow-like birds (7.0%), doves (5.8%), parrots (4.7%), hen pheasants (3.5%), finches (3.5%), ducks and partridges (2.3% each), a chukor partridge, a cock, a hen and a thrush (1.2% each). A few identifications are insecure: peacocks or pheasants (2.3%), pigeons or doves (2.3%), a crane or heron, a crow or starling, a partridge or swallow, a pheasant or francolin, a pigeon or quail, a thrush or finch and a thrush or pigeon (1.2% each). As for the other species or groups, the range of birds is much greater on mosaic pavements. Besides 8.5% of unidentifiable birds, ducks are the most popular (8.5%), followed by chukor partridges (8.0%) to which must be added 1.2% of chukor partridges encaged, then by peacocks (7.0%) and pigeons (7.0%), pheasants (6.0%), cocks and cockerels (5.0%), cranes and partridges (4.0% each), flamingoes (3.8%), doves (3.2%), guinea-fowl (2.8%), chickens and eagles (1.8% each), finches and geese (1.3% each), hens, ibises, parrots, storks, swans and thrushes (1.0% each), herons and magpies (0.8% each), moorhens, ostriches, quails and rails (0.5% each). The bustard, the crow, the egret, the kite, the pelican, the robin, the turkey (?) and the woodcock are

each depicted once only (0.2%). Some birds are difficult to identify: geese or swans (1.5%), crows or pigeons (1.0%), crows or thrushes, ducks or geese, gallinules or moorhens, magpies or pigeons, and peacocks or pheasants (0.8% each), cranes or hens, crows or magpies, doves or pigeons, finches or swallows, and partridges or quails (0.5% each), a crow, magpie or rock, a dove or partridge, an egret or heron, a falcon or parrot, a goose, swan or duck, a hawk, falcon or kestrel, a heron or stork, a heron or wader, an ibis or stork, a magpie or thrush, a parrot or pigeon, a partridge or swan, a pheasant or francolin, a pigeon or hen, a pigeon or quail, a stork or crane, a wagtail or pipit, and a woodcock or wader (0.2% each).

(b) Inferences from the percentages and the identification of animals and birds

Besides fulfilling a need for accuracy, the identification of animals and birds by a mammal specialist and an ornithologist, was conducted in order to determine whether the animals and birds enclosed in the scrolls were imaginary or real, and in the latter case whether their habitat in the fourth-seventh century period corresponded to the geographical location of the scrolls examined. If not, the explanation for the presence of non-imaginary animals or birds in an area where they were unknown could lie perhaps in the use of "pattern books" by sculptors and mosaicists. Hence the question of the artist's use of "pattern books" as opposed to his observation of nature will shortly be examined in the light of the inhabited scroll.

The high percentages, both in architectural sculpture and on mosaic pavements, of animals and birds which are either unidentifiable or difficult to identify (the latter case being represented by an alternative, e.g. crow or thrush, duck or goose) are principally due to inaccurate renderings. It is often difficult to determine what the artisan intended to represent. The deer of scroll 35 on the pavement of Maon-Nirim (M.40, Figs. 201 and 203) might be meant as a representation of a fallow deer or of a red deer in velvet. The "duck" of scroll 4 on the "Armenian mosaic", Jerusalem (M.33, Fig. 183) should not have such a drooping tail if it were a duck; alternatively it could be a pigeon, but a rather large, duck-like one. The deer of scroll 3 on the Sede Naḥum pavement (M.48a, Fig. 216) seems to be wearing a mask, perhaps an effect due to imperfect restoration. The eagle of scroll 11 of the Suāfiya scroll field (M.89b, Fig. 291) looks like a teddy-bear. Artistic licence is particularly frequent and extensive. The dots on the pigeon's breast on the fragmentary chancel-screen from Taḡucu (Holmi), for instance, do not correspond to a particular species of bird (S.20, Figs. 43-44). The feet of the parrots of S.34 (Figs. 78-80) are strictly speaking wrong; they have three toes forwards and one toe backwards - a characteristic of hawks -, instead of two toes forwards and two toes backwards. The tendency displayed by mosaicists to endow most birds with spurs, regardless of reality, rules out any bird-identification argument based on spurs. The swan (scroll 4) and the geese or swans (scrolls 7 and 8) of the Sede Naḥum pavement (M.48a, Fig. 216)

and the flamingoes (scrolls 10 and 12) of the Gaza synagogue pavement (M.38a, Figs. 195 and 198) are amongst the many birds exhibiting spurs. Some sheep are given cloven feet as in scroll 25 of the Maon-Nirim floor (M.40, Fig. 201) and some features are exaggerated, e.g. the long, undulating necks of the Sede Nahum swans and geese.

Mosaicists take great liberties in the use of colours. The moorhens or purple gallinules of the Misis pavement (M.2bii, Fig. 94) are rendered in green instead of blue. The bird in scroll 33 of the "Armenian mosaic," Jerusalem (M.33, Fig. 183) has been provisionally entitled a "rail", but it could also be a purple gallinule or a moorhen. In the latter cases, the outline would be right but not so the colours. The purple gallinule is turquoise blue, with red legs, and the moorhen is almost black, whereas the bird depicted combines a greyish blue body, yellow-ochre wings, a brown breast with wine-red streaks, a red beak and red legs. The stork of scroll 24 on the same pavement exhibits a wild range of colours: grey, red- and yellow-ochre, pink, wine-red and black.

It can now be stated with certainty that there are no depictions of imaginary or chimerical creatures - griffins, dragons, sphinxes and salamanders - such as described by the rhetor Timotheus of Gaza in his De Animalibus written about 500. His list of animals is far more exhaustive than the ones compiled from the evidence of inhabited scrolls both in architectural sculpture and on mosaic pavements. A comparison between the lists shows that a great number of the animals he

mentions are not depicted; they include the hyena, the bison, the onager, the mule, the ass, the soubos, the marten, the mice, the weasel, the mole-rat, the land crocodile, the crocodile, the hippopotamus, the lynx, the chameleon, the skink, the wild horse, the spotted hyena, the ape, the katōbleps, the beaver, the frog, the marmot, the seal, fish, octopus, and the kingfisher. Many of the species which figure in Timotheus' animal-book, however, are derived not from contemporary zoological observation and knowledge on Timotheus' part but from ancient sources, notably Aristotle's Historia Animalium, Oppian's Cynegetica and Aelian's De Animalibus. Consequently his treatise is more a précis of what the educated philosopher should know about animals, than a reliable and accurate source on the zoological situation in fifth-sixth century Palestine. Some remarks made by Timotheus are particularly interesting. He associates gazelles with partridges and comments that they are caught by hunters through the presence of each other (De An. Chapter 17, 1-2). Deer and francolins, and horses and bustards are also mentioned as being friends. The pard is said to like wine and being drunk and asleep is easily caught by hunters. Although the catching of drunk pards is not depicted, the association of pard and vine gives a basis of realism to the depiction of leopards leaping through vine scrolls as on the Gaza pavement (M.38a, Fig. 195). Timotheus also states that if one anoints the head of a dog with the lard of a vulture and it hears a flute player, it leaps and dances (Chapter 26, 3), a scene depicted in scroll 7 of the pavement of room "L" in the

Monastery of Lady Mary at Bet She'an - Scythopolis (M.43, Figs. 206-207).

The majority of animals and birds depicted, are found in Asia Minor and the Levant. The major difficulty encountered in examining the species depicted in relation to their past habitat, is that ancient distributions are inferred precisely from textual references, artistic depictions and gross approximations as to the time needed for a species to extend or move its habitat, i.e. for distributions to change. It appears, however, that significant changes in the distribution of birds have not taken place since Roman times; as regards mammals, the Addax antelope of the 'Araba, the Bubalis antelope once inhabiting the zones to the south and east of the Dead Sea, and the lion whose presence in Palestine is attested until the Middle Ages,⁵ are now extinct.

Some of the mammals and birds enclosed in the scrolls are ancient imports. The Greeks and the Romans introduced very early into the eastern provinces the peacock from India, the pheasant from China and the Caucasus (its distribution runs from the Black Sea to the western part of Chinese Turkestan), the guinea-fowl from East Africa, and the mongoose or ichneumon from India and Egypt. An interesting scene is the fight between the mongoose and the snake, commented upon by Timotheus of Gaza (Chapter 43, 2), a Roman theme on mosaic

5. Cf. the bibliographical references given by Abel, G.P.I, 223, n.2. Particularly relevant to the fourth-seventh century period are the references from John Moschus' Pratum Spirituale and the various Lives by Cyril of Scythopolis.

pavements and in literature,⁶ which appears on several sixth century inhabited scroll pavements. The mongoose and the snake, each in a separate scroll, confront each other in the Imperial Palace, Constantinople (M.1), at Qabr Hiram (M.17, Figs. 142-143), in the first antechamber at Zahrānī (M.20b, Figs. 149-150) and at Sede Naḥum (M.48a, Fig. 216).

Excluding the percentages of species whose identification is either impossible or controversial, the counts in each category split into two groups: the high and the low counts. The high counts may well correspond to motifs in "pattern books" and the low counts may well represent actual recordings from nature. Amongst the lowest counts (one depiction of each type) are one bird and a few mammals not native to the region of provenance of the pavement upon which they are depicted. On either side of the vase from which issue the scrolls of the Bait Mari pavement (M.21, Figs. 158-159), a scroll encloses a crown-crane, whose crown, however, is represented here by only three small tufts. The distribution of the crown-crane covers Kenya, Uganda and the Sudan and it may scarcely be postulated that in the mid-sixth century it extended to the Lebanon. The possibility of a travelling craftsman is excluded since Central Africa is a region devoid of mosaic pavements. Four possibilities remain: (i) that this is the only depiction known so far of crown-cranes imported into Phoenicia in Graeco-Roman times, or (ii) at least one crown-crane was brought to Phoenicia in the mid-sixth century and the mosaicist drew it from nature or copied

6. Cf. Aymard, 1959.

a drawing locally, or (iii) a travelling craftsman may have come from Egypt for instance where he had seen crown-cranes imported from Africa, or lastly (iv) a sketch of a crown-crane may have been brought from Egypt to a workshop in Beirut where, so far as one can tell from surviving evidence, only one mosaicist used it.

The oryx to the bottom right of scroll 12 on the pavement of room "L" in the Monastery of Lady Mary at Bet She'an-Scythapolis (M.43, Figs. 206 and 208) and the rhinoceros in scroll 9 of the border of the Bet She'an synagogue pavement (M.45a, Fig. 212) are both Egyptian and Indian species. The only horned antelopes with spots - which should be white and not black as in scroll 12 on the pavement of room "L" in the Monastery of Lady Mary (M.43, Figs. 206 and 208) - are those which include the bushbuck, which is an African species; but an African leads it in the same scroll. Since it seems unlikely that an Egyptian or Indian rhinoceros, a very large and untamed animal, should have been paraded round the streets of sixth century Bet She'an, either one of the two last possibilities outlined above in connexion with the crown-crane could apply to this depiction. The fact that the mosaicist of the Monastery of Lady Mary was probably a local man (Avi-Yonah, 1935, 29) and the association in the same zone of a pavement of two exotic species, the African oryx and the bushbuck, combined with the fact that the bushbuck is represented with an African suggest that these depictions stem from observation of nature. A negro with a bushbuck, an oryx and perhaps other exotic animals which do not figure on

the pavement, may well have travelled through Bet She'an, in the same way that Timotheus of Gaza records the passage through Gaza of a man from India coming through Eilat (Aila), bringing two giraffes and an elephant to the Emperor Anastasius (Chapter 24, 2). Two giraffes appear on the pavement of the Gaza synagogue dated by an inscription to 509 (M.38a, Fig. 196), another on the sixth century Be'er Sheva pavement (M.53, Fig. 228), and two elephants figure on the pavement of the Maon-Nirim synagogue dated to ca. 538 (M.40, Fig. 201). Since, according to the chronicle of Marcellinus, the animals arrived at the court of Constantinople in 496, their passage through Gaza may have been sketched by one or several mosaicists who made use of their sketches several years later; the earliest known mosaic pavement which may commemorate the event is in the Gaza synagogue (M.38a, Figs. 194-198). The only depiction of a zebra is also from the same pavement. Even if these depictions are not directly related to the precise historical event mentioned by Timotheus of Gaza, the presence of giraffes, elephants, a zebra, tigers, lionesses and flamingoes on pavements from Gaza and its region (Shellal, Maon-Nirim and even Be'er Sheva) can be explained by the geographical position of Gaza. Lying at the junction of many caravan routes Gaza owed its prosperity to the trade in grain, wine, silver and spices. It served as an emporium for import and export, in direct contact with Egypt, the Negev and the Arabian hinterland (cf. Chapter IV, pp. 59-60). If giraffes, elephants and zebras were not traded, a few specimens besides the ones known historically may have been

imported; in any case artistic contacts, exchange of patterns, motifs and sketches, if not of artisans, can be assumed. Be'er Sheva lay within the orbit of Gazean influence and trade contacts, so that the fragmentary Be'er Sheva pavement (M.53, Figs. 224-231) with its giraffe, hedgehog and snake may be considered related to the pavements from Gaza and its region.

The camel appears once only in sculpture, at Dair al-Za'aferān (S.28, Figs. 63-66) and once in mosaic, at Suāfiya (M.89b, Fig. 291), both times in its natural habitat, Syria and Palestine. At Suāfiya, the camel carrying a load on its hump is shown being fed on a rope by a bearded old man wearing a long tunic (scrolls 5 and 4), a scene typical of the caravan trade. Particularly since this is a unique depiction, it no doubt stemmed from the observation of caravans from Eilat-Aqaba (Aila) passing through Petra and Amman (Philadelphia) on their way to Jarash (Gerasa).

In architectural sculpture, it may be deduced from the limited overall range of bird, animal, human, vegetal and inanimate depictions and from the even more limited range of the inhabitants most frequently found in scrolls (dogs, rabbits, deer, lambs and lions, pigeons, crows and doves), that the sculptors used a basic repertory which had remained unchanged since Hellenistic times and even reduced it, eliminating several elements, e.g. insects, putti and hunting scenes. The predominance of the vine scroll border of A III₁ form further supports the case put forward above (cf. Chapter VII, pp. 123-124) for a simplification of the motif in this period. In mosaic art, the wide overall range of

depictions combined with their limited range in the high counts (dog to lioness; duck to guinea fowl) suggests the use of "pattern books". These are not cartoons displaying whole pavements, but note-books or sketch-books in which each page consisted of one sketch of one type of bird, animal, human figure, inanimate object, vegetal element or scene. These would have been made into separate files dealing with birds, animals, human figures etc., produced in a standardized fashion.⁷ Each "workshop" or each master-craftsman would have possessed at least one complete set of files: a file for birds, a file for animals, a file for human figures and so on. Another file would have consisted of basic layout schemes of inhabited scroll patterns as they appear in the code: A, B, C₁, C₂, C₃, C₄, I, II, III, IV, V, VI and their sub-divisions, o, x, * and a, b, c, d and e. In view of the fact that many fourth-seventh century pavements in Asia Minor and the Levant exhibit patterns other than the inhabited scroll, e.g. geometric motifs as codified by Avi-Yonah (1932-1933) - although the inhabited scroll was the most frequently treated theme - it must be assumed that the craftsman had a wide range of files including geometric layouts and patterns, separate human figures for the Seasons as at the Hammām Baisān (Avi-Yonah, 1935 b, 22-26), Zodiac cycles, and so on. In view of the lack of textual evidence, it is impossible to gauge the extent to which the patron interfered in the choice of the motif, the layout and composition; he may have simply put an order through to the workshop or the

7. A modern parallel is pattern books of wall paper samples.

artisan. Having decided to use the inhabited scroll motif and taking into consideration the size of the room to be paved and perhaps the artistic likes and dislikes of the patron or donor, the mosaicist picked a scheme and then chose the inhabitants of the scrolls from the separate files.⁸ The wealth of birds of Palestine owing to its geographical position on the route of the bird migrations between Europe and Africa partly explains the wide range of birds displayed on Palestinian mosaics. However a pavement such as the "Armenian mosaic," Jerusalem (M.33, Figs. 183-186) or its geometric counterpart on the Mt. of Olives (Clermont-Ganeau, 1899, 329) are nothing more than collections of ornithological specimens. The mosaicist seems to have run through his bird-file, passing in review all the types of birds and producing the feathered equivalent of a bestiary in mosaic.

The middle of the range of frequencies, from two to ten depictions (0.5% to 1.9% for animals, 0.5% to 1.8% for birds, on mosaic pavements) is represented by motifs which were chosen by the artist in spite of their general lack of popularity.

Moreover, the mosaicist supplemented the standardized sets of depictions and scenes with others culled from observation of daily life and botanical species. The mosaicists of the border of the peristyle court of the Imperial

8. In the case of the geometricized version of the inhabited scroll (cf. Chapter VII, pp. 134-135) the mosaicist chose a geometric rather than a vegetal scheme and filled it with the same birds, animals, and inanimate and vegetal elements as those inhabiting scrolls. He chose these from the same files.

Palace of Constantinople inserted into the acanthus scroll motif quinces, apples, artichokes and a sunflower (M.1, Figs. 85-89).⁹ To the standard motif of the hunter with the spear, the mosaicists of the Madaba region added the hunter with a bow (M.55; M. 71; M.72a), the hunter on horseback with a bow (M.72a), the hunter with a lasso (M.57b), the hunter with a rope (M.72a), the hunter with a sling (M.70) and the hunter with a sword (M.57; M.70). The mosaicist of the Ḥammām Baisān pavement (M.44a, Figs. 209-211) depicted a hunter with a club (scroll 18). He also introduced the motif of a rabbit caught in a basket of grapes which it has spilled and from which project its hind legs and haunches. This may be a version of the method of snaring hares which consisted of placing a basket on the earth with its mouth open and with an arrangement of ropes permitting it to be closed suddenly. The mouth was surrounded by various baits (here the bait is grapes). Hares looking for protection against the cold of night entered the basket and were caught in the morning when the hunters gathered in the ropes (Avi-Yonah, 1935b,15).¹⁰

Despite the use of patterns and artistic licence, observation of nature in the case of the depiction of some animals and birds which figured in the files was not totally

9. The curious termination of some scrolls in trays with fruit upon them is fully discussed in The Great Palace, Second Report, 128-130. The same motif in sculpture depicted on a fifth-sixth century bluish marble slab in storeroom No. 4 of the Istanbul Arkeoloji Müzesi (Inv. No. 710 (1571), Firatli Catalogue in preparation, No. 182; H.(max.) 0.61m., W. 0.51m., Th. 0.08m.) is illustrated by Fig. 332 of Vol. IV.

10. McCail (1963, 150-152) discusses an epigram by Agathias (A.P. 6, 72) in which a hare is punished for despoiling the vineyard.

disregarded. The birds of the pavement of 'Ain al-Bād (M.14, Fig. 135) are very true to life. The bulb shape of the cock pheasants is particularly accurately rendered and it can be postulated that although the mosaicist used existing patterns (the birds portrayed, moorhens, peacocks, ducks and cock pheasants, are frequent scroll fillers) he also incorporated the fruit of his own close observations from life; it seems, however, that he did not dispense entirely with patterns, since two of the birds - the magpie or thrush and the dove or parrot - are loosely represented, making identification difficult.

It is possible to recognize "regional groupings" and perhaps identify schools, workshops and artisans by means of the way in which they combine various characteristics. There are many areas in which the mosaicist could exercise choice and exhibit perhaps unconscious adherence to a school or local style. One might recognize a mosaicist or a workshop by the way in which the same theme is treated. In the scene at the wine press, there are three treaders at Qabr Hiram (M.17, Figs. 142-143), as in the Ḥammām Baisān (M.44a, Fig. 209), two in the Church of St. John at Khirbat al-Makhāyyat (M.72a, Fig. 260) and one in room "L" of the Monastery of Lady Mary at Bet She'an (M.43, Fig. 206); at Qabr Hiram they hold on to cords to support themselves, at the Ḥammām Baisān and at Khirbat al-Makhāyyat they hold hands; the screw with a weight in the centre of the composition is found only at Qabr Hiram and at Khirbat al-Makhāyyat. Additionally the technique of craftsmen may vary, and one

aspect may be crudely reflected in the number of tesserae to the dm^2

2. "Regional groupings" and "schools" of inhabited scrolls on mosaic pavements¹¹

The method adopted throughout the present analysis consists in making inferences from the combination of counts of various attributes of the inhabited scroll pavements, e.g. patterns, tessera size, tessera density per dm^2 with geographical distribution. At a later stage, the extent to which the geographical groups corresponding to the various counts of the attributes coincide, will be examined.

(a) Patterns

The combination on the same pavement of an inhabited acanthus scroll border framing an inhabited vine scroll field as shown above (cf. Chapter VII, pp. 115-116) is found on three sites: at Bet She'an (M.44a-b, Figs. 209-211); Jarash (M.74a-b, Figs. 266-267; M.77a-b, Figs. 272-273; M.78a-b, Fig. 274; M.79a-b, Figs. 275-278; M.80a-c, Figs. 279-280; M.81a-b, Fig. 281; M.82a-b, Fig. 282; M.84a-b, Figs. 284-286), and at Suāfiya (M.89a-b, Figs. 291-294).

Regional groups have also been inferred from the geographical distribution of the two basic types of arrangements for fields: the four corner vases and the single vase in the centre of the base (cf. Chapter VII, pp. 127-128). The four-vase arrangement appears in coastal Phoenicia (M.17, Figs. 142-143; M.20b, Figs. 149-150; M.23a, Figs. 161-162) and

¹¹. Architectural sculpture is examined below (cf. infra, pp. 189-192).

at Jarash (M.76b, Fig. 269; M.79a, Fig. 275; M.80b, Fig. 279; M.83, Fig. 283). The field type with four acanthus feet is found exclusively in the Madaba region (M.57b, Fig. 239; M.71, Fig. 257). The inhabited scroll field with the vase or acanthus foot at one end of the pavement is prevalent in eight areas: Cilicia (M.4, Fig. 96), the Ḥamā region (M.13, Fig. 131; M.14, Fig. 135), the Jerusalem zone (M.27, Fig. 172; M.29, Fig. 176; M.31, Fig. 179; M.33, Fig. 183; M.36, Figs. 192-193), the southern limes (M.39, Fig. 200; M.40, Fig. 201; M.42, Fig. 204), the Bet She'an area (M.43, Fig. 206; M.44a, Fig. 209; M.45b, Fig. 212), Mt. Nebo (M.69, Fig. 253), Jarash (M.77b, Figs. 272-273; M.80c, Fig. 280; M.81a, Fig. 281; M.84a, Fig. 284; M.86, Fig. 288) and Suāfiya (M.89b, Fig. 291). The scroll type is another regional indicator. In fields, the overall scroll devoid of internal patterns (C_1) prevails over the whole area studied (cf. Chapter VII, pp. 136-137). Its distribution does not allow any inferences regarding regional groupings. The overall medallion design ($B + C_1$) of which there is only one example (M.20c, Fig. 151) and the hybrids (CA and CB) are scattered geographically and do not form groups. Out of five C_2 pavements, two are from Bet She'an (M.43, Fig. 206; M.44a, Fig. 209). The C_3 group splits into two: Jerusalem (M.29, Fig. 176; M.33, Fig. 183) and Gaza (M.38a, Figs. 195-197). The C_4 group covers Hazor Ashdod (M.27, Fig. 172); the southern limes, i.e. Shellal (M.39, Fig. 200), Maon-Nirim (M.40, Fig. 201) and Khirbat 'Asīda (M.42, Fig. 204).

(b) Surface area of pavements

Excluding the pavements of which only fragmentary panels remain, e.g. the Ma'arat an-Nu'man panel (M.13, Fig. 131), the surface area of every inhabited scroll pavement whether of border or field type was calculated and a frequency histogram drawn (Diag. 2). It appears from the histogram that the surface area of pavements is not a criterion of differentiation which can be used for purposes of grouping pavements geographically. Too many factors external to the pavements themselves are at play such as the layout of the whole building, e.g. a church, or the fact that in some cases only part of the paved area of the building has been found and cleared, e.g. Shellal (M.39, Fig. 200) so that it is impossible to calculate the ratio of the surface of the inhabited scroll section to the total paved area. Moreover, as pointed out above (cf. Chapter V, pp. 83-84) the popularity of the inhabited scroll was precisely due to the fact that it was a motif extendable in all directions, hence surface areas known ranging from $2m^2$ to $3691m^2$, the latter and other very high counts, e.g. $480m^2$ (M.18, Fig. 144), $126m^2$ (M.9, Fig. 115) representing pavements of whole buildings of which only the border bears an inhabited scroll.

(c) Width of borders

In the case of inhabited scroll borders, a frequency histogram of the width of borders has been drawn (Diag. 3) from which four groups are inferred. These comprise borders whose width lies between (1) 30cm. and 50cm., (2) those whose

width ranges from 50cm. to 60cm., (3) 60cm., to 80 cm. and (4) 80cm. to over 1m. In Group 1 (30-50cm.), two geographical sub-groups are apparent: in coastal Phoenicia (Zahrānī, M.20d, Figs. 147 and 153; M.20e, Fig. 154) and the Jerusalem area (Jerusalem, M.32, Figs. 181-182; Bethlehem, M.35, Figs. 189-191). In Group 2 (50-60cm.), three pavements are from Antioch (M.5, Figs. 102-107; M.7, Figs. 111-113) and its vicinity (Seleucia, M.10, Figs. 124-127). Antioch appears again in Group 3 (60-80cm.) with two pavements (M.8, Fig. 114; M.9, Figs. 115-123). Madaba and its region are well represented (M.55, Fig. 235; M.56, Figs. 236-238; M.58a, Fig. 242; M.58b, Fig. 243; M.73b, Figs. 262-263). The pavements whose border width ranges from 80cm. to over 1m. (Group 4) are scattered from Constantinople (M.1, Figs. 82-89) to Urfa-Edessa (M.16, Figs. 138-141), Suāfiya (M.89a, Figs. 291-292) and two at Madaba (M.57a, Figs. 239-240; M.62, Fig. 245).

(d) Tesserae counts.

Seven regional groupings or sub-groups were inferred from the geographical cluster of the lowest (Group 1), the highest (Group 3) and the "mixed" tesserae counts (cf. Chapter V, pp. 75-79). Group 1 is sub-divided geographically into sub-group 1A limited to Jerusalem (M.31, Figs. 179-180; M.32, Figs. 181-182), sub-group 1B centered on Madaba (M.55, Fig. 235; M.58a-b, Figs. 242-243) and its vicinity (M.68, Fig. 252) and sub-group 1C restricted to the Suāfiya pavement (M.89a-b, Figs. 291-294). A Group 1/2 represented

by a set of marginally low to middling counts, is confined to the Beirut area (M.20b-e, Figs. 147, 149-157; M.21, Figs. 158-159; M.23a, Figs. 161-162). Constantinople (M.1, Figs. 82-89) and Antioch (M.8, Fig. 114) figure in Group 3. The Bet She'an sub-group within the "mixed" group is represented by M.43 (Figs. 205-208); M.44a (Figs. 209-211); M.46 (Fig. 213); M.47 (Figs. 214-215) and M.48a-b (Figs. 216-218).

(e) Index of density

The index of density (Id) of a mosaic pavement represents the relative density of tesserae per dm² illustrating the proportion of density of tesserae per dm² (td) to tessera size (ts). $Id = \frac{td}{ts}$. For instance, M.5 (Figs. 102-107) has tesserae 0.9cm. x 0.8cm. each in size and a tessera count of 160.¹² Since $td = 160$ and ts is the average length of a tessera, here $\frac{9dm. + 8dm.}{2}$, hence 8.5dm., $Id = \frac{160}{8.5} = 18.8$. Id is then plotted back against td; this indicates the spacing of the tesserae. A linear function is obtained. In the case of most pavements there is a linear relationship between tessera size (ts), density of tesserae to the dm² (td) and the index of density (Id). The bigger the tessera, the smaller the number of tesserae to the dm² and the smaller too the index of density. Inversely, the smaller the tessera, the higher the tessera count and the greater the index of density (Diag. 4). The area to the right of the

12. Tesserae counts relate to the general areas of mosaics; those areas, like faces, which have been treated with smaller tesserae than the rest of the pavement are not considered typical and are here omitted.

linear regression curve identifies those pavements with rather widely-spaced tesserae, the area to the left of the curve those with tightly spaced tesserae. Inferences can be made from the outliers and differences can thus be detected within groups. The three main outliers in the zone of widely-spaced tesserae are pavements from Bethlehem (M.35, Figs. 189-191), Tiberias (M.51, Figs. 219-220) and Maon-Nirim (M.40, Figs. 201-203). The Bethlehem pavement falls into a Hierosolymitan group of pavements with a small border width, but its tessera count falls into Group 2 which predominates in Syro-Palestine; moreover it is an outlier as regards the spacing of tesserae; it can thus be eliminated from a hypothetical "Hierosolymitan group". The tesserae counts of the five members of a "southern limes group" postulated from the clustering together in geographical distribution of the C_3 and C_4 patterns, range from 64 (M.42) through 70 (M.38b), 76 (M.40), and 103 (M.39) to 111 (M.38a). Judging from the tesserae counts, M.38b and M.40 are comparable; however the size of tesserae on M.38b are 1.2cm. x 1.5cm. whilst that on M.40 is 0.5cm. x 0.5cm. or 0.4cm. x 0.4cm., so that it appears that the tesserae of M.40 are widely-spaced, this being confirmed by the eccentric position of M.40 on the diagram in relation to the curve. This implies that such subtle differentiations should be made between the members of a "regional grouping". Details as minor as this are enough to upset the hypothesis of a "regional grouping" if the latter is not supported by more than one element or attribute. The case of the "southern limes group"

is more fully discussed below (cf. infra, pp. 184-185). Differences on the same pavement are also detectable through the diagram. Not only do the two fragments of the Sede Nahum pavement exhibit different tesserae counts - 90 tesserae to the dm² for the non-figural and 150 for the figural parts on M.48a (Figs. 216-217) and 119 for the non-figural parts but 160 for the figural parts on M.48b (Fig. 218), but they are also placed in different positions in relation to the curve. The tesserae of M.48a are more widely spaced than those of M.48b, M.48a being to the right of the curve, M.48b to the left. This may correspond to two artisans working on the same pavement.

(f) Contour lines of tesserae

Of 37 pavements, representing 31.9% of the total, it is not known whether they had one or several contour lines around the pictorial elements, 58 (50%) of all pavements exhibit one contour line, 10 (8.6%) have none, 2 (1.7%) have two contour lines, 8 (6.9%) have one or two contour lines according to the section of the pavement and 1 (0.9%) has three (cf. List 21). Characteristic of Madabene pavements is the absence of contour lines (M.59, Fig. 244; M.60; M.63, Fig. 246; M. 64, Fig. 251; M.65, Fig. 247; M.66, Fig. 248; M.67, Fig. 249).

(g) Diameter of scrolls

A frequency histogram of diameter of scrolls (Diag. 5) has been drawn from which four groups are deduced: (1) scrolls

with diameters from 30 to 50cm. (Group 1), (ii) scrolls with diameters from 50 to 70cm. (Group 2), (iii) scrolls with diameters from 70 to 90cm. (Group 3) and (iv) scrolls with diameters of more than 90cm. (Group 4). The majority of inhabited scroll pavements falls into Group 2 which geographically covers Constantinople, Cilicia and the Levant. The outlying three groups may be subdivided geographically. Group 1 splits into Antioch (M.7, Figs. 111-113; M.8, Fig. 114; M.9, Figs. 115-123; M.10, Figs. 124-127), coastal Phoenicia (M.20d-e, Figs. 153-157; M.23a, Figs. 160-162; M.25, Figs. 166-169), and the Jerusalem region (M.32, Figs. 181-182; M.34, Figs. 187-188; M.35, Figs. 189-191). Group 3 splits into coastal Phoenicia (M.20c, Figs. 151-152; M.21, Figs. 158-159), the "southern limes" (M.38a-b, Figs. 195-199; M.40, Figs. 201-203; M.42, Fig. 204) and Madaba and its region (M.61, Fig. 250; M.63, Fig. 246; M.64, Fig. 251; M.68, Fig. 252). Group 4 covers Madaba (M.55, Fig. 235; M.65, Fig. 247; M.67, Fig. 249) and Khirbat al-Makhāyyat (M.70, Figs. 255-256; M.72a-b, Figs. 260-261). In each of the above three groups there are isolated cases, e.g. M.14; M.45a; M.53; M.84b in Group 1. They cannot be linked to the geographical sub-groups, since they are in eccentric geographic positions in relation to these sub-groups.

(h) Stylistic elements

Stylistic traits must also be taken into consideration. The geographical clustering method through the examination of each attribute of the pavements can be used in this context. Each stylistic element is studied in turn, from which some geographical patterns also emerge.

(i) Space fillers

Crosslets appear as scroll fillers in Jerusalem (M.32, Figs. 181-182), at Bet She'an (M.44b, Fig. 209), in Tiberias (M.51, Figs. 219-200), at Be'er Sheva (M.53, Figs. 224-231), in Madaba (M.56, Figs. 236-238; M.58a-b, Figs. 242-243; M.64, Fig. 251; M.65, Fig. 247), on Mt. Nebo (M.69, Figs. 253-254) and at Jarash (M.74b, Fig. 267; M.76c, Fig. 269; M.79b, Figs. 276-277; M.84b, Fig. 286).

On the Imperial Palace floor, Constantinople (M.1, Figs. 82-89), pomegranates and/or flowers sprout out of the acanthus stem as it divides itself into two sprays and thus fill the resulting triangular space. On another inhabited acanthus scroll borders on pavements from Antioch (M.5, Figs. 102-107; M.8, Fig. 114), Misis (M.2a, Figs. 90-92), Jenah (M.23b, Fig. 163; M.24, Figs. 160-165), Madaba (M.64, Fig. 251; M.65, Fig. 247) and Jarash (M.84b, Fig. 286), a similar phenomenon occurs.

(ii) Acanthus

Geometricized acanthus scrolls displaying alternation of colours are characteristic of two fifth-sixth century pavements from Jerusalem and its area (M.32, Figs. 181-182; M.34, Figs. 187-188). The acanthus displays an alternation of a red-ochre filling with pink and white contours, and a grey-green filling with a light blue-grey and white contour, on the pavement of the Damascus Gate, Jerusalem (M.32). At En Kerem (M.34) the alternation is of yellow-ochre, red-ochre and grey, and the acanthus leaves have white tips. The ground in both borders is black.

The Madabene acanthus scroll is characteristically divided into two zones by a central band; the leaves on the inner side of the scroll are spiky and have white tips; the acanthus sheath resembles a cornucopia. In the "Cathedral" at Madaba (M.55, Fig. 235), the central band consists of one row of dark-coloured tesserae, one row of light-coloured tesserae and one row of dark-coloured tesserae.¹³ In the Church of the Holy Apostles (M.56, Figs. 236-238), the central band is formed of one row of yellow-ochre tesserae and one row of wine-red tesserae; half of the acanthus spray is grey, the other half is alternately yellow-ochre and pink to red-ochre, the tips of leaves are contoured in white. The acanthus depicted on the fragmentary panels M.60, M.61, M.63, M.64, M.65 and M.67 (Figs. 250, 246, 251, 247 and 249) is likewise divided into two zones by a central band of two rows of red-ochre tesserae; half of the spray is in black with white tips, the other half in pink with white tips. The acanthus on panels M.59 (Fig. 244), M.62 (Fig. 245) and M.66 (Fig. 248) also has a central band (one row black tesserae, one row yellow-ochre and one row wine-red) and white leaf tips, but the mid-rib of the leaves is picked up in wine-red and blue-grey volutes edged in white which spread out from the acanthus give it a baroque quality which also marks the acanthus of the two panels from Qsar Hanne's house (M.58a-b, Figs. 242-243). A further point of comparison is the depiction of rings round the acanthus stems. On M.62, the three concentric circles

13. Since the pavement has been filled in, these stylistic details are entirely derived from the study of black and white photographs in the archives of the Department of Antiquities of Jordan.

are depicted from the outside to the inside by one row of white tesserae, one pink row and one wine-red row. On M.58a-b, there are four concentric rings constituted from the outside to the inside by one row of white tesserae, one pink row, one wine-red row and one white row.

Double rings are depicted encircling the stems of the scrolls at Misis (M.2a, Figs. 90-92) and on the Constantinian villa floor, Antioch, room 1 (M.5, Figs. 102-107). The rings are thick and orange-coloured in the Church of St. John the Baptist at Jarash (M.79b, Figs. 276-278).

(iii) Subsidiary vine stems and vine tendrils

Subsidiary vine stems twirling round the thicker main stem are found at Antioch (M.9, Figs. 115-123) and Samandağ-Seleuceia (M.10, Figs. 124-127), in the Hamā region (M.13, Figs. 131-134; M.15, Figs. 136-137), in coastal Phoenicia (M.17, Figs. 142-143; M.20a, Figs. 147-148), at Madaba (M.54, Figs. 232-234; M.57, Figs. 239-241) and its region, at Kfer Abū Sarbut (M.68, Fig. 252) and Khirbat al-Makhāyyat (M.71, Figs. 257-259; M.72b, Fig. 260) and on two isolated examples, at Hazor Ashdod (M.27, Figs. 172-173) and in room "L" of the Monastery of Lady Mary at Bet She'an (M.43, Figs. 205-208).

The range of types of vine tendrils and shoots is illustrated by List 22. Of the total number of inhabited vine scroll pavements (64), 38 (59.4%) display vine tendrils. It is not a trait geographically confined to one area and on pavements from the same region tendrils are depicted in various ways, e.g. in the Bet She'an region. Two different kinds of tendrils are represented on the Sede Naḥum panels:




M.48a




M.48b

This lends further support to the hypothesis of two workmen (cf. Chapter V, p. The pavements of Gaza (M.38a, Figs. 194-198), Shellal (M.39, Fig. 200) and Maon-Nirim (M.40, Figs. 201-203) have in common vine tendrils with a long series of numerous twirls. This group is the only one which it is possible to isolate. Another peculiarity afforded by this group lies in knots in the scroll stem. The Shellal and Maon-Nirim scrolls, moreover, are joined by rings, a feature also present at Misis (M.2b, Figs. 93-94), 'Imwās (M.28, Figs. 174-175) and Mā'in (M.73a, Fig. 262).

(iv) Vine leaves and bunches of grapes

List 23 illustrates the range of shapes of vine leaves, from which it is difficult to isolate regional groups. Flat jelly fish-shaped leaves appear in the Martyrion of Seleuceia (M.10, Figs. 125-127), at Ma'arat an-Nu'man (M.13, Figs. 131-134), Ain al-Bād (M.14, Fig. 135), Qabr Hiram (M.17, Figs. 142-143) and Zahrānī (M.20e, Figs. 154-157). These pavements might thus be thought to constitute a Syro-Cilician and a coastal Phoenician group. However, the same type of leaf is depicted at Bet Alfa (M.47, Figs. 214-215) which is not related to these zones. At Dair 'Asfūr (M.30, Fig. 178) and on the "Armenian mosaic," Jerusalem (M.33, Figs. 183-186), the leaf is large, spiky and with a cross-shaped design intersecting the mid-rib. Both in room "L" of the  Monastery of Lady Mary at Bet She'an (M.43, Figs. 205-208) and in the Synagogue (M.45b, Fig. 212) the leaf has two horizontal

lines cutting across the vertical main rib. 



On the other hand the same type of leaf divided into two zones by the stem which continues to the tip of the leaf is found on pavements as distant from each other as Antioch (M.9, Figs. 115-123) and Jarash (M.84a, Figs. 284-285).



37.5% of the 64 inhabited vine scroll pavements have vine leaves treated in one colour, in green, grey or black and in one case red-ochre (M.21, Figs. 158-159). 26.6% have leaves treated in two colours (half black, half green, or half yellow-ochre, half grey for instance, colours including blue, green of varying shades, grey, black, brown, yellow-ochre and pink).


35.9% either have no leaves or the colours have not been noted in publication. Characteristic of Bet She'an and its region is the black vine leaf (M. 45b, Fig. 212; M.47, Figs. 214-215; M.48b, Fig. 218).

64.1% of the vine scroll pavements have bunches of grapes of peculiar shapes or types. Of these 29% have elongated bunches, 16.1% have triangular-shaped bunches hanging from three stems, 9.7% have very small bunches consisting of three or four grapes, 6.5% have very round bunches hanging from three stems, 16.1% combine two types of bunches principally the round and the elongated type, 9.7% have bunches hanging from two stems, and 12.9% have bunches hanging from one or two, two or three or one, two and three stems (cf. List 21). No geographical grouping by type is possible.

Grapes are depicted in several ways. Predominantly, the grape has a border consisting of one row of tesserae. The surface of the circle within this border is divided into a

chequer-board pattern. The central cube is of one colour and the rest of the surface - called the "filling" is in one, two or three colours:  In two cases, at Zahrānī (M.20c, Figs. 151-152) and the Ḥammām Baisān (M.44a, Figs. 209-211), the central vertical and the central horizontal rows treated in one colour form a cross pattern. The rest of the filling is in another  or several other colours.

The filling can also be treated in horizontal rows of different colours, in which case the central cube does not differ in colour from the rest of the central row, e.g. top-most row in red-ochre, middle row in pink and lowermost row in white. This treatment of grapes is characteristic of the Jerusalem area (M.29, Figs. 176-177; M.31, Figs. 179-180; M.33, Figs. 183-186) and of Shellal (M.39, Fig. 200) and Maon-Nirim (M.40, Figs. 201-203). It is interesting that both in Gaza (M.38a, Figs. 194-198) and at Khirbat 'Asīda (M.42, Fig. 204) grapes are depicted in the first manner. At Zahrānī, in the first antechamber (M.20b, Figs. 149-150) besides the grapes in the first manner, some are formed by two concentric circles (an outer red-ochre band and an inner white band) and a central white cube:  Similar grapes are found at Shellal. Another version of the latter type, depicted in the second antechamber of the Zahrānī church (M.20c, Figs. 151-152) has one grey outer band, one pink inner band and two central white cubes instead of one. At Shellal, this type is simplified by having one black band encircling a nucleus of three tesserae (two green and one white): 

Diamond-shaped grapes are found on the Hammām Baisān pavement (M.44a, Figs. 209-211) consisting of one black diamond-shaped border (black) around a filling arranged in horizontal rows: one white or black row, one dark blue row and one pink, white or blue row:  Similar grapes are found at Khirbat al-Makhāyyat (M.71, Figs. 257-259), Jarash (M.84a, Figs. 284-285; M.85, Fig. 287) and Suāfiya (M.89b, Figs. 293-294).

(i) "Schools" and "workshops"

Altogether six basic attributes (vase arrangement, scroll type, width of border, number of tesserae to the dm², diameter of scroll and stylistic elements) and one additional attribute (combination of border and field scrolls) have been used to obtain geographical groupings. Each attribute has been divided into several elements which are criteria of differentiation between pavements. Altogether 24 elements have been examined. The method aims at determining to what extent the regional groups inferred from each attribute and element examined in turn coincide with each other, i.e. how many times the various attributes point to the same geographical zones. To be of any significance, the groups must be represented each by at least two pavements. Consequently Cilicia, Misis, Jenah, Tiberias, Be'er Sheva and Hazor Ashdod are eliminated. List 25 indicates the clustering of various attributes round ten centres. Madaba has the highest record of elements (12), followed by Jerusalem (8) and the southern limes (8), Phoenicia (7) and Bet She'an (7), Jarash (6) and Antioch (6). The

Suāfiya and Mt. Nebo "groups" have low counts (5 and 1 respectively) and the Ḥamā "group" though applying to two pavements (M.13 and M.14) also has a low count (3). These are all taken not to have any "group" significance and are eliminated.

The regional groups arrived at through analysis of various attributes are in fact "schools" in the sense that within a certain span of time - the fifth-seventh century (none of the pavements to which the specific elements refer in the analysis are earlier than the fifth century) - the mosaicists of these specific areas used certain characteristic elements, the one-vase arrangement in the Bet She'an area for instance, in preference to others. This does not mean that all pavements from that area exhibit the same characteristics and the whole range of them, but that a certain number of characteristics predominate in that zone. This is borne out by the fact that in the Madaba group there are borders of Group 3 and 4, or that in the Jarash group there are examples both of four-vase and one-vase arrangements. Within these groups it is possible to isolate certain characteristics by purely stylistic comparison. Saller and Bagatti (1949, TN, 120-124) point out two characteristics of the mosaic pavements of Khirbat al-Makhāyyat: the prudish tendency shown by the absence of cupids, the absence of completely nude male figures,¹⁴ the care taken not to indicate the sex of animals,

14. The treaders in the Church of SS. Lot and Procopius (M.71, Figs. 257-258) and the Church of St. George (M.72a, Figs. 260-261) wear loin-cloths.

and the method of chiaroscuro: dark line with dentils on a light background; white marks or lines; triangular designs, circles and shadow on the top and light in the centre or below the body of animals. The prudish tendency and the various forms of chiaroscuro are also found on other contemporary Palestinian mosaics, e.g. room "L" of the Monastery of Lady Mary at Bet She'an (M.43, Figs. 205-208) so that these traits may be part of a stylistic evolution in Palestine rather than characteristics of a "school".

Avi-Yonah (in press, 1-8) bases his argument for the existence of a "Gazean school" entirely on the geometricized layout with characteristic symmetry and range of inanimate objects, eagle and chukor partridge encaged in the central vertical row. The same "Gazean school" is arrived at in this thesis by means of the analysis through attributes; the latter, however, also point out the great differences between the pavements constituting the group. The index of density of the Maon-Nirim floor (M.40, Figs. 201-203) as opposed to the other floors has already been indicated (cf. supra, pp172-174); so have the differences in tesserae counts. Consequently the "Gazean school" must be viewed in terms of several generations of workmen - the mosaics in the group span the fifth and sixth centuries, from Khirbat 'Asīda (M.42, Fig. 204) to Maon-Nirim (M.40, Figs. 201-203) -, perhaps based on Gaza,¹⁵ working

15. The localisation of these groups to large cities such as Gaza, Jerusalem, Bet She'an, is entirely due to a form of "central place theory" applied to art, whereby it is assumed that large cities were art centres. In view of the present evidence, this may be true of Jerusalem, Bet She'an, Jarash, Madaba, and Antioch where a large number of pavements have been found, but in the case of Gaza

(contd.)

in the same idiom. That these pavements were not produced by the same workshop is borne out by their chronological and technical differences.

Moreover, it is clear that several workshops were active contemporaneously within the same regional group or school. In Jerusalem, an "Armenian workshop" may be suggested producing the "Armenian mosaic" and the pavement on the Mt. of Olives.¹⁶ The pavements at Bet She'an (M.43, Figs. 205-208; M.44a-b, Figs. 209-211; M.45a-b, Fig. 212; M.46, Fig. 213) were obviously laid by a different workshop or workshops from the one which produced the Bet Alfa pavement (M.47, Figs. 214-215). In the latter case, the workshop is reducible to two men, Marianos and his son Aninas, who are identified by an inscription. This may have been the case for many pavements. There is evidence too for one mosaicist laying a whole pavement (cf. infra, p. 195) so that the Imperial Palace Floor, Constantinople (M.1, Figs. 82-89) with its army of mosaicists and some ten different workshops participating in the laying of the floor (cf. infra, p. 196) is no doubt an exception.

It must be emphasized that to identify workshops as opposed to regional groupings, the whole evidence must be reviewed, i.e. all the pavements must be taken into consideration. Thus the analysis of one motif, the inhabited scroll,

contd.) which has yielded only one pavement, this is a pure hypothesis. It is impossible to determine the centre of the Phoenician group; the pavements geographically range from the Beirut hinterland to Tyre.

16. Technical study of the pavement on the Mount of Olives must be made before any conclusions regarding an "Armenian workshop" are possible.

must be extended to all motifs. The "Gazean school" perhaps specialized in only one motif, but that may be a false impression gained from the accidents of survival.¹⁷ All over Palestine, Phoenicia and Syro-Cilicia pavements with other motifs were produced. Workshops probably produced a variety of types of pavements, although they did give preference to the inhabited scroll. If all these pavements are to be taken into account and the same type of analysis by coding and clustering of attributes is to be followed, the numbers of pavements (over 620 for Palestine alone) and consequently the amount of data involved defies manipulation by human means. Electronic aids are therefore called upon.

3. A project for a cluster-analysis

Cluster analysis has already been mentioned in connexion with the technical study of mosaic pavements (cf. supra, Chapter V, p. 74) where only one aspect of it was examined, namely inferences regarding imports of raw material and travelling craftsmen. It was suggested, however, that ultimately the clustering together of a wide range of attributes - code types, measurements of pavements, diameter of scrolls, type of stone tesserae, colours, size of tesserae to the dm², type of bedding - in a cluster analysis computer program should identify both regional groupings and introduce finer distinctions in these groupings. Thus workshops might be identified. Neither bedding analysis nor the geological

17. A mid-sixth century pavement depicting birds and beasts enclosed in geometric designs was found in July 1918 at Umm Jarar in the Shellal area. Cf. Dalton, 1919.

analysis of tesserae is available for reasons outlined above (cf. Chapter V, pp. 68-72). It is also clear that measurements of pavements do not constitute a valid criterion of differentiation. They are therefore eliminated as attributes. The attributes involved in the analysis are basically the same as in the code: type of scroll (vine, acanthus, ivy, vine and acanthus), formation (corresponding to A, B, C₁, C₂, C₃, C₄), source of issue (bottom, corner, centre and centre of side), numbers of points of issue (one, two, four), type of point of issue (head, vase, acanthus foot, vine leaf, tree), placing of inhabitants (regularly placed, dispersed haphazardly), diameter of scrolls (four groups as deduced from a frequency histogram) and number of tesserae to the dm² (three groups and an additional "mixed group" as evident from a frequency histogram). The computer following the CLUSTAN 1A suite of programs¹⁸ scans through the attributes, sorts and links the pavements accordingly and produces clustering patterns and a spatial distribution of patterns. There are different cluster analysis techniques, which will each produce individual results from the same data. Therefore they must be tried in turn, the best results being those groupings which recur on several programmes. The work of preparing the data is complex and beyond the scope of the present work,¹⁹ but it has been felt necessary to outline what

18. CLUSTAN 1A has been elaborated by D. Wishart (Edinburgh Regional Computing Centre Catalogue No. 19.200.200. Scientific and Social Sciences Program Library Services No.8, St. Andrews University 1969 Edition, re-issued May 1972).

19. The first steps in the cluster analysis of inhabited scrolls in borders and fields, i.e. the processing of the data according to the binary system have been taken by the writer in conjunction with the Edinburgh Regional Computing Centre. A cluster analysis of inhabited scrolls in sculpture will also be attempted.

appears to be the only possibility for the identification of workshops. The complex nature of the problem invalidates conclusions made from the comparison of single stylistic elements taken out of their context. The fact that two pavements in Madaba (M.58a-b, Figs. 242-243, and M.62, Fig. 245) exhibit volutes spreading out from the acanthus does not imply that they were produced by the same workshop. Budde (1969, 79) links the Misis mosaics (M.2a-b, Figs. 90-94) to an Antiochene workshop solely on the grounds of stylistic parallels in the treatment of the acanthus scroll; one element of comparison is not sufficient evidence. Misis (Mopsuestia) in the fourth and fifth century was an important theological centre, bishops Auxentios (350-375) and Theodore (392-428) being at the head of the School of Antioch together with St. John Chrysostom; it may also have been an artistic centre with mosaic workshops producing locally, so that there is no absolute reason to assume that the Misis mosaics were made by Antiochene craftsmen. Contacts were close between Misis and Cilicia in general, and Antioch; thus patterns and ideas are likely to have travelled.

The Suāfiya pavement (M.89a-b, Figs. 291-294) combines elements present in various regional groupings: the acanthus border and the vine field, the one vase arrangement, border Group 4, diamond-shaped grapes and the Madabene type of acanthus. It is a Bet She'an-Jarash-Madaba hybrid and thus cannot be said to be the product of a purely Madabene workshop. Travelling craftsmen not linked to a specific localized background have also to be reckoned with, although it is impossible to define them.

Thus, without computing programming, it is only possible to put forward the hypothesis of pattern books of scroll fillers and to define "regional groupings". Some of these may be taken tentatively to coincide with schools, e.g. the "southern limes" group, but it is impossible as yet to identify workshops.

4. Sculpture workshops

From the corpus of fragmentary inhabited scrolls in architectural sculpture represented in the catalogue, few inferences can be made as regards workshops. One group centred on Constantinople and its region can be inferred from a series of sixth century carved chancel posts or balusters of which two from Constantinople (S.7, Fig. 12; S.9, Figs. 15-18) and one from Nicomedia (S.15, Figs. 30-32) depict inhabited scrolls (Grabar, 1963, 76-78; 132-133; Pls. XXVII-XXXIII). Another workshop active ca. 520-530 is postulated by Firatli (1974, 46) for four capitals in the Istanbul Arkeoloji Müzesi. Two of these, found between Eyup and the Blachernae Gate in the Byzantine quarter of the Kosmidion in autumn 1972 (M.34, Figs. 78-80; M.35, Fig. 81) exhibit an overall vine scroll filled with pigeons, lizards, bees, hares, boars and bears. A fragment of a third capital is in the storeroom of the museum. A fourth capital, badly mutilated, found in 1945 at Cağaloğlu and now in the garden between the Çinili Köşk and the Museum of the Ancient Orient has a pigeon at each angle; a lizard, a bee, a small bird and a caterpillar are perched on large vine leaves but no scroll is clearly

visible.²⁰

An indication as to the way the carving was executed is given by the acanthus scroll frieze on the cornice running round the exterior of the bell tower of the Great Church in the Monastery of Mar Augen at Dair al-Za'afarān (S.28, Figs. 63, 65, 66). The acanthus scroll stops short after the twelfth scroll on the south face and is absent on the east face; this may indicate that the work was unfinished and that the scrolls were carved in situ, not in a workshop and then put up.

Textual evidence for Isaurian artisans, both labourers and master-builders, connected with the construction between 541 and 551 of the monastery of St. Symeon Stylites the Younger on Mons Admirabilis, 18km. south-west of Antioch, is afforded by the Life of St. Symeon and that of his mother St. Martha (Ven, 1962). From the extracts in which the Isaurians occupy a prominent position, Mango (1966) concludes that the Isaurians went to Syria not as pilgrims but as construction workers, in great numbers and perhaps on a seasonal basis. They lodged at Apate, on the outskirts of Antioch (Life of St. Symeon, ch. 183). The sick and maimed were taken to the nearest miracle-worker, St. Symeon, whose

20. The third capital is registered under Inv. No. 72.43, the fourth capital (H. 0.50m., diam. 0.40m.) under Inv. No. 4821.

Capitals from the nave colonnades in the basilica of Bishop Philip at Stobi, dating to the second quarter of the fifth century, also exhibit varied reliefs of animals and birds, including peacocks and eagles, above a lower register of thorny or "fern" acanthus, e.g. hunting scene in a forest with a hound attacking a deer (Hoddinott, 1963, 166, Pl. 38). The vine scroll element, however, is present only on the Constantinopolitan examples.

services they paid by a few days' work. Going to Mons Admirabilis at their own expense and with their own provisions, they had to keep to a strict timetable, but the batch of labourers succeeded each other without interruption. This diaspora of Isaurian artisans was the result of the transplantation of the population of Isauria to Thrace after the civil wars of 492-458 in Isauria. The remaining Isaurians, whose only skills had been fighting and stone cutting, but never farming, abandoned their devastated homeland and migrated as artisans to the urban centres of Syria. Antioch, moreover, destroyed by an earthquake in 526 and sacked by Chosroes in 540 was being rebuilt and thus required a vast number of building workers. However, Mango has perhaps exaggerated the rôle of the Isaurians in the construction of the monastery. For they were joined by "many multitudes from other places" (Life of St. Symeon, ch. 96) who also quarried and constructed the monastery. Moreover, the monks themselves helped in the building and carving activity. A certain John, who had no knowledge of stone-cutting, was divinely inspired thanks to the prayers of St. Symeon to carve the capitals of the main church dedicated to the Holy Trinity.²¹ Of these

21. 'As to Bezaleel, to a brother named John who was one of the disciples of the Symeon, was granted through [the saint's] prayer, the spirit of wisdom to carve in a varied manner the capitals of the columns of the church, built by the Saint and named after the Holy and vivifying Trinity. For this brother said to the Lord: "Father, place Your holy hand on my heart and I will carve stone according to the inspiration of the Holy Spirit which is in You". This man was wise in words but ignorant in the art of stone-cutting and it is solely because of his faith that he was granted this gift. The servant of God placed his hand on the brother's chest and said: "God will also give you the wisdom of the art of stone-cutting!" And having started to carve the capitals of the columns, John completed this undertaking.' (Life of St. Symeon, ch. 108).

twelve are preserved, decorated with medallion vine scrolls; human figures and perhaps scenes of the Childhood of Christ are depicted on five capitals (S.23, Figs. 58-59).

5. The position of sculptors and mosaicists in early Byzantine society

Some information on the position of artisans - notably sculptors and mosaicists - in early Byzantine society may be gleaned from Byzantine legal texts. By the Edictum de Pretiis, Diocletian in 301 fixed the salary of the mosaicist (musivarius) at 60 denarii per day and that of the sculptor (lapidarius) at 50.²² In 334 Constantine specifically exempted architects in the African province from public service.²³ On 2nd August 337, Constantine anxious to encourage certain highly skilled trades which as a result of the late third century crisis had declined, extended this exemption to professional or semi-professional occupations - architects, doctors, veterinary surgeons, painters and sculptors, and to various classes of skilled craftsmen in the building trade and certain other artisans; carvers in stone and marble, mosaicists, plasterers, makers of coffered ceilings, gilders and wood carvers, metal workers, makers of

22. Ed. Diocl. VII, 6.

23. Cod. Theod. XIII, 4, 1 (Edict of Constantine to the Praetorian Prefect Felix, posted in Carthage in 334): "There is need of as many architects as possible; but since there are none of them, Your Sublimity shall encourage to this study those men in the African provinces who are about eighteen years old and have had a taste of the liberal arts. In order to make this attractive to them, it is Our will that they themselves as well as their parents shall be immune from those services that are wont to be imposed on individuals, and that a suitable salary shall be appointed to the students themselves". (Mango, 1972, 14).

statuettes, potters and glassworkers, carpenters, inlay workers and ivory carvers, fullers, furriers and purple dyers.²⁴ These formed corporations of artisans.²⁵ This rule was maintained in the sixth century.²⁶ In 274 the exemptions conferred on painters were confirmed by a decree of the emperors Valentinian, Valens and Gratian.²⁷ These

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24. Cod. Theod. XIII, 4, 2 (Edict of Constantine to the Praetorian Prefect Maximus, 337): "We command that the practitioners of the arts enumerated in the appended list, whatever city they may live in, shall be exempt from all public services, on condition that they devote their time to learning their crafts. By this means they may desire all the more to become more proficient themselves and to train their sons.
[Appended list of crafts:] Architects, makers of panelled ceilings (laquearii), plasterers, carpenters, physicians, stonecutters, silversmiths, builders, veterinarians, stone-masons (quadratarii), gold-weavers (barbaricarii), makers of pavements (scansores), painters, sculptors, makers of perforated work (diatretarii), joiners (intestinarium), statuaries, mosaicists, coppersmiths, blacksmiths, marble-masons, gilders, founders, dyers in purple (blattarii), makers of tessellated pavements, goldsmiths, makers of mirrors, carriage-makers (carpentarii), glassmakers, ivory workers, fullers, potters, plumbers, furriers". (Mango, 1972, 15).
25. On corporations, cf. Paulys-Wissowa, art. collegium, IV₁ cols. 380-480.
26. C.J. 10,66 (64), 1 is a repeat of Cod. Theod. XIII, 4, 2.
27. Cod. Theod. XIII, 4, 4. Decree of the Emperors Valentinian, Valens and Gratian to Chilo, Vicar of Africa, issued at Trier in 374: "It is Our pleasure that teachers of painting (picturae professores), provided they are free-born, shall not be liable to tax-assessment neither on their own heads nor on those of their wives and children...They shall not be called to the tax payment of tradesmen on condition that they deal only in those wares that pertain to their art. They shall obtain rent-free studios (pergulas) and workshops in public places, provided they exercise therein the practice of their own art...They shall not be obliged by the magistrates to make sacred [i.e., imperial] images or to decorate public buildings without remuneration..." (Mango, 1972, 50).

exemptions - still valid in the ninth-tenth century as is evident from the Basilica of Leo VI (886-912)²⁸ - were hereditary, but so were the crafts. Each artisan had to teach his skill to his sons. It is therefore not surprising to find a father and a son, both mosaicists, associated in the laying of the pavement of the synagogue of Bet Alfa dating to the reign of Justin I (518-527) or Justin II (565-578). The inscription near the western entrance runs thus: "In honoured memory of the artists who made this work well, Marianos and his son Aninas" (M.47, Figs. 214-215). In a frozen society where every citizen was bound by taxation to his place of origin (origo), his village or city, immunity from social service conferred upon the craftsman a special status, which implied freedom of movement; thus the craftsman was legally mobile. Although there are no inscriptions from which travelling mosaicists may be inferred as in Roman times (Toynbee, 1951, 44-46), the mobility of mosaicists deduced from the Laws and analogy with the preceding period allows such a supposition.

6. Names and hands

(a) Names

Besides Marianos and Aninas who laid the pavement of Bet Alfa, only five mosaicists are named. In the Church of the

28. Basilica, Book LIV, Chapter 6, Section 6, is based on C.J. 10,66(64),1. On the question of the exemptions of artisans in the ninth-tenth century as the continuation with slight modifications of an earlier practice, cf. the report by N. Svoronos on the work of the Seminar on the "Histoire des Institutions de l'Empire Byzantin" in the Annuaire 1973/1974 of the Ecole Pratique des Hautes Etudes IV^e Section, sciences historiques et philologiques, Paris (in press).

Holy Apostles at Madaba (M.56, Figs. 236-238), Salamanios the mosaicist records his name at the end of the inscription running round the medallion of thalassa in the nave: "Lord God who has made heaven and earth, give life to Anastasios and Thomas and Theodora... (?) of Salamanios the mosaicist". As in the monastery of St. Symeon on Mons Admirabilis, the artist of the Church of the Priest John at Khirbat al-Makhāyyat (M.70, Figs. 255-256) seems to have been a monk, Julian, who is mentioned after the list of men and women: "+ For the salvation and office for Your servants, Sergius (the son of) Stephen, and Procopius (the son of) Porphyria, and Rome and Mary and Julian the monk". If at Madaba that position in the sentence indicated the artist, then it probably does so here too, as in Inscription VI in the basilica on Mt. Nebo (Saller, 1941, 259). In the Church of St. George, also at Khirbat al-Makhāyyat (M.72a, Figs. 260-261), in front of the entrance to the north sacristy at the east end of the north aisle, an inscription records the names of two mosaicists: "[This] is the work of the tessellarii Nahum and Cyriacus and Thomas for the repose of Sabinus, the brother of Martyrius".²⁹ The names are Semitic and common to that area.

(b) Hands

From the available evidence it has been suggested above (cf. supra, Chapter V, pp. 80-81) that several workmen could be working on the same mosaic at the same time. In the

29. For the various Greek expressions equivalent to tessellarii, cf. Saller and Bagatti, 1949, TN, 169.

execution of the central section of the mosaic pavement of the Peristyle Court of the Imperial Palace, Constantinople, Brett (The Great Palace, First Report, 87) identified nine groups of workmen, which he termed workshops, five on the north-east side, two on the north-west and two on the south-west. The borders were done by five other groups of workmen (M.1, Figs. 82-89). The dividing lines between the five groups of artisans executing the border are clearly traceable (First Report, 90-91).

The Imperial Palace floor, however, is an exception. In the majority of cases, it is impossible to distinguish between different hands. The bunches of grapes on the pavement of the Hammām Baisān (M.43, Figs. 205-208) were represented in the western and eastern parts in two different manners. In the western half of the pavement they are in the form of elongated red and white hexagons whilst they are large and round in the eastern part. Avi-Yonah (1935b,16) suggests that the master entrusted two of his apprentices with the completion of the details of the pavement; each of the two filled the part assigned to him according to his own mannerisms. Considering that little is known of the actual hierarchy in the workshops, there could equally well have been two workmen of equal rank working together on the same pavement.

Thus, in view of the lack of textual and material evidence, very little is known of the actual organisation of the workshops. The related problem of the connection between the patron and the artist is examined in the next chapter. This deals with the significance of the inhabited scroll motif.

CHAPTER IX

SYMBOLIC OR DECORATIVE? - THE INHABITED SCROLL AS A MEANS OF STUDYING SOME EARLY BYZANTINE MENTALITIES

The Dionysiac significance of the Roman inhabited scroll pavements of North Africa is clearly revealed by their very composition, which associates a wide inhabited scroll border, generally of vine, with a central emblema incorporating a Dionysiac scene, such as the Triumph of Dionysus at Sousse (Foucher, 1960, 47-48) and El-Djem (Foucher, 1963, 48-60) or the rape of Augea by Heracles in the tepidarium of the Baths of Themetra (Foucher, 1958, 28-30). Subsequently, the composition of the pavements was fundamentally modified as has been shown above (cf. Chapter VII, pp. 129-133) and the Dionysiac emblema was completely omitted. The visual link having thus been broken, the question remains as to what happened to the significance of the motif as it was transferred from a pagan to a Christian context, and to what extent it may have lost its symbolic dimension and become purely decorative.

1. Symbolic interpretations of the early Byzantine inhabited scroll

a. Funerary associations

Much emphasis has been laid on the funerary significance of the Roman inhabited vine scroll (Cumont, 1942, 343). Nevertheless out of 37 pieces of inhabited scrolls in architectural sculpture from the fourth to the seventh century, only one comes from a sarcophagus (S.3, Figs. 5-6). Similarly, out of 116 inhabited scroll pavements, two can be firmly

attributed by their inscriptions to funerary chambers or chapels: the mosaic of the Martyrs of God at En Kerem (M.34, Figs. 187-188) and the "Mosaïque d'Etienne", Jerusalem (M.31, Figs. 179-180). The Hammām Baisān pavement decorated the floor of a badly destroyed vaulted chamber-tomb (M.44a-b, Figs. 209-211), and the depiction of two women, Theodosia and Georgia, on the Damascus Gate mosaic, below the Orpheus panel (M.32, Figs. 181-182), may indicate the funerary nature of the pavement.¹ On the "Mosaïque d'Etienne", moreover, a pair of red sandals are depicted in front of the inscription: "Farewell, Stephen". Sandals are taken to represent pilgrimage, both actually in this world - and metaphorically from this world to the next. They are found both on mortuary stelae in Byzantine Egypt and on pavements in Palestine.² A mosaic panel³ at the entrance of the chamber and to the left of the inscription probably marks the location of a child's small sarcophagus. The sarcophagus was not found but a few fragments of green porphyry found on the mosaic at the time of its uncovering may indicate that it was carved in porphyry.

The vine scroll with vine leaves and bunches of grapes issuing from a vase is found on sixth century marble

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1. In the early Byzantine period, it was customary to bury people in churches and chapels. Cf. Saller, 1946, 130-135.
 2. Cf. Avi-Yonah, Cat. QDAP III, No. 2 (1933), 63, n.5.
 3. Its measurements are: L. on E. side 1.03m., on W. side 1m.; W. on S. side 0.54m., on N. side 0.77m.

sarcophagi,⁴ but the association of a small child with a bird and a bunch of grapes, frequent on Roman funerary stelae, does not appear in early Byzantine times.⁵

The evidence supporting the funerary significance of the Byzantine inhabited scroll is therefore slender. Furthermore, the fact that out of a total of 116 pavements examined, 55.2% belong to churches, 9.5% to houses, 8.6% to synagogues, 2.6% to baths, 1.7% to courtyards, 1.7% to funerary chambers and 20.7% have no specific context, indicates that while the motif is very occasionally found in a funerary context, this does not mean that a funerary significance can be applied to it indiscriminately.

b. The Vineyard of the Lord

Basing his analysis on the Damascus Gate mosaic (M.32, Figs. 181-182), Grabar (1962, 119-122) reconstructs step by step the symbolism of the church-Earth-Vineyard of the Lord. The latter is specifically a "peopled Vineyard".

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4. A black marble sarcophagus in Room 19 of the Istanbul Arkeoloji Müzesi exhibits a vase from which issues a vine trellis, flanked by two trees on either side of which stand two pigeons; the whole is enclosed in an architectural setting punctuated by columns (cf. Mendel III, 1320 (2731), Appendice pp. 528-529). A vine scroll issuing from a centrally-placed vase runs along the lower edge of the white marble lid of a sarcophagus in the side garden of the Istanbul Arkeoloji Müzesi. Found in May 1969 at Şehremini, in the Vani dergâhi Sokağında (Vezir caddesinde), it is registered under No. 6226. The sarcophagus lid measures: H.(max.) 0.68m., L.(max.) 2.82m., Th.(max.) 1.50m.; scroll design: H. 0.10m. It is unpublished but is catalogued as No. 6 in the Catalogue which Firatlı is preparing.
5. A child holding a bird in one hand and a bunch of grapes in the other is depicted on a Roman funerary relief from Heracleia on the Pontus, in Room 6 of the Istanbul Arkeoloji Müzesi (cf. Mendel III, No. 948 (1500), p. 163). It may be compared to an unpublished Roman marble funerary stele from Konya (Iconium) in the Konya archaeological museum, main exhibition hall. It measures: H. 0.32m., L. 0.29m., W. 0.11m.; Inv. No. 225, Cat. No. 494; date of entry 26th May 1929.

In a Christian context, Orpheus playing the lyre to the animals as depicted in the main panel of the pavement, becomes Christ, for "The Word of God having taken in hand human nature as a lyre, has caused not irrational beasts but intelligent beings to hearken to his tunes; He has appeased the stimuli of the passions by His divine chant" (Eus. De Laud. Const. XIV; PG, XX, 1409).⁶ In the axis of the pavement in the acanthus scroll border, an anonymous but crowned female bust (scroll 13) may represent the Earth. Two small figures inscribed "Theodosia" and "Georgia" in Greek, are depicted standing in the lower portion of the pavement. Theodosia⁷ holds a dove which recalls Joseph's offering to the Temple of Jerusalem on the day of the Purification. Georgia holds a flower, product of the Earth. Together, they represent two categories of activities on earth, one offering her prayers to God, the other offering the product of her daily work. The pavement thus clearly refers to God, Whose Word fills the earth, and on this earth fills the men who benefit from the divine work. In the Church of the Priest John (M.70, Figs. 255-256) and in that of St. George (M.72a, Fig. 260) at Khirbat al-Makhāyyat, Earth is shown as a female bust bearing a veil filled with fruit. She is flanked by two male offerers and surrounded by vintagers, farmers, flute players and hunters enclosed in acanthus scrolls. This is the peopled Vineyard of the Lord.⁸

6. On the motif of Orpheus and the beasts, cf. Stern, 1971, 337-338.

7. "Theodosia" means "given by God", not "worship of God" ("culte de Dieu", according to Grabar, 1962, 119).

8. The nature of the scrolls, which in these two cases are of acanthus and not of vine, is not taken into account by Grabar's Vineyard interpretation (cf. infra, p

Within the context defined above, individual motifs can be selected and given an apotropaic or symbolic value. The lion and the zebu, Jupiter's sacred animal, act as apotropaic images; as such they are also often depicted on gems, rings and amulets (Ronzevalle, 1937). The hunter protects God's Vineyard from wild beasts; he is man, who, instructed and armed by God, repels the attacks of the powers of Darkness. Like the beasts charmed by Orpheus - Christ's lyre, a dog dances to a shepherd's pipe on the pavement of Room "L" of the Monastery of Lady Mary, Bet She'an (M.43, Figs. 205-207, scroll 7); donkeys and horses are led by vintagers. The cock alludes to St. Peter's denial, the lamb recalls the Good Shepherd, the deer brings to mind Psalm 42 - "As a hart longs/for flowing streams,/so longs my soul/for thee, O God",⁹ and the dove is linked to the Flood and the Baptism of Christ. The hen followed by chicks is a figure of religious security; it stands for the mother, thus the Church watching over Her children in a Christian context, and the Synagogue or the community of the chosen people protecting its members, in a Jewish context. Texts supporting this interpretation are plentiful, for the image of protection under God's wings is not only common in Jewish devotional expression¹⁰ but is actually used by Jesus.¹¹ Iconographically,

9. On the symbolism of the deer, particularly when it is struggling against a snake - a theme not found in inhabited scrolls - cf. Puech, 1949.

10. Ruth 2,12: "The Lord recompense you for what you have done, and a full reward be given you by the Lord, the God of Israel, under whose wings you have come to take refuge".
Psalm 17,8: "Keep me as the apple of the eye;/hide me in the shadow of thy wings..."

Psalm 36,7: "How precious is thy steadfast love,/O God!/The children of men take refuge/in the shadow of thy wings."

(Contd.)

the idea of danger avoided by the chicks which are watched over by the mother-hen is emphasized by the juxtaposition of the motif of the hen and chicks with that of a fox carrying away a chicken, as on the pavement of Qabr Hiram (M.17, Figs. 142-143, scroll 29).

The bird encaged is the soul imprisoned in the body. At Misis (M.2a, Figs. 90 and 92), a bird is depicted in the acanthus scroll border leaving a cage with an open door (scroll 41). Grabar (1966, 15) interprets this iconographic variant as indicating that the soul is freeing itself from its bodily prison. In the central field, a bird enters the Ark whose attached inscription¹² Grabar takes to mean "the intelligible Ark" rather than "Noah's Ark", and which is surrounded by various animals. Grabar infers that the soul departs from the body and chooses an intelligible dwelling-place. Moreover, placed symmetrically to the bird in the acanthus scroll border leaving its cage is a hare munching green leaves, and imprisoned in a larger cage. Since the hare was by reputation a lewd animal, it could represent those who enjoy bodily life, the green leaves alluding to physical

Contd.) Psalm 57,1: "Be merciful to me, O God, be/merciful to me,/for in thee my soul takes refuge;/ in the shadow of thy wings I will take refuge,/till the storms of destruction pass/by".

Psalm 61,4: "Let me dwell in thy tent for ever!/Oh to be safe under the shelter of thy wings!"

Psalm 63,7: "for thou hast been my help,/ and in the shadow of thy wings I/sing for joy".

Psalm 91,4: "he will cover you with his pinions,/and under his wings you will find/refuge;"

Isaiah 31,5: "Like birds hovering, so the LORD/of hosts/will protect Jerusalem;/he will protect and deliver it,/he will spare and rescue it."

11. Matthew 23,37: "How often would I have gathered your children together as a hen gathers her brood under her wings..."

Luke 13,34 repeats this without any changes in the wording.

12. KIBWTOC NWEF, which Grabar restores as $\kappa\iota\beta\omega\tau\omicron\varsigma\ \nu\omicron\epsilon\rho\alpha$.

pleasures. The mosaicist would thus have aimed at contrasting spiritual and physical life.

To Earth are juxtaposed the Heavens, for the Zodiac, the Seasons and the Months schematically signify Time, as on the pavements of 'Isfiya (M.19, Fig. 146) and Bet Alfa (M.47, Fig. 214). In the latter case, the Zodiac is edged on the north side by an inhabited vine scroll - Earth. In the Church of St. John the Baptist at Jarash (M.79a-b, Figs. 275-278), the central field - which has disappeared almost entirely, but showed a vine scroll inhabited by animals - was surrounded by a meander enclosing sixteen busts of the Months and presumably of the Seasons. In the southern and northern intervening segments, Nilotic landscapes linking water and land are bordered by an inhabited acanthus scroll.¹³ In the transept wings of the Church of St. Demetrius, Nicopolis (cf. Appendix II, pp. 255-256) the cosmic theme is clearly indicated by the inscription in the north wing: "Here you see the famous and boundless ocean/Containing in its midst the earth/Bearing in the skilful images of art everything that breathes and creeps./The foundation of Dumetios, the great-hearted archpriest" (Kitzinger, 1951a, 215). The panel in the north wing exhibits Earth - a forest of trees filled with birds below and in the air above - surrounded by the Sea - a broad frame of water with fish and two fishermen. In the south wing panel is Ocean - a band of water framing Earth, - while Earth is represented by a vine scroll border

13. Kitzinger (1951a, 211-212) interprets this more factually as a "geographic pavement" rather than a "cosmic" one.

of hunters and beasts which runs round the Heavens. These in turn are suggested by two large figures, dressed as soldiers and armed with spears with two beasts lying at their feet; they are interpreted as the Dioscurii by Grabar (1962, 144-145) and Sodini (in press, 196-198).

The presence of Earth, Sea and Sky suggests that the Church is intended to be seen as a reflection of the Universe or the Cosmos. This is the interpretation given by Grabar (1947;1962, 149-152) and by Stern (1965a, 26) in his analysis of the floor decoration of the nave of the Church of St. Christopher at Qabr Hiram (M.17, Figs. 142-143). The nave is an image of the terrestrial world, Earth and its products, the activities of man and the natural forces upon which he depends. The central field displays man's estate, in which he exercises both rural and hunting activities, and where dangers surround him. In the intercolumniations, around man's world, spreads out the animal world. In the aisles, the terrestrial fauna and flora are grouped around personifications of Time: the twelve Months, the four Seasons and the four Winds. On the basis of the association of the north with the cold and the south with warmth, the months of Winter and Spring and the corresponding Seasons have been placed in the north aisle, and those of Summer and Autumn in the south aisle.

Goodenough (1953,I, 253) interprets in a similar way the floor decoration of synagogues, in which he sees Dionysiac

and solar symbolism¹⁴ combined with Jewish mysticism.¹⁵

From the motif of the inhabited Vine or that of the Tree of Life, both symbolizing Hope, the believer stepped across the heavenly bodies - the Zodiac and the Seasons. The curtains opened, he entered the adyton and reached the last panel depicting the Torah, as at Bet Alfa (M.47, Fig. 214) or in the so-called "Samaritan" synagogue at Bet She'an (Zori, 1964; 1967b). Thus, by walking through the design, he was also ascending the great scala caeli, passing through the three mystical stages of purgation, illumination and unification.

2. Arguments against symbolic interpretations of the inhabited scroll

The elaborate interpretations put forward above are undermined by several considerations.

If the inhabited scroll truly has a symbolic value, it is astonishing that one of the essential elements of the Church's figurative language, the phoenix, symbol of rebirth through grace, is excluded from the range of scroll fillers.

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14. Goodenough (1953, I, 194) interprets as Dionysiac the various inhabitants of the medallion vine scroll frieges in architectural sculpture at Chorazin (cf. Chapter VI, pp. 92-93): the man with a heavy staff and grapes seems to hold the mace of Heracles, often associated with Dionysus; the two men pressing grapes are probably satyrs or sileni. At Yafi'a, the eagle perched on double volutes which enclose a Medusa head (Sukenik, 1951a, Pl. VII) is a solar representation, whilst the tigress in the acanthus scroll (cf. Chapter VI, pp. 109-110, Figs. 323-324) suggests Dionysiac symbolism (Goodenough, 1953, I, 217).
15. A great interest in astrology was displayed by Judaism in the first centuries A.D. (Simon, 1948, 45; 1962, 192-193). This is borne out by the depiction of Helios and the Zodiac on the pavements of the synagogues of Naaran-Ain Duk (Goodenough, 1953, I, 253-257; III, Fig. 644) and 'Isfiyā (M.19, Fig. 146; Goodenough, 1953, I, 257-259; III, Figs. 648-654).

Moreover, it is striking that a large number of animals which are included in the scrolls have never had a symbolic value in a Christian context. These are notably ducks and geese, partridges, gazelles and the hare. Some depictions bear humorous traits: at Maon-Nirim (M.40, Fig. 201), the traditional motif of a dove drinking from a cantharus is replaced by that of a hen perched on the edge of a vase where it has laid an egg (scroll 38). The motif of the hen taking her chicks for a walk, to which Grabar attaches a deep symbolic meaning (cf. supra, pp. 201-202) is put by Avi-Yonah (1960b, 20) in the category of depictions verging on humour.

In 427, an edict of Theodosius II¹⁶ forbade the use of the sign of the cross on the floor where it could be trod upon.¹⁷ Although the edict specified only the "cross", the dread of stepping on sacred images or symbols created a limiting factor in the use of figurative elements on mosaic pavements, so that images loaded with Christian meaning were depicted solely in areas where only the priest could walk.

16. C.J. 1,8,1. Edict of Theodosius II (427): "Since it is our diligent concern to observe by all means the religion of the highest God, we decree specifically that no one shall be permitted to carve or to paint the sign of Christ the Saviour upon the floor or the pavement or on marble slabs placed on the ground; nay, any such that are found shall be removed, and whoever attempts to contravene our statutes shall be punished by the gravest penalty" (Mango, 1972, 36).

17. In the Church of Evron, 10km., North of Acco (St. John of Acre), the earliest pavement, dated to 415 by inscriptions in the nave, made a lavish use of crosses (seven times) and of the Γ sign (three times, with once the A and the Ω added above the horizontal arm of the sign). In a side-room a later pavement dated to 442-443 by inscriptions, thus after the edict of 427, overlaid an earlier inscription written round a cross (cf. Sofer-Ovadia Cat. No.46, with bibliography; Avi-Yonah, 1957b, 118-120).

Thus in the sixth century Church of the Multiplication of Loaves and Fishes at et-Tabgha, the mosaic pavement behind the altar displays a basket filled with loaves which are marked with the sign of the cross, and two fishes.¹⁸ Consequently, had the inhabited scroll motif effectively been loaded with symbolic value, it would not have been depicted in full glory on the floor, particularly in the nave, where all worshippers walked freely.

The fact that depictions of birds and animals as incorporated in the scroll motif, were considered devoid of Christian meaning, is borne out by St. Nilus' letter to the eparch Olympiodorus.¹⁹ Although St. Nilus discusses mainly wall-depictions, his views on the subject of religious and secular depictions can be taken to apply equally to pavements. He strongly disapproves of images of birds and beasts, reptiles and plants, for they "distract the eyes of the faithful". On the other hand, he advises Olympiodorus to choose the depiction of crosses "for it is by virtue of the one salutary cross that human kind is being saved", and of Old and New Testament scenes", so that the illiterate who are unable to read the Holy Scriptures, may, by gazing at the pictures, become mindful of the manly deeds of those who have genuinely served the true God, and may be roused to emulate these glorious and celebrated feats....".

18. On the Church at et-Tabgha, cf. Avi-Yonah Cat. No. 344 - QDAP II, No. 4 (1932), 185, with bibliography, and Avi-Yonah, 1960b, Pl. III.

19. Cf. the English translation of St. Nilus' letter (PG LXXIX, 577-580) by Mango (1972, 32-33), from which all quotations from the letter are taken.

The symbolic interpretations outlined above (cf. supra, pp. 199 - 205) view the inhabited scroll motif as decorating solely mosaic pavements in a religious building, church or synagogue. They disregard the fact that the inhabited scroll is not only found in a variety of contexts, in baths, villas and courtyards as well as churches and synagogues, but also appears in a wide variety of media, including wall-painting, wall-mosaic, metalwork, ivory carving and textiles (cf. Appendix I, pp. 227-238). These have no place in a cosmic symbolic interpretation. The variety of contexts and media thus precludes any attempt that one might make to attribute to the inhabited scroll a significance universally applicable to all media and in all contexts. However, this does not imply that the inhabited scroll is purely decorative. An object need not necessarily be wholly symbolic or wholly decorative, nor is there of necessity a contradiction between symbolism and decoration. A symbol is a symbol only when it is "read" as a symbol. Thus, wishing to "read" the pavement (or even the inhabited scroll motif alone) from the point of view of symbolism, we lay on it a "ciphering grid",²⁰ and translate each component of the motif as a "symbol". This intellectual effort is made with our twentieth century mentality and an accumulated scholarly knowledge. What is important is not that we should "read" the pavement, but that we should attempt to understand how the inhabited scroll motif was grasped by three categories of early Byzantines: those who ordered pavements and carving - the Church, the

20. This is the "grille de lecture" defined by the French Structuralist school.

Synagogue and the private donors; those who designed and produced them - the artisans, and those for whom these buildings, churches, synagogues, baths and villas, were decorated - the worshippers, the local population.

The problem, therefore, is not whether the inhabited scroll motif is decorative and hence lacks all symbolic reference, but what it meant to the people of that age.

3. A study of some early Byzantine mentalities

a. The donors

In the range of inhabited scrolls in architectural sculpture, only one inscription associated with a scroll survives. This is in the Church of St. James, Nisibis (S.29a-b, Figs. 67-70), and gives some detail concerning the building of the baptistery in 359 by Akepsuma the priest, at the time of Bishop Volagesos. Inscriptions are much more frequent on mosaic pavements. Out of 116 inhabited scroll pavements, 39 bear at least one inscription, generally in Greek. At 'Isfiyā (M.19), the inscription is in Aramaic, in the synagogues at Bet She'an (M.45a) and Bet Alfa (M.47) one inscription is in Aramaic, the other in Greek. Except for the baths at Serdjilla (M.11, Figs. 128-129), all the inscriptions are from churches, funerary chambers or synagogues. In churches it was customary to place the dedicatory inscription at the east end of the nave in front of the chancel steps. The inscription gave the names of the bishop and the priest or founder and sometimes of the saint to whom the church was dedicated, as at Qabr Hiram (M.17), and the month, year, and indiction when the church was

completed. Although few inscriptions reveal the names of the craftsmen who laid the inhabited scroll pavements (cf. Chapter VIII, pp.194-195) one mentions the name of the emperor reigning at the time of the laying of the floor (M.47), others give the names of prelates functioning then, and a large number contain the names of priests and deacons under whose direction the churches were constructed. Moreover, they display the names of the patrons at whose expense the buildings - churches, synagogues and baths - were erected.

There is no solid evidence to support a theory of direct imperial intervention. Gough (1972a, 210; 1973, 64-68) suggests that the Emperor Zeno the Isaurian may have contributed funds to the construction of the monastery of Alahan (cf. Chapter IV, pp. 51-52) but there is no epigraphic or other positive evidence to substantiate this. In any case, no Emperor or local civil servant appears as a donor on inscriptions accompanying inhabited scroll pavements.

Only three pavements in the area under consideration were ordered by a whole group. Two of these pavements contain inhabited scrolls, and in these cases - the Church of St. Christopher at Qabr Hiram (M.17, Figs. 142-143) and the synagogue of Bet Alfa (M.47, Figs. 214-215)²¹ - the authorities of a village act on behalf of their cocitizens. In the case of Qabr Hiram, the whole village participated

21. Inscription in Aramaic in a tabula ansata, near the western entrance of the synagogue: "This mosaic was laid down in the year...of the reign of Emperor Justinus... who gave a hundred dinars...gave all members (sons) of the community (?)...Rabbi...honoured be the memory of all sons...Amen" (Sukenik, 1932, 43-44).

in the laying of the pavement.²² Renan (1864, 613) considered that the inscription was a proof of the ecclesiastical hold over rural property: the country-bishop is assisted by an "epitropos" or bailiff, who through the stewards ruled over the peasants of the two estates. The absence of any authority whatsoever, either official or private, besides the ecclesiastical dignitaries, supports this interpretation. The bishop acts as the head of a lay community which he administers. It thus appears that the municipal organizations do not bother about building churches and that the prerequisite for two villages to act as a community is that they are ecclesiastical property. In 662-663, however, the people of Madaba acting apparently on their own initiative offered a mosaic (which incidentally contains no inhabited scrolls) to the Church of the Virgin.²³ Devréesse (1942a, 360) believed that the explanation lay in

22. "The work of laying the mosaic of the glorious and venerable martyrs St. Christopher was completed under the chief priest and country bishop Georgios, most beloved-of-God, and the beloved-of-God Cyrus deacon and "epitropos", for the salvation of the stewards and the peasants of the two estates and their children and of the clergy and of the donors in the time of the most pious presbyter, the most humble Zacharios, in the month of Daesios of the year 701, 9th indiction".

23. Inscription (2.74m. x 1.00m) in Greek in eight lines: "The very beautiful mosaic work of this shrine and holy house of the holy immaculate Lady Mother of God (was done) by the zeal and devotion of the Christ-loving people of Madaba for the salvation and forgiveness of sins of the ones who have brought and are bringing offerings to this holy place. Amen, O Lord! It was completed with God's help in the month of February, year 974, indiction 5." According to the Seleucid Era, this date corresponds to A.D.662-663. For the Greek text accompanied by a French translation, cf. Cabrol-Leclercq, DACL, Tome X, 1^{ère} partie, Paris 1931, Col. 864. The mosaic was uncovered again in March 1973 by the Department of Antiquities of Jordan (press release of the Department of Antiquities, and short note in Amman newspaper al-Raii, 5th March 1973, in Arabic).

the disappearance of the ecclesiastical hierarchy, since the Province of Arabia had been under Arab control for over thirty years; this cannot be proven.

Generally, the rôle of the ecclesiastical authorities appears limited. They are mentioned as eponyms or as witnesses of a work accomplished by others. The bishop, however, plays a more direct rôle in the city which is his seat, as in Gerasa or Madaba. Bishop Claudius of Gerasa (Jarash) dedicated the Church of the Prophets, Apostles and Martyrs (M.75, Fig. 268) at Jarash in 464-465. He was followed on the seat of Gerasa by Marianus and ca. 495 by Aeneas who completed the Church of St. Theodore in 496. Under Bishop Paul, several churches were erected: the Procopius Church in 526 (M.76a-c, Figs. 269-271), the Church of St. George in 529-530 (M.77a-b, Figs. 272-273), the Synagogue Church in 530-531 (M.78a-b, Fig. 274), the Church of St. John the Baptist in 531 (M.79a-b, Figs. 274-278) and the Church of SS. Cosmas and Damian in 533. Anastasius was bishop at the time of the building of the Church of SS. Peter and Paul, ca. 531-540 (M.80a-c, Figs. 279-280), and of the Propylea Church in 565. In 611, a church was completed under Bishop Genesisius, and in 634-635, Gerasa fell to the Arabs.²⁴ The churches of Madaba, Mt. Nebo and Khirbat al-Makhāyyat (Nebo town) were built under the episcopate of John, Sergius and Leontius. The "Cathedral" at Madaba (M.55, Fig. 235) was completed in 562 under Bishop John; he also acts as eponym

24. On the history of the bishopric of Gerasa from 359, when a bishop of Gerasa is first mentioned at the Council of Seleucia, to the Arab conquest, cf. Devr esse, 1942a, 126-127.

for the Church of St. George dated to November 540 (M. 72a-b, Figs. 260-261) and that of SS. Lot and Procopius presumably built at about the same time (M.71, Figs. 257-259) at Khirbat al-Makhāyyat.²⁵ John was succeeded by Sergius, under whose episcopate were built in Madaba the Church of the Holy Apostles in 578-579 (M.56, Figs. 236-238), a church dedicated to St. Elias in 595-596 (Cabrol-Leclercq, DACL Tome X, 1^{ère} partie, Cols. 867-873) and the Baptistery Chapel on Mt. Nebo in 597 (Saller, 1941, 84-91). In 607-608 Bishop Leontius completed the Church of St. Elias in Madaba, and the Chapel of the Theotokos on Mt. Nebo (Saller, 1941, 91-107).

Most frequently, the clergy called upon private patrons whose names occupy the most prominent position in the inscriptions: e.g., Marina in the Church of the Prophets, Apostles and Martyrs (M.75, Fig. 268) and Theodore, in the Church of St. John the Baptist (M.79a-b, Figs. 275-278) at Jarash; Stephanos, Elpidia and Pelagios at 'Ayn al-Bad (M.14, Fig. 135). Thus the clergy's rôle had three different aspects. The bishop took the decision of building a church which was erected either with Church funds or with his own. Alternatively, he called upon donors whose funds were used and whose names appeared on inscriptions together with his own. If a rich donor, often in fulfilment of a vow, took

25. The inscription of the "Cathedral" at Madaba which dates its completion to 562 under Bishop John solves the problem of the dating of John's episcopate. John was bishop before Sergius and Leontius. The latter only made some restorations or part of the pavement of the "Cathedral"; the original decoration of the church cannot be attributed to him as had been thought before the excavation of the "Cathedral" in 1968, on the basis of a mosaic inscription found in 1911 next to the "Cathedral" which attributed its construction to Leontius and dated it to 604 (Savignac, 1911, 437-440). On this question, cf. Saller, 1969, 166-167.

the initiative of the building or decorating of a church, the bishop's rôle was reduced to sanctioning the project and perhaps to controlling its realization.

In the case of the inhabited scroll pavements of synagogues, the synagogal authorities are not mentioned in the inscriptions. Cod. Theod. XVI,8,8-13 indicates that the "illustrious patriarchs", i.e. the nesi'im in Palestine, exercised supervision over the appointment of synagogue personnel and the collection of funds as well as over the construction of new synagogues. The importance of the rôle of the nasi in the sponsorship of synagogues is borne out by the imperial decree of 415 by which Gamaliel, the last of the Patriarchs, was deprived of the prefecture and ordered "hereafter not to build any more synagogues" (Cod. Theod. XVI, 18, 22). As regards the decoration of synagogues, the Rabbinical authorities perpetually wavered between tolerance towards images and reaction against them. Whilst some purists advised the avoidance of any sort of representational art, the more lenient halachic trend represented by Rabbi Johanan and Rabbi Abun, permitted the introduction of murals and mosaics.²⁶

The reasons behind private donations are not only the religious fervour which the donors proudly proclaim, but also

26. "In the days of Rabbi Johanan", who in the third century initiated the Jerusalem Talmud and was recognized as supreme authority as far afield as in Babylonia, "they began to paint on walls and he did not prevent them" (Yerushalmi Avodah Zarah, III,3). In the early fourth century, "in the days of Rabbi Abun they began to make designs on mosaics, and he did not prevent them" (Yerushalmi Avodah Zarah, 41d). On the question of Rabbinical attitudes to the depiction of animal and human forms, cf. Baumgarten, 1970; Simon, 1948;1962, and Urbach, 1959. Avi-Yonah (1965a, 325-327) discusses this problem more specifically in relation to mosaic pavements.

their vanity. The building of baths secured the gratitude of the community as is made clear by the inscription on the pavement of the baths at Serdjilla (M.11, Figs. 128-129),²⁷ but the building and decorating of churches both pleased God and made the donor's generosity immortal. Of Stephen, the governor of Palestine who, together with Bishop Marcian of Gaza, built the Church of St. Sergius at Gaza in the early years of Justinian's reign, Choricus of Gaza says: "He has donated the church to his fellow-citizens, knowing well that whereas other liberalities result only in the adornment of the city, the construction of churches brings in not only beauty, but a name for godliness besides" (Laud. Marc. I, 30; Mango, 1972, 62). The donor thus made a contribution to the religious well-being of the community and at the same time secured for himself a special place in the eyes of the Church and of God. A catechesis of St. John Chrysostom on the Acts of the Apostles (Act. Apost. XVIII; PG IX, 144) describes the way in which the Church understood the intentions of the landowner who had a church built on his lands. For the Church cleverly made use of the donor's foremost desire to secure his own salvation, by emphasizing the importance of developing the piety of the peasants on his estate, by promising him special prayers and the recording of his name on inscriptions.

27. "Julianus had this made (and the town is grateful) together with Domna his spouse, and he has conferred great happiness, glorifying his country. Well, may your good repute drive out envy and ever increase your glory! The bath was finished in the month Panemus, of the year 784, indiction 11. Thallasius' noble son Julianus had this made, a man of reputation to match his qualities of mind and heart" (Butler and Prentice, 1901, 72-73).

The Church did not forget to play upon his vanity: the donor would obtain far more glory in building and decorating a church than he would in erecting baths or a funerary chamber. Perhaps the success of St. John Chrysostom's preaching at least was partly responsible for the flood of subsequent religious building and decorating activity (cf. Chapter IV, pp. 56-65), both in towns and villages. Landowners and rich citizens, both Christians and Jews, vied with each other for attention from the Church or the Synagogue, and God. Wealthy Jewish patrons viewed the synagogue both as a source of salvation and as a means of perpetuating their names as well as of displaying their Hellenization (Baumgarten, 1970, 206). Their bid for immortality was the driving impulse, but an element of counter-propaganda directed towards the Gentiles may also have been present (Simon, 1948, 46).

Although some donors were more discreet, this was exceptional. On the "Armenian Mosaic", Jerusalem (M.33, Figs. 183-186), the Armenian inscription runs thus: "For the memory and salvation of all the Armenians, whose names the Lord knows". Similarly in a synagogue at Bet She'an (M.45a-b, Fig. 212), all those who contributed to the repair of the building remained anonymous: "Remembered be for good all the members of this holy community who joined in the repair of this holy place. In peace shall they have the blessing. Amen! Peace! Piety and peace!" The anonymous donor of the Church of St. George at Jarash (M.77a-b, Figs. 272-273) even goes so far as to ask for the forgiveness of his sins, a request displayed publicly on the mosaic pavement:

"In the time of the most beloved-of-God and most holy Bishop Paul, the Church of the Holy George was roofed and paved with mosaic and redecorated from an offering from him, whose name God knows, for forgiveness of his sins, in the time of the 8th indiction of the year 592".

b. The artists

The artists made a choice in a classical repertory, enlarged and modified, purged of all paganism: "The artist has rightly rejected the birds of the poets, the nightingale and the cicada, so that not even the memory of these fabled birds should intrude upon the sacred place; in their stead he has artistically executed a swarm of other birds and, [in particular,] a flock of partridges" (Laud. Marc. I, 33; Mango, 1972, 62). Neutralized, the old pagan symbols such as the Vine of Bacchus and the peacock of Juno took on a particular significance when incorporated in the context proper to each religion. The Vine, equated by Hosea with Israel,²⁸ was according to John the Evangelist (15, 1-7),²⁹ Jesus. Thus in front of the same motif, the vine scroll for instance, a Jew and a Christian react differently; each "reads" it according to his own religious context and cultural upbringing. All depends then on the person who

28. Hosea 10,1: "Israel is a luxuriant vine/that yields its fruit." The bunch of grapes represents the fertility of the land of Israel: "And they came to the Valley of Eshcol, and cut down from there a branch with a single cluster of grapes, and they carried it on a pole between two of them; they brought also some pomegranates and figs" (Numbers 13.23). This Biblical episode is depicted on a white marble relief fragment (L. 0.17m., H. 0.095m.) of Roman or early Byzantine date found in the vicinity of Hebron, a famous grape-producing area, which is thought to be the Valley of Eshcol (cf. Vincent, 1902d).

29. Old and New Testament interpretations of the Vine are discussed below, pp. 223-225.

looks at the motif. The neutrality of the motif itself is demonstrated by its adaptability to different contexts and media as has been outlined above (cf. supra, p. 208) and by the reuse of material in a different context from its original one. A pagan, late second-early third century sarcophagus, from Tripoli of Syria whose main face is inscribed on the lower part of the lid with the names of its original owners and whose sides are carved with vintaging putti, was clearly reused by a Christian, as is indicated by a second inscription.³⁰ The inhabited vine scroll was a popular theme amongst the Jews who used it on the sculpted façades of their synagogues, as at Capernaum and Chorazin, in the second-third century (cf. Chapter VI, pp. 92-93) and subsequently on synagogue floors. The polemic literature of the period shows the Church and the Synagogue as mortal enemies.³¹ The odium theologicum, however, appears to have been much less important than what they held in common. Jews and Christians, who lived side by side, particularly in the Bet She'an area (Avi-Yonah, 1962, 132-134), shared the same cultural background and were to the same degree inheritors of a classical tradition. It appears that craftsmen, as in the Gaza region, worked for Christian and Jewish patrons alike, producing similar types of floors, as indicated by the inhabited scroll pavements of the synagogues at Gaza (M.38a-b, Figs. 194-199)

30. This white marble sarcophagus is exhibited in the Istanbul Arkeoloji Müzesi, Room 6. It is fully published by Mendel III, No. 1169 (510), pp. 408-412. Cf. also Fig. 333 of my Vol. IV.

31. Growing anti-semitism was encouraged by the Church in the fourth and fifth centuries. Cf. Simon, 1948, 264-274.

and Maon-Nirim (M.40, Figs. 201-203) and the church at Shellal (M.39, Fig. 200).³² Thus the artist adapted a neutral theme according to whether the order came from Jews or Christians. The human figure, for instance, is excluded from the range of inhabitants of the scrolls on Jewish pavements, whilst the menorah or the seven-branched candlestick, and specific instruments of the Temple ritual are sometimes added in the section of the pavement nearest to the sanctuary. These include the lulab or palm branch, the ethrog or citrus fruit and the shofar or ram's horn. The mahatta or incense shovel is strangely enough not depicted on inhabited scroll pavements, whereas on other synagogue pavements it is associated with the Torah or Ark of the Law and the cultic instruments noted above.³³ In a synagogue at Bet She'an (M.45a-b, Fig. 212), the Hebrew word shalom ("peace") accompanies the menorah; at Maon-Nirim (M.40, Figs. 201-203), the menorah surrounded by the cultic instruments, is flanked by two lions, the specific attributes of Judah. Below it is depicted a palm-tree with two bunches of dates representing Judea and Jewry, both for the Jews themselves - as appearing on Bar Kochba's coins, and for Gentiles - as shown on Roman victory-coins which depict a palm tree with a captive woman weeping beneath while the whole is inscribed IVDEA CAPTA.

32. In the necropolis of Beth She'arim a lead sarcophagus has been found, decorated with vine tendrils, grape-clusters and leaves, craters, birds drinking from a bowl, human heads and menorot, a shofar and a lulab with an ethrog (Avigad, 1959, 215-218). Exactly the same type of sarcophagus was found in Sidon, but with crosses instead of menorot (Goodenough, 1956, V, Fig. 59).

33. On the various Jewish cultic instruments, cf. Goodenough, 1965, XII, 86-91.

Generally, however, the inhabited scroll itself does not incorporate cultic instruments and the association of a floor or of a sculpted fragment to a specific religion can be demonstrated solely through external factors. The inhabited vine scroll pavement found at Gaza in 1965 (M.38a, Figs. 195-198) was shown to belong to a synagogue only through its association with a neighbouring pavement which belonged to the same building and depicted a regal Orpheus-like figure clearly inscribed "David" in Hebrew (Ovadia, 1969, 194-195; Philonenko, 1967, 355-356).

c. The worshippers

It is clear that fourth to seventh century Christians bothered little about the significance of the decorative elements set before their eyes during the liturgy. Texts accurately describing the decoration of churches are rare. Eusebius, in his Historia Ecclesiastica and Vita Constantini, gives ample details on the buildings erected by Constantine and Helena in the Holy Land. In his account of the basilica in Tyre (Hist. Eccl. X, 4, 37-46; PG XX, 864-868), he praises the wealth of the materials and the opulent decoration. In neither case does he supply precise indications as to the subject of the decoration; this is equally true of architectural sculpture and of mosaic. Paul the Silentiary's ekphrasis on St. Sophia (Mango, 1972, 80-96) is the prime example of a description devoid of precise details. A few exceptions to the rule are notable. In a Homely on St. Theodore Tychon (PG XLVI, 737-739) pronounced at Euchaita where St. Theodore's tomb was located, St. Gregory of Nyssa enthusiastically describes the splendour of the martyr's

sanctuary and speaks of marble revetments and wooden panels carved with animal figures. He also gives details on the wall-paintings depicting the Saint's martyrdom, a theme repeated by the mosaic pavement. Two other texts abound in descriptive wealth and precision: Choricius of Gaza's Laudatio Marciani³⁴ which describes both the architecture of the Church of St. Sergius and that of St. Stephen at Gaza, and the wall-paintings of the former, and St. Nilus' letter to Olympiodorus.

The pilgrims, such as the "Bordeaux pilgrim", Melania the Younger and Etheria are primarily interested in the liturgy of the churches of the Holy Land and in their religious associations. A common trait of their narratives is their incredulous amazement at the beauty of the buildings; it is so great that words fail them and descriptive analysis and accuracy are replaced by expressions of wonder represented by a vague terminology. Etheria, for instance, finds it beyond her to describe the splendour of the holy buildings of Jerusalem (It. Eg. 25, 8-10; Pétré, 1948, 202-205).

In the areas where the inscriptions are most informative about donors and worshippers, the context is rural. If the cultured classes, pilgrims like Etheria, and intellectuals, do not seem interested in the decoration of their churches and its symbolic significance, it cannot be expected that the rural population should have the intellectual capacity and specialised knowledge required for exegeses on religious

34. For a full translation of the Laudatio Marciani into French, cf. Abel, 1931, 14-27; into English, cf. Hamilton, 1930.

symbolism.³⁵ Moreover the churches and chapels were generally small; at Khirbat al-Makhāyyat, the whole nave of the Church of SS. Lot and Procopius (M.71, Figs. 257-259) measures 4.08m. x 2.74m. (cf. also Diag. 2). If present-day Orthodox churches represent a valid comparison at all, they were presumably crowded with standing worshippers during services. The worshippers, therefore, absorbed by the elaborate liturgy, had neither the leisure nor the physical possibility to analyze the symbolic significance of the pavement under their feet. Inhabited scrolls, the most popular theme of mosaic pavements in the Levant, must be studied in their immediate context. Numerous oil and wine presses, traces of terraces once bearing olive trees and vines, testify to the wealth of the Madaba-Mt. Nebo region in the fifth-sixth century (cf. Chapter IV, pp. 57-58). Moreover, all the church pavements bear vine or acanthus scrolls filled with scenes of vintagers collecting and transporting grapes and making wine in the presses. These vintaging scenes are inspired by one of the chief activities

35. A parallel which illustrates the sort of attitude to church decoration typical of the rural population in the later Middle Ages is furnished by the Ballade que fit Villon à la requête de sa mère pour prier Notre Dame: "Femme je suis pauvrete et ancienne,/qui rien ne sais; oncques lettre ne lus./Au moutier vois, dont suis paroissienne,/Paradis peint ou sont harpes et luths,/Et un enfer ou damnes sont boullus:/L'un me fait peur, l'autre joie et liesse/La joie me fait, haute Deesse/A qui pecheurs doivent tous recourir,/Combles de foi, sams feinte ni paresse:/En cette foi je veux vivre et mourir". Thus she sees harps and lutes in Heaven, and the damned boiling away in Hell, depicted on presumably wall-paintings, but being illiterate she does not have the intellectual capacity required for analyzing the religious significance and implications of the paintings. In the same way, as is argued below (cf. infra, p. 223) the farmers of Madaba and Khirbat al-Makhāyyat no doubt did not read symbolism into factual depictions of rural activities characteristic of their region.

of the local community. Other scenes in the scrolls and included in the geometric motifs reflect other aspects of the life and work of the local population: farmers raising grain, vegetables and fruit, shepherds and their flocks; hunters and fishermen. The same applies to the inhabited scroll pavements of synagogues which include bowls of fruit and various animals as scroll fillers, as at Maon-Nirim (M.40, Figs. 201-203): the Jews were mainly farmers and the vast majority of them lived in villages. Thus the population could identify itself with the figures peopling the vine trellis or the acanthus network. This is the first level of "reading" of the inhabited scroll.

Basic catechism taught that God is the Creator of all things and that man should offer Him the fruits of his toil. The pavements thus fixed in mosaic the motivation of the act renewed each year at the time of the First-fruits, an act represented most specifically by the offerers bearing gifts of fruit to Mother Earth on the pavements of the Church of the Priest John (M.70, Figs. 255-256) and of the Church of St. George (M.72a, Fig. 260) at Khirbat al-Makhāyyat. This is the second level of reading.

The more educated amongst the worshippers, notably members of the clergy, nourished on the Bible and exegetical texts, could understand the inhabited scroll through a textual "ciphering grid" and interpret individual details from it. This is the third level of reading. Danielou (1964, 23-41) demonstrates textually the close relationship linking the $\phi\upsilon\tau\epsilon\acute{\iota}\alpha$ or plantation of which the vineyard

is a variant as a symbol of the Church, the tree as a figure of the baptized person, and the Tree of Life as a figure of Christ. In Isaiah 5, 1-7³⁶ the vine of Yahweh, symbolizing the Israelites, is a vineyard (ἀμπελών), a theme taken up by Matthew 21, 33-41,³⁷ and also found in Judaeo-Christian writings. Hermas' fifth parable is that of the vineyard: "The vines are the people which he planted" (V, 5,2) and "God planted the vineyard, that is, he brought his people into being and entrusted it to his Son" (V, 6,2). This is linked to the theme of the whole people of Israel as a vine plant (ἀμπελος), as seen in Psalm 80, 8-19³⁸ and in Book I of the Apostolic Constitutions.³⁹ In Matthew 13, 32,⁴⁰ the plant is a shoot. The birds resting in the branches of the great tree appear both in Ezekiel 17, 23 and

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36. Isaiah 5,7: "For the vineyard of the LORD of hosts/ is the house of Israel,/and the men of Judah/are his pleasant planting."
37. Matthew 21, 33-41 is the parable of the vineyard: "... There was a householder who planted a vineyard, and set a hedge around it, and dug a wine press in it, and built a tower, and let it out to tenants, and went into another country...".
38. Psalm 80, 8-9: "Thou didst bring a vine out of Egypt;/ thou didst drive out the nations and plant it./Thou didst clear the ground for it;/it took deep root and filled the land." The theme is repeated in Ezekiel 17, 1-8.
39. Book I of the Apostolic Constitutions begins thus: "The catholic Church is God's plantation and those who believe his true revelation are the chosen vineyard".
40. Matthew 13,32: "The kingdom of heaven is like a grain of mustard seed which a man took and sowed in his field it is the smallest of all seeds, but when it has grown it is the greatest of shrubs and becomes a tree, so that the birds of the air come and make nests in its branches."

in Daniel 4,9.⁴¹ In John 15, 1-7,⁴² Jesus personalizes the theme of the Church as a plant. He proclaims himself the true Israel, formed by the union of Christ - the stem, with the branches - the members of the Church. This theme is clearly used iconographically in the later Byzantine and Post-Byzantine periods, on wall-paintings and icons.⁴³ The intermingling of the two metaphors of the Tree of Life and the Vine-stock, which is already present in the Hodayoth of Qumran and reappears in the mystagogical catechesis of Asterius the Sophist (Daniélou, 1964, 38-39) creates an ambiguity represented iconographically as a tree-like vine, such as that depicted above the niche of the Torah shrine in the synagogue of Dura-Europos.

Some learned members of the clergy could have interpreted the three depictions of the child holding a staff in his left hand (scroll 3), holding a staff in his right hand over his shoulder and a parrot in his left hand (scroll 13)

41. Ezekiel 17,23: "on the mountain height of Israel will I plant it, that it may bring forth boughs and bear fruit, and become a noble cedar; and under it will dwell all kinds of beasts; in the shade of its branches birds of every sort will nest."
Daniel 4, 9-12: "...I saw, and behold, a tree in the midst of the earth...Its leaves were fair and its fruit abundant, and in it was food for all. The beasts of the field found shade under it, and the birds of the air dwelt in its branches, and all flesh was fed from it".
42. John 15, 1-7: "I am the true vine, and my Father is the vinedresser. Every branch of mine that bears no fruit, he takes away, and every branch that does bear fruit he prunes, that it may bear more fruit...I am the vine, you are the branches. He who abides in me, and I in him, he it is that bears much fruit, for apart from me you can do nothing..."
43. On the south wall of the narthex of the Church of the Monastery of Kaisariani, 7km. east of Athens, a great vine is depicted, spreading its scrolls over the entire wall. Christ appears issuing from the vine-stock, whilst each of the Apostles is enclosed in a scroll. The frescoes were executed in 1682 by Yoannis Hypatos (Fig. 334).
The same theme appears on a seventh century icon (0.53m. x 0.55m.) in the Byzantine Museum, Athens (cf. Merlier, 1932, 109, No. 302).

and being pulled on a cart by two pheasants (scrolls 20 and 21) in the acanthus scrolls of the Church of the Holy Apostles at Madaba (M.56, Figs. 236-238), as reflecting the Infancy Gospels.⁴⁴

Thus the inhabited scroll motif and its components could be read at three levels. In areas with other landscapes and different rural activities, the motif would probably have been interpreted less at the first than at the second and third levels. Neither symbolism nor decoration are inherent in the inhabited scroll. It is simply a neutral theme, read, understood and interpreted according to the mentality of the onlooker, for the life of artistic motifs is far longer than that of their original significance. Like most other motifs from the Graeco-Roman artistic repertory, the inhabited scroll passed into Jewish and Christian art alike, taking on different meanings according to the period, the religion, the building and the onlooker.

44. Cf. the English translation of the Infancy Gospels by James, 1924, 38-90, esp. 55-57.

APPENDIX I

INHABITED SCROLLS from the fourth to the seventh century in
WALL-PAINTING, WALL-MOSAIC, the MINOR ARTS and TEXTILES

1. WALL-PAINTING

(i) Fourth century painted tomb at Daribet Ḥajar 'Īd, 2km. north of Ascalon, cleared in March 1937. The ceiling is decorated with an overall vine scroll, composed of two intertwining plants issuing from the north-east and north-west corners (Type C₁x $\frac{VI}{2}$). The space between the winding spaces is filled with a bust of a Chthonic goddess, Kore or Demeter, a Gorgon mask, vintaging putti, gazelles, a greyhound, a hare and doves.

Ref. ORY, J. (1939) "A painted tomb near Ascalon", QDAP VIII (1939), 38-44 (esp. 41-43, Fig. 2).

(ii) Fourth century painted hypogeum at Ankara. On the wall left of the entrance, scrolls contain partridges.

Ref. MÜFİD A. MANSEL (1957) "Rapport sur les découvertes paléochrétiennes en Turquie de 1939 a 1954", ACIAC V (1957), 173-176 (esp. 175).

"Freskli Bizans mezari" in Haberler, BELLEŦEN III, Sayı 11-12 (1939), 464.

2. WALL-MOSAIC

(a) Italy

(i) Mausoleum of Sta. Costanza, Rome (337-350).

Mosaics in large panels decorate the annular vault of the circular aisle: vintaging scenes with putti and birds in an overall vine scroll field (Type C₁x VIc); in the centre

of the design a medallion of vine shoots encloses a female bust (Constantina ?). A variation on the same theme of birds, trees and inanimate objects, e.g. vases and bowls, strewn over a white surface, is a vegetal asarotos oikos in the second century North African fashion separated from the vine scroll design by a panel of medallions alternately filled with portrait-busts or full figures and geometricized flowers.

Refs. GRABAR, A. (1967a) The Beginnings of Christian Art, London 1967, 187, ill. 202-206.

STERN, H. (1958) "Les mosaïques de l'église de Sainte-Constance a Rome", DOP 12 (1958), 157-218, with bibliography.

(ii) San Prisco, near Capua. Oratory of Sta. Matrona. Fifth century vault mosaic depicting an overall vine scroll issuing from a vase (Type C₂x IVb). Doves and pigeons peck at bunches of grapes.

Ref. GRABAR, A. (1967b) Byzantium from the death of Theodosius to the rise of Islam, London 1967, 117, ill. 127.

(iii) Ravenna.

- Mausoleum of Galla Placidia (ca. 440). The luxuriant acanthus scrolls edged in gold on a deep blue ground in a lunette act solely as a decorative backcloth to the stags drinking at the Fountain of Life. The design cannot be termed an inhabited acanthus scroll.

Ref. BOVINI, G. (1968) Saggio di Bibliografia su Ravenna Antica, Bologna, 1968, 67-68.

- Baptistery of the Orthodox (440-450).

In the lower arcade, above each of the eight capitals supporting the arcade, a draped figure holding a roll (an apostle ?) is enclosed in an acanthus medallion issuing from an acanthus foot. An overall acanthus scroll design (Type C₁₀) develops from the medallions.

The arches of the upper arcade contain depictions of plain acanthus scrolls and of vine scrolls issuing from two vases above which two peacocks are symmetrically placed.

Ref. BOVINI, G (1968) Saggio di Bibliografia, 63-64.

- S. Vitale (546-548). Presbytery.

The groined vault is divided diagonally into four triangular panels with alternately gold and green ground. From an acanthus foot in the centre of the foot of the triangle stems an overall acanthus scroll (Type C₂₀ IVc) containing birds, e.g. parrots, partridges, doves, cranes, and both full-length animals and protomai, e.g. sheep, bull, lion. In each panel, an angel standing on a blue orb above the acanthus foot and amidst the foliate decoration helps to bear the wreath of the Blessed Lamb in the centre of the vault. Towards this radiate four diagonal garlands from a peacock seen frontally at each corner of the vault, spreading its tail and standing on an elaborate acanthus arrangement. In the panels with a gold ground, the acanthus is green and blue; in those with the green ground, it is yellow and orange.

The arcade arches of the presbytery are decorated with a vine scroll design issuing from two vases, one at each foot of the arcade arch; at the top of the arch is a cross in a

medallion. The design is strictly symmetrical; the vases are flanked by two pigeons and doves peck at grapes and vine leaves (Type $C_2 \times II_1 b$).

Ref. BOVINI, G. (1968) *Saggio di Bibliografia*, 57-60.

Colour plates of the Ravenna mosaics are to be found in most general books on Byzantine art, e.g. LASSUS, J. The Early Christian and Byzantine World, London 1967, and in those dealing more specifically with the fourth-seventh century period, e.g. GRABAR, A. Byzantium from the death of Theodosius to the rise of Islam, London 1967. References to these books have therefore not been given.

The Ravennate inhabited scrolls are in all ways different from inhabited scrolls in the eastern provinces. They decorate the ceilings and walls of churches built and decorated under imperial patronage, whilst their eastern counterparts decorate the floors of provincial buildings - churches, synagogues, villas and baths. An effect of overwhelming vegetal exuberance is obtained owing to the elevated position of the decorated surface. The onlooker seeing it from below, grasps a much greater area of decoration than when he is looking at a pavement from above at the distance of a man's height. The acanthus, more luxuriant than the vine, is exclusively depicted. The dominant colours are gold, green and blue, with half-tones, and effects of light and shade particularly in the acanthus. Technically, the mosaics are more refined than the pavements in Asia Minor and the Levant; the craftsmen made abundant use of smalto, marble, mother-of-pearl and gold-leafed tesserae. On the

techniques involved, cf. L'Orange and Nordhagen, 1966, 54-62.

(b) Greece

Thessaloniki, fifth century basilica of the Holy Virgin "Acheiropoietos". In one of the three soffits of the tribelon, vine scrolls stem from a vase at each end of the soffit (Type C₂x II₁b). The vases are flanked by two pigeons, their backs to each other but looking towards the vase; pigeons perched on the vine scroll peck at triangular bunches of grapes hanging from three stems. A gold cross in a blue medallion occupies the centre of the soffit. Gold ground; dominant colours: blue and green; red grapes.

In a soffit of the narthex the design is of intertwining fruit-bearing garlands forming medallions in which are inserted sacred books, vases, birds and fish lying on elaborate dishes. The latter and sacred books are not found as scroll fillers on mosaic pavements. The cross in the centre of the soffit is of the star monogrammed form.

Ref. HODDINOTT, R.F. (1963) Early Byzantine Churches in Macedonia and Southern Serbia, London 1963, 155-158, Pl. V.

3. THE MINOR ARTS

(a) Ivories

(i) Ivory throne of Maximian, Bishop of Ravenna (546 - ca. 556). H. 1.50m., W. 0.65m.; in the Museo Arcivescovile, Ravenna. On the front of the throne, just below the seat, is the Latin monogram of Maximian between two peacocks forming part of an inhabited vine scroll (Ax). Below, five columnar niches house the figures of four Evangelists flanking

a figure of St. John the Baptist. Below is another band of inhabited scroll issuing from a central amphora between two lions (Type Ax $\frac{II_2b}{2}$). In both bands, the birds and animals are strictly symmetrical: the peacocks, bulls, goats, pigeons and partridges flanking the monogram, and the lions, deer, hares, pigeons and partridges on either side of the amphora.

The side of the throne illustrate the life of Joseph in a series of scenes. On the backrest the panels represent scenes from the New Testament. The borders of the panels are all of inhabited vine scrollwork (Type Ax I₁b) issuing from a vase and containing pigeons, ducks, partridges, hares and lambs pecking at grapes and vine leaves. The relief is flatter on the carving of the backrest and lacks the contrast in light and shade exhibited by the front of the throne.

Four hands have been distinguished. Grabar (1967b, 289-292) argues for a Ravennate origin; Talbot Rice (1963, 10-11; 1968, 421-425; 1972, 86-88) and Gough (1973, 167-170) are of the opinion that the throne was commissioned and its various panels assembled in Constantinople.

Refs. BOVINI, G. (1968) Saggio di Bibliografia, 85-86:

cattedra eburnea di Massimiano, lists the bibliography pertaining to the throne.

GOUGH, M. (1973) The Origins of Christian Art, London 1973, 167-170, ill. 162-164.

GRABAR, A. (1967b) Byzantium from the death of Theodosius to the rise of Islam, London 1967, 289-292, ill. 334-337.

RICE, D. TALBOT (1963) Art of the Byzantine Era,

London 1963, 21-22, ill. 10-11.

_____ (1968 reed.) Byzantine Art, London reed.

1968, 421-425, ill. 387-390.

_____ (1972) The Appreciation of Byzantine Art,

London 1972, 86-88.

(ii) Ivory relief on the ambo of Henry II in the Cathedral at Aachen. Originally from a sella curulis of the second half of the sixth century from Egypt. A figure of Bacchus is surrounded by a vine scroll (Type Ax) in which putti and small animals are inserted.

Refs. STERN, H. (1954) "Quelques oeuvres sculptées en bois,

os et ivoire de style omeyyade", Ars Orientalis I

(1954), 119-131 (esp. 128-130).

WESSEL, K. (1964) L'Art Copte. L'art antique de la

basse époque en Egypte, Bruxelles 1964, 124-125,

ill. 89.

(b) Metalwork

(i) "Antioch Chalice" from the Kouchakji Collection, now in the Metropolitan Museum of Art. Cup (H. 19cm., original widest diam. 15cm.) consisting of an inner plain silver cup, an outer cup of cast, chased and appliqué technique, heavily gilded, and a solid silver base. The outer cup is decorated with twelve seated figures divided into two groups, in each of which five Apostles (?) are placed about a central figure of Christ. The figures, birds and animals are set in an overall vine scroll (Type C₁x). Syrian,

fourth-fifth century.

Refs. ARNASON, H.H. (1941) "The History of the Chalice of Antioch", The Biblical Archaeologist IV, No. 4 (December 1941), 49-64.

_____ (1942) "The History of the Chalice of Antioch", The Biblical Archaeologist V, No. 1 (February 1942), 10-16. Reviews the whole question, with full bibliography.

FILSON, F.V. (1942) "Who are the figures on the Chalice of Antioch?" The Biblical Archaeologist V, No. 1 (February 1942), 1-10.

GRABAR, A. (1967b) Byzantium from the death of Theodosius to the rise of Islam, London 1967, 313, ill. 360 in colour.

(ii) Three sixth century Syrian silver bookcovers from the Kouchakji Collection, acquired in 1949 by the Fletcher Fund of the Metropolitan Museum of Art.

On the first plaque, a vine scroll border (Type Ax III₁b) enclosing birds, bunches of grapes and vine leaves, surrounds a depiction of two haloed saints supporting a large cross.

On the other two plaques, a panel representing a saint holding a small cross has a vine scroll border (Type Ax III₁c) filled with birds, baskets, pomegranates, bunches of grapes and vine leaves. A cross occupies the centre of the upper border and a vase that of the lower border.

Refs. LEROY, J. (1964a) Les manuscrits syriaques à peintures conservés dans les bibliothèques d'Europe et d'Orient. Contribution à l'étude de l'iconographie des églises

de langue syriacque, Paris 1964, 51-52, with bibliography.

(c) Jewellery

(i) Bracelet, nearly complete, in repoussé gold (L. 13.5cm.). It is said to have been found at Lattāqiyah, Syria, but is probably from Constantinople; second half of the sixth century. Acquired in 1950 by Dumbarton Oaks (Acc. no. 50.37). The central motif is a medallion (diam. 4.5cm.) with the impressed design of an Emperor riding in a chariot drawn by six horses. The hoop of the bracelet, attached to the medallion by a hinge on one side, is decorated with an impressed design of a vine scroll (Type Ax) enclosing birds, rabbits, a goat, bunches of grapes and vine leaves between two rows of beading. A simple rounded band is attached to the top and the bottom. Part of the hoop and one hinge are missing.

Refs. ROSS, M.C. (1965) Catalogue of the Byzantine and Early Mediaeval Antiquities in the Dumbarton Oaks collection, Vol. II - Jewellery, Enamels and art of the migration period, Washington 1965, 4-5, Pls. VIA, VIIA.

(ii) Fragment of another bracelet, consisting of part of the medallion only (diam. 4.5cm.), also in the Dumbarton Oaks Collection (Acc. No. 50.38) and from the same treasure. The design is almost identical with that on the more complete bracelet.

Fragments of the hoop are in the Département des antiquités grecques et romaines of the Louvre (Inv. No. MNE 637).

L.(max.) 12.5cm. (L. of fragment A 5.50cm. + L. of fragment B 7cm.); W.(max.) 1.80cm.

The vine scroll (Type Ax) contains birds pecking at bunches of grapes alternating with hares, a goat, grapes and vine leaves.

Refs. COCHE de la FERTE, E. (1958) L'antiquité chrétienne au Musée du Louvre, Paris 1958, 46 and 105, No. 44.

ROSS, M.C. (1965) Catalogue of the Byzantine and Early Mediaeval Antiquities in the Dumbarton Oaks Collection, Vol. II, Washington 1965, 5, Pl. VIB.

Fig. 335.

(iii) Small sixth century gold plaque from the region of Telbisseh near Ḥamā. In the Jewellery Room of Damascus Museum. Acquired in March 1935; Inv. No. $\frac{2768}{5517}$ (new no.) / (old no.). At each end of the plaque there is a small perforation. A stylized vine or ivy scroll (Type Ax or A*) contains from left to right: a goat (scroll 1) moving to the right behind a lion in scroll 2 also running to the right in pursuit of an animal whose hind legs only are visible in scroll 3. The leaves attached to the scroll are flat and elongated. Unpublished.

Fig. 336.

4. COPTIC TEXTILES

(i) Third-fourth century Coptic wool and linen piece (H. 65.7cm.; W. 64.8cm.) in the Cleveland Museum of Art, Ohio (Inv. No. 53.18). Around a central panel depicting a nereid, a flat and angular vine scroll border (Type Ax) contains

vine leaves, bunches of grapes and a yellow bird.

Ref. Koptische Kunst. Christentum am Nil. 3 Mai bis 15 August
1963 in Villa Hügel, Essen. Kat. 268, p. 307, Pl.VIII.

(ii) Third-fourth century wool and linen cloth (L. 71.5
cm.; W. 33.5cm.) in the Victoria and Albert Museum, London
(Inv. No. 819-1905). An angular vine scroll (Type Ax)
contains birds.

Ref. KENDRICK, A.F. (1920) Catalogue of textiles from burying
grounds in Egypt, I, London 1920, No. 21, Pl. 6.
Koptische Kunst. Christentum am Nil, Kat. 270, p. 308.

(iii) Fourth century wool and linen piece (H. 54cm.;
W. 38cm.) from Akhmin, in the Kunsthistorisches Museum, Vienna
(Inv. No. XIII 1b). The central panel containing a bust of
Dionysus has an acanthus scroll border (Type Ao) enclosing
pomegranates and a bird.

Ref. Koptische Kunst. Christentum am Nil. Kat. 333, p. 331.

(iv) Fourth century wool or linen piece (H. 44.7cm.;
W. 23cm.) in the State Museum of Pictorial Art, Moscow (Inv.
No. 353). A stylized black acanthus scroll (Type Ao) on a
lighter ground encloses a gazelle, a hare and a lion.

Ref. Koptische Kunst. Christentum am Nil. Kat. 617, p. 448.

(v) Fourth-fifth century wool and linen cloth (H. 30cm.,
W. 32cm.) acquired in 1889 from an antique dealer by the
Hamburg Museum für Kunst und Gewerbe (Inv. No. 1889-44).

The central panel is filled with four acanthus
medallions (Type Bo). In the upper two medallions a hunter
and a lioness confront each other whilst in the lower two

medallions a gazelle (under the hunter of the upper register) and a hunter face each other. The border consists of acanthus scrolls (Type Ao) filled with pomegranates and vine leaves.
 Ref. Koptische Kunst. Christentum am Nil. Kat. 315, p. 324.

(vi) Fifth century (ca. 400) tapestry hanging, known as "the Antinoe Shawl", in the Louvre. L. 3.30m., W. 1.20m. Muslin with stencilled designs. Found in a tomb at Antinoe. Above the Bacchic thiasos is a band of vine scrolls (Type Ax) containing bunches of grapes, vine leaves and small animals.
 Ref. WESSEL, K. (1964) L'Art Copte, 200, ill. 107.

(vii) Two fifth century cloths in the Kunsthistorische Museum, Vienna. Acanthus scroll borders (Type Ao) with birds, mainly ducks, surround busts of Dionysus and Ariadne.
 Ref. WESSEL, K. (1964) L'Art Copte, 215-216, ill. 112-113.

(viii) Fifth-sixth century wool and linen band (L. 32cm.) in the Benaki Museum, Athens (Inv. No. A, 215). Acanthus scrolls (Type Ao) with alternately dark and lighter sprays enclose pigeons and pomegranates.
 Ref. Benaki Museum. Coptic Textiles, Athens 1971, 12.

(ix) Fourth-fifth or perhaps seventh century cloth in the Dumbarton Oaks Collection. Central panel with two nereids surrounded by a border of acanthus medallion scrolls (Type Bo) with birds, e.g. ducks.
 Ref. WESSEL, K. (1964) L'Art Copte, 206, ill. 106.

APPENDIX IIINHABITED SCROLLS IN ARCHITECTURAL SCULPTURE AND
ON MOSAIC PAVEMENTS FROM THE FOURTH TO THE SEVENTH
CENTURY IN NORTH AFRICA, EGYPT, GREECE AND THE BALKANS.NORTH AFRICA

The inhabited scroll motif is recorded once in architectural sculpture: a frieze of animals encircled in vine scrolls decorates the apse archivolt of the basilica at Henchir el Beguer (Henchir Faraoun) in Algeria; cf. Leschi, L. (1940) "La basilique chrétienne en Algérie", ACIAC IV, Rome 1940, 145-167 (esp. 156; Fig. 8). In contrast to the great number of second-third century pavements in villas and baths depicting inhabited scrolls, there are only a few examples of the same motif in the early Byzantine period. Of these, two are clearly related to Eastern Mediterranean pavements. The floor of the "House of the Asinus Nica" at Djemila-Cuicul, for which only one parallel is found in North Africa, the fourth-fifth century pavement at Bir-Ftouha, whilst parallels are plentiful in the Eastern Mediterranean, may be the prototype of eastern inhabited scrolls, e.g. Qabr Hiram (M.17; Figs. 142-143), if it is dated to the late fourth-early fifth century. If, for historical reasons, its date is lowered to the mid-sixth century, it may have been executed by mosaicists from or according to designs originating in Syria and Palestine (Blanchard-Lemée, 1974, 120-131).

The only parallel for the pavement of the "Byzantine house" at Sousse, characterized by a date-palm growing out of a vase and from which issues a vine scroll, is the pave-

ment in the north aisle of the Church of St. George at Khirbat al-Makhāyyat (M. 72b; Type $C_1x/IV\frac{C}{a}$; Fig. 260). A palm-tree from which issues a vine scroll, but without a vase, is also depicted in the Church of Elias, Mary and Soreg at Jarash (M.84a; Figs. 284-285).

The implications of these parallels are examined in Chapter VII; they suggest an artistic east-west movement in the fifth-sixth century, as opposed to the west-east movement predominant in the second-third century, studied by Lavin (1963).

The generally accepted view that the Vandal invasion of North Africa at the end of the fourth century spelled the decline of the North African cities, hence a cessation in building and decorating activities, is questioned by P.-A. Février who demonstrates the continuity in occupation of Djemila and Setif throughout the fifth and sixth century cf. Février, P.-A. "Notes sur le développement urbain en Afrique du Nord: les exemples comparés de Djémila et de Sétif", CA XIV (1964), 1-47.

A satisfactory explanation for the loss of vitality of North Africa in the artistic sphere from the fourth century is yet to be found.

Cherchel-Caesarea (Algeria). Two semi-circular mosaic pavements have been found in the ruins near the Tenes gate; they may have decorated two apsidal chapels of a fourth century basilica. The larger pavement depicts a vase flanked by two peacocks; from it issue two vine stems. The scrolls contain a deer, a rabbit, two cockerels, a pheasant, a partridge, a pigeon, a goose, a hen (?) and a duck or goose (Type C_1x IVb).

Ref. GSELL, S. (1952) Cherchel, Antique Iol-Caesarea,
Alger 1952, 102-103.

Fig. 337

Djemila-Cuicul

BLANCHARD-LEMÉE, M. Maisons à mosaïques du quartier central de Djémila-Cuicul, Gap 1974, reviews and settles the archaeological, chronological and stylistic problems connected with the secular pavements of Djemila-Cuicul, in particular the "House of the Asinus Nica".

- (i) "House of the Asinus Nica": The floor of the frigidarium is decorated with an uninhabited acanthus scroll border surrounding a field of medallion vine scrolls. These contain birds; beasts, e.g. elephants, bulls, deer and dogs; mythical creatures, e.g. a griffon; naked putti; a centrally placed male figure in a tunic (perhaps the owner of the house) and an inscription naming the house (Type BC₁x 2IVb).
Late fourth or early fifth century.

Refs. Inv. Alg., No. 291.

FÉVRIER, P.A. (1964) "Notes sur le développement urbain en Afrique du Nord: les exemples comparés de Djémila et de Sétif", CA XIV (1964), 1-47 (esp. 20-21, Fig. 12).

LAVIN, I. (1963) "The Hunting Mosaics of Antioch and Their Sources. A Study of Compositional Principles in the Development of Early Mediaeval Style", BOP, 17 (1963), 179-286 (esp. 218; 256).

Fig. 338

(ii) Cresconius basilica. Rich acanthus scroll borders (Type Ao) on a black ground and enclosing flowers and small birds (pigeons?) are depicted on the pavement of the nave. They surround, in particular, the large Latin dedicatory inscription dated 412-420.

Refs. BALLU, A. (1926) Guide illustré de Djemila, Alger. 1926, 22-23.

FÉVRIER, 1964, 17-19, Fig. 10, discusses the date.

LAVIN, 1963, 239, Fig. 93, relates them to the pavement of Khéreddine near Carthage, the Dominus Julius mosaic and an apsidal mosaic in the trifolium of a villa at Tabarka.

Fig. 339

Constantine. The acanthus scrolls (Type Ao), of the border of a late fourth century fragmentary hunting pavement enclose animal protomes facing each other two by two. From left to right these depict: a bear and a lioness, a boar and a lioness, a horse and a bear.

Refs. LAVIN, 1963, 236, Figs. 84, 85, with bibliography.


Carthage (Tunisia)

(i) Mosaic panel (L. 1.05m. x H. 1.10m.) in the Galerie du Phénix, Louvre, Paris. Inv. No. MA 3465; acquired in 1908. Fourth century. Vintaging naked putto carrying a basket of grapes, enclosed in vine scroll (Type Ax).
 Scroll: L. 97cm. x H. 101cm.
 Tesserae size: 0.9cm. x 0.7cm. in white ground, grapes, leaves, stem. 0.5cm. x 0.6 cm. in putto.

No. of tesserae to dm²: 143 in background; 240 in putto.

Tesserae very tightly laid. 1 contour line.

Vine stem: 4 rows of tesserae (grey; pink; yellow-ochre; wine red).

Tendrils of type 

Grapes: red-ochre on grey border; yellow-ochre filling with red-ochre central cube. In basket, black and grey grapes.

Vine leaves: black central stem; black outline; leaves alternately half green, half red-ochre, half yellow-ochre.

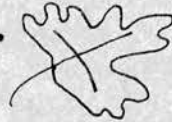


Fig. 340

- (ii) Dominus Julius mosaic. Border of acanthus scrolls filled with pomegranates and crosslets, on a black ground, issuing from a male head in a medallion and a naked male bust, each in the centre of the longer sides (Type: AO II_{2a}). It is usually ascribed to the fourth century, but Lavin considers it to be fifth century.

Refs. LAVIN, 1963, 239-240, Fig. 95, with bibliography.

MERLIN, A. and POINSSOT, L. (1940) Guide du Musée Alaoui, Musée antique, Tunis 1940, 35, Pl. XXII.

- (iii) Khereddine, near Carthage. The acanthus scrolls (Type Ao) of the border of a hunting pavement enclose small birds and pomegranates on a white ground. The mosaic is assigned to the early fifth century by Lavin.

Refs. Inv. Tun., No. 607.

LAVIN, 1963, 239-240, Fig. 94, with bibliography

- (iv) Bir-Ftouha, near Carthage. Fragments of mosaic pavements depicting animal protomai enclosed in acanthus scrolls and putti in vine scrolls, from a fourth-fifth century church, are exhibited in the Bardo Museum, Tunis.

Ref. YACOUB, M. (1969) Le Musée du Bardo, Tunis 1969, 19 Salle V.

- (v) Dermech, near Carthage. The apse pavement of the basilica is decorated with "rinçeaux en mosaïque, égayés d'oiseaux divers" (Lapeyre, 1940, 203). No other data are given.

Ref. LAPEYRE, P.G. (1940) "La basilique chrétienne de Tunisie", ACIAC IV, Roma 1940, 169-244 (esp. 203).

- (vi) Dermech. Pavement (8.70m. x 7m.) of the second quarter of the fourth century depicting hunting scenes. Border of white acanthus scrolls (Type Ao) on a black ground enclosing alternatively one or two flowers and a small animal: three goats, two small panthers, one tiger cub, one lion cub, one fat-tailed lamb and a jerboa.

Ref. MAHJOUBI, A. (1967) "Découverte d'une nouvelle mosaïque de chasse à Carthage". Séance du 2 Juin CRAI (1967), 264-278 (esp. 264).

Kelibia

- (i) Church of the priest Felix, near Kelibia. 50 mosaic tomb covers of the fifth-seventh century have been

found, all of which depict birds (peacocks, partridges, doves) and most of which are decorated with vine or acanthus inhabited scrolls.

Ref. CINTAS, J. and DUVAL, N. (1958). "L'Eglise du prêtre Félix (Région de Kelibia)", Karthago IX (1958), 157-265.

(ii) Baptistery, 7km. north of Kelibia, dated to the first decades of the sixth century. On the ledges of the font are depicted in mosaic four vases from which issue vine stems and scrolls filled with birds (Ax III₁b).

Ref. COURTOIS, Ch. (1955) "Sur un baptistère découvert dans la région de Kelibia (Cap Bon)", Karthago VI (1955), 96-123.

Sidi-Abich, near Uppemma. In the choir, large square panel: from a vase at the western end of the panel issue two vine stems forming scrolls which are filled with birds, e.g. peacocks, pecking bunches of grapes (Type C₂x IVb).

Refs. Inv. Tun., No. 248.

LAPEYRE, P.G. (1940) in ACIAC IV, Roma 1940, 230.

Sousse. Byzantine house. Fifth-sixth century pavement.

2.35m. x 2.30m., cleared in 1902, exhibited in the Museum at Sousse, hall VIII, Inv. No. 10.536.

Centrally placed at the western end of the field, a date-palm grows out of a godrooned vase. From it sprout vine scrolls which cover the field (Type C₁x IV $\frac{e}{p}$). They are inhabited by two partridges flanking the vase, two opposed-peacocks above the

partridges, and by two geese, one of which is a grey-lag type, and finally by two pheasants. At the top of the palm tree a Greek inscription records the name of the owner or the mosaicist's signature: ΘΕΟΛΟΥΑΟΥ..

Refs. FOUCHER, L. (1960) Inventaire des mosaïques. Feuille No. 57 de l'Atlas archéologique. Sousse, Tunis 1960, 75, No. 57.164, Pl. XXXVIII, with bibliography.

Fig. 341

Furna (Burj al-Jūdī). Nave mosaic of a Christian basilica. A border of acanthus scrolls (Ao) enclosing peacocks, pheasants, turtle-doves, ducks, quails, partridges and doves frames the central motif depicting Jonas thrown upon the shore by a sea monster.

Refs. Inv. Tun., No. 515.

LAPEYRE, P.G. (1940) in ACIAC IV, Rom 1940, 231.

Al-Muwassat. On the pavements of the side aisles of a basilica, acanthus scrolls linked by rings form medallions filled with baskets of fruit, vases, birds, fish and large, red, four-petalled flowers (Type Bo).

Ref. LAPEYRE, P.G. (1940) in ACIAC IV, Roma 1940, 231-232. bibliography.

LIBYA

For a survey of Byzantine archaeological research in Libya since 1938 see:

SICHTERMANN, H. (1962) "Archäologische Funde und Forschungen in Libyen. Kyrenaika 1959-1961,

Tripolitaniien 1942-1962". Archaölogischer Anzeiger

(1962), Heft 3, 418-535.

WARD-PERKINS, J.B. (1957) "The Christian antiquities of Libya since 1938", ACIAC V, Paris 1957, 159-162.

More specifically for Tripolitania, see:

WARD-PERKINS, J.B. and GOODCHILD, R.G. (1953) "The Christian antiquities of Tripolitania", Archaeologia, Vol. 95 (1953), 1-82.

For Cyrenaica, see:

WARD-PERKINS, J.B. (1943): "Christian antiquities of the Cyrenaican Pentapolis", Bulletin de la Société d'archéologie Copte, IX (1943), 123-139.

_____ (1965) "L'Archeologia cristiana in Cirenaica, 1953-1962", ACIAC VI, Roma 1965, 641-657.

(a) Tripolitania.

One site only has yielded inhabited scrolls in architectural sculpture.

Gsur el-Berber, 12km. south-west of Cabao, in the western Jabal. Third-fourth century vine scrolls and acanthus scrolls enclose beasts and hunting putti.

Refs. WARD-PERKINS and GOODCHILD, 1953, 80, with bibliography.

Sabratha, Church No.2, excavated in 1925-1929 by B. Bartoccini.

The mosaic pavement of the nave depicts an overall vine scroll issuing from an acanthus foot placed in the middle of the western side; the central vertical row of scrolls forms medallions (Type C₃x IVc). Peacocks, a phoenix, a caged quail and a rich assortment of other birds are displayed. It is dated to the early years of the Byzantine reconquest.

Refs. PEIRCE, H. and TYLER, R. (1934) L'art byzantin, T.II, Paris 1934, 108, Pls. 115-118.

ROMANELLI, P. (1940) "La basilica cristiana nell'Africa Settentrionale italiana", ACIAC IV, Roma 1940, 245-289 (esp. 253-257; Figs. 6-9 on Sabratha Church No. 2).

WARD-PERKINS and GOODCHILD, 1953, 12-15, Pls. V d-e; XXVI.

(b) Cyrenaica

No inhabited scrolls in architectural sculpture are recorded for the fourth-seventh century period.

Apollonia, the port of Cyrene: East Church.

- (i) South transept; around a square central design, made up of 16 smaller square panels (containing birds, beasts and rustic scenes) set in a framework of continuous interlace, runs a border of inhabited vine scrolls (Type Ax). The scrolls are filled with a chukor partridge, a cow, a guinea-fowl, a goat, a goose and a hare, all pecking at bunches of grapes. It is also dated to the Justinianic reconquest.

Refs. WARD-PERKINS, J.B. (1958) "A new group of sixth century mosaics from Cyrenaica", RAC XXXIV (1958), 183-192 (esp. 184-185; Fig. 2).

- Fig. 342
(ii) Fifth century apse mosaic. Enclosing a central field of sixteen panels depicting animals, rural scenes and Noah's Ark, is a vine scroll border (Type Ax) containing animals and birds.

Refs. WARD-PERKINS, 1965, 641-657 (esp. 650, Fig. 9).

Cyrene. "Cathedral", built ca. 450. South-east Chapel.

The mosaics belong to a mid-sixth century remodelling. Around the central panel, which depicts a man who clutches the tail of a cow whose muzzle has been seized by a crocodile, is a border of vine scroll medallions filled with an elephant, a lion, a crouching hare munching grapes, a cockerel and stags (Type Bx).

Refs. GOODCHILD, R.G. (1957) "The discovery of a huge imperial frieze, unseen since A.D. 365, at Cyrene; fine Christian mosaics; and the creation of the Libyan kingdom's Antiquities department", ILN (February 23rd 1957), 303-305 (esp. 304-305; Fig. 10).

WARD-PERKINS, 1958, 186-187; Fig. 3.

Fig. 343

Qasr Libya (Gasr el-Lebia). Basilica built in 538-539 under Bishop Macarios. North aisle, east end (the apse is towards the west). As in Cyrene, the central motif of the cow and the crocodile in a Nilotic setting is framed by a frieze of birds and beasts which fill vine scrolls (Type Ax or Bx). The mosaic depicts gazelles, camels, peacocks, a stag with a serpent and a hunter loosing four dogs to chase a hare.

The great nave mosaic also has an inhabited vine scroll border (Type Ax) containing hares and partridges.

Refs. WARD-PERKINS, 1958, 188-190 (esp. 188).

EGYPT

The inhabited scroll motif is absent from what little survives of mosaic art. In general little material has survived from Alexandria, even though it was a patriarchal see and a thriving cultural and artistic centre.

Alexandria. The shaft of a bluish marble colonnette (H. 0.43m.) in the Graeco-Roman Museum, Alexandria (Inv. No. 13588; Museum catalogue ref. VI 228) is covered with medallion vine scrolls containing birds, notably a duck, and a cross (Type BC₁x).

It is unpublished. It is tentatively assigned to the sixth century.

Fig. 344

The motif was popular in Coptic architectural sculpture as illustrated by the items listed below, now in the Graeco-Roman Museum, Alexandria, the Louvre, the British Museum and the Byzantine Museum, Athens.

Medinet al-Fayum (Crocodilopolis).

- (i) Fifth-sixth century limestone fragment of relief (British Museum, Coptic Gallery, Inv. No. 1792).
Lion protome emerging from acanthus whorl (Type Ao).
Depth of carving: 20cm.
- (ii) Fifth-sixth century limestone fragment (British Museum, Coptic Gallery, Inv. No. 1794). Acanthus scrolls enclosing a head or mask, and a leopard (?) (Type Ao).
Depth of carving: 20cm.

Al-Bahnassa (Oxyrhyncos).

- (i) Fourth century limestone fragment of archivolt (British

Museum, Coptic Gallery, Inv. No. 1805). Acanthus scrolls enclosing a lion and a gazelle (Type Ao).
Depth of carving: 20cm.

- (ii) Fourth-fifth century limestone frieze (Graeco-Roman Museum, Alexandria, Inv. No. 23366; H. 0.37m., L. 0.21m.; 1930 excavation season). Acanthus scrolls enclosing two gazelles (Type Ao).

Ref. KOPTISCHE KUNST. CHRISTENTUM AM NIL. 3 Mai bis 15 August 1963 in Villa Hügel. Essen. Kat. 123, p.253.

- (iii) Fourth-fifth century limestone frieze fragment in the Graeco-Roman Museum, Alexandria, depicting a horse (?) protome emerging from an acanthus whorl (Type Ao).
1928-1930 excavations.

Ref. BRECCIA, E. (1932) Le Musée Gréco-Romain 1925-1931; Bergamo 1932, 63, Pl. LI, No. 191.

- (iv) Fourth-fifth century limestone frieze fragment in the Graeco-Roman Museum, Alexandria, depicting a dog and an ibex enclosed in acanthus scrolls (Type Ao). 1928-1930 excavations.

Ref. BRECCIA, 1932, 63, Pl. LI, No. 192.

Bawit. Fifth-sixth century limestone pilaster (H. 1.71m.; W. 0.235m.) in the Louvre, Département des Antiquités chrétiennes (Inv. No. X5031). From the excavations of the Institut français d'archéologie orientale du Caire 1901-1902. Medallion vine scroll issuing from vine leaf, inhabited by birds, fruit and leaves (Type BxI₁d).

Ref. Koptische Kunst. Christentum am Nil, Kat. 79, p. 236.

Without provenance:

- (i) Sixth-seventh century fragment carved in high relief (depth of carving: 20cm.) depicting a bird in an acanthus scroll (Type Ao; British Museum, Coptic Gallery, Inv. No. 1617).
- (ii) Sixth-seventh century limestone fragment of panel in low relief (British Museum, Coptic Gallery, Inv. No. 1798). Cupids gathering and treading grapes are enclosed by medallion vine scrolls (Type Bx).
- (iii) Seventh century sandstone low relief slab (British Museum, Coptic Gallery, Inv. No. 57282). Medallion vine scrolls are filled with birds, leaves, grapes and heads (Type Bx).
- (iv) Fifth-sixth century limestone architrave fragment in the Byzantine Museum, Athens, depicts a lion, a crouching hare and a lioness (?) leaping across an acanthus scroll (Type Ao). Deep undercutting.
- Ref. MERLIER, O. (1932) Guide du Musée Byzantin d'Athènes, Athènes 1932, 40-41, No. 100.

GREECE

(a) Architectural sculpture.

Thessaloniki.

- (i) Early fifth century portal comprising two pilasters supporting an arch carved in relief. Originally from the church of St. Demetrios built in 412-413, it is now exhibited in the vestibule of the Byzantine Museum, Athens. The two marble pilasters are decorated on their four sides. On one side of each, from an acanthus

foot sprout medallion acanthus scrolls containing animal protomes, mainly lions, e.g. a lion attacking a deer or a lioness attacking a bear, and four heraldically-placed birds. The scroll ends at the top with an acanthus leaf (Type: Bo I₁c).

Ref. MERLIER, 1932, 25-26, No. 1, Fig. 11.

- (ii) Early sixth century marble ambo from the church of St. George, now in the Istanbul Arkeoloji Müzesi, Room 20 (Inv. No. 643 (1090); H. (max.) 1.79m.). The acanthus scroll (H. 0.115m.) in the upper part of the ambo contains mutilated animal figures (a deer?) and flowers (Type Ao).

Refs. MENDEL, II, No. 643 (1090), pp. 393-405, with bibliography.

FIRATLI, N. Catalogue (in preparation), No. 161.

GRABAR, A. (1963) Sculptures byzantines, 81-84, Pls. XXXIV-XXXV.

Aliki (Thasos). Fifth-sixth century southern basilica, nave. One of the four marble parapets of the ambo found in the 1970 excavations depicts a vase flanked by two peacocks. From it issue two vine stems. Two partridges peck at bunches of grapes (Type C₁x IVb).

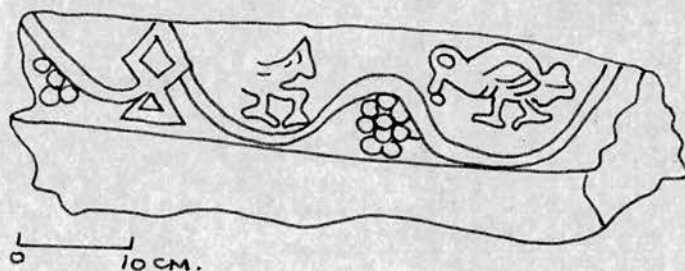
Ref. SODINI, J.P. (1971) "Aliki", BCH XCV (1971), 750-795 (esp. 791; Fig. 22).

Athens

- (i) Fifth-sixth century marble doorway from a church, now in the garden of the Byzantine Museum, Athens (Inv. No.

745(3)). The left jamb is decorated in low relief by three parallel bands. From left to right these are: palmettes, the bead-and-reel motif, and acanthus cornucopiae issuing from an acanthus foot and forming scrolls which enclose a barking dog, vintaging putti and a rabbit (Type Ao I₁c).

- (ii) Fifth-sixth century grey marble low relief fragment in the garden of the Byzantine Museum, Athens. From a vase issues a vine scroll enclosing alternately a bird and a bunch of grapes (Type Ax $\frac{II_2^b}{2}$).



- (iii) Fifth-sixth century grey marble low relief frieze fragment in the Palaeochristian room, Byzantine Museum, Athens. (Inv. No. 62). Two pigeons flank a bunch of grapes in a vine scroll (Type Ax).
- (iv) Fifth-sixth century grey marble low relief frieze fragment in the Palaeochristian room, Byzantine Museum, Athens. In a vine scroll are depicted, from left to right, a bird (head mutilated); a bunch of grapes; another bunch of grapes; a bird (head destroyed); a bunch of grapes (Type Ax).

(b) Mosaic pavements.

The most complete study of the early Byzantine mosaic pavements in Greece is now in press. Les mosaïques de pavement dans

les basiliques de Grèce continentale et du Péloponnèse, première partie de Thèse de 3^e cycle présentée par M. Jean-Pierre Sodini: Etudes d'archéologie et d'épigraphie paléochrétiennes, Année Scolaire 1971-1972, Université de Paris I (Panthéon-Sorbonne).

It embodies and studies more fully the data published by Sodini, "Mosaïques paléochrétiennes de Grèce", BCH 94 (1970), 698-753, and "Mosaïques paléochrétiennes de Grèce: Compléments", BCH 95 (1971), 581-584.

Greece has yielded only two examples of inhabited scrolls on mosaic pavements, both in the Nicopolis Basilica. A. The rarity of this motif is interpreted by Sodini as a sign of the precedence of Greek pavements over the pavements in Syro-Palestine and Libya, or as a matter of choice, preference being given in sixth century Greece to geometric patterns.

Nicopolis (Epiros). Basilica A, second quarter of the sixth century.

- (i) Transept. Southern panel; framed by a border of swimming fish and fishermen and surrounding a central panel which depicts two warriors (the Dioscuri?) is a medallion vine scroll border (Type Bx). 16 medallion scrolls are filled by eight opposed pairs of hunters and beasts. The brilliantly pink, sexless hunters spear protomai of two deers, three bears, one lion and one bull, whose brown bodies are contoured in black; one hunter lifts up a knife to attack a cockerel. The leafage is in green glass paste and red limestone tesserae.

Ref. SODINI, 1970, 724-726 (esp. 725) with bibliography.
 _____ (in press) 172-198 (esp. 176), Figs. 237-241.

(ii) Diaconicon. The apse is decorated by a blue and pale green vase from which stems a pale green vine scroll (perhaps executed in green glass paste) with bunches of grapes (Type C₂x IVb). On either side of the foot of the vase a small bird pecks at grapes.

Ref. SODINI, J.P. (in press), 181; Fig. 257.

Several mosaic panels depict a motif which borrows some elements from the inhabited scroll: an overall vine or ivy-trellis, usually issuing from a vase flanked by two peacocks or with animals dispersed over the surface.

Nicopolis

(i) Basilica A. East of the nave, in the north-east and south-east angles, peacocks flanked a vase from which issued a vine scroll. Sodini relates it to the same motif in the baptistery of Butrinto, opposite Corfu (Sodini, 1970, 741, Fig. 9).

Refs. SODINI, 1970, 741-743.
 _____ (in press), 180.

(ii) Basilica B, late fifth-early sixth century. Southern parekklesion, main field decorated with two circles. The easternmost circle contains a vase flanked by two peacocks; from it issues a vine scroll.

Refs. SODINI, 1970, 726-727 (esp. 726) with bibliography.
 _____ (in press), 199-202 (esp. 200).

Trikkala (Thessaly). ca. 475. Narthex pavement, southern panel. Three arches are depicted. The two lateral

arches are filled by a vase from which issue two symmetrical vine scrolls inhabited by two confronted blackbirds bending towards the neck of the vase; at the top of the arch two other birds form a pendant to this design.

Refs. SODINI, 1970, 722-723, with bibliography.

_____ (in press), 167-169 (esp. 168), Figs. 222-225.

Klapsi (Thessaly). Basilica dated to 548. Nave. Westernmost panel (mostly damaged). Peacock on a background of vine scrolls. There may have been a vase and a symmetrically placed peacock in the damaged section.

Refs. SODINI, 1970, 716-717 (esp. 716) with bibliography.

_____ (in press), 129-139 (esp. 1320133); Fig. 186.

Hermione (Peloponnese). "Meidani" house. Eastern part of main room. Three panels:

- (i) Westernmost panel: two stags flank a vase from which issues an ivy scroll.
- (ii) Two peacocks flank a palm-tree on a background of vine scrolls.
- (iii) Two peacocks, a goose, a duck and a smaller bird are dispersed over ivy leafage interspersed with bunches of grapes.

Sodini relates them to the pavement of the nave in the basilica of Suia, Crete; he postulates a date in the second half of the sixth century for Hermione and Suia, and a common workshop perhaps based on Crete (Sodini, 1970, 751-753).

Refs. SODINI, 1970, 705-706 note 9, 751-753, Figs. 19-23.
 _____ (in press), 67-69, Figs. 75-79.

THE BALKANS

Konjuh (Yugoslavia). Sixth century domed church. Fragment of a chancel post with relief carvings: acanthus motif on southern face; on western face, a medallion vine scroll (Type Bx) encloses bunches of grapes and vine leaves and pigeons pecking at grapes.

Refs. HODDINOTT, R.F. (1963) Early Byzantine Churches in Macedonia and Southern Serbia, London 1963, 220-226 (esp. 223, Pl. 63f-g)

NIKOLAJEVIC-STOJKOVIC, I. (1957) La Décoration architecturale sculptée de l'Epoque Bas-Romaine en Macédoine, en Serbie et au Monténégro, Beograd 1957, 90-91, Fig. 151.

APPENDIX IIITHE RESTORATION OF MOSAIC PAVEMENTS

The lifting and restoration of a mosaic pavement comprise four phases.

a. Glueing

The mosaic floor is divided into sections of about 1m², taking the design and inscriptions, if any, into consideration. Polyvinylacetate is then spread thinly over the floor and Uta cloth, which has already been washed to avoid shrinkage, is glued onto each section.

b. Lifting

When the glue is dry, the sections are disconnected from the ground by inserting long flat iron bars underneath. In two situations, extra care is required: first, if an earlier mosaic floor is discovered under the mosaic pavement which is being lifted; and second, if the central part of the floor is based on very hard stucco to which the pebbles are firmly attached, thus threatening to disconnect the glued cloth from the mosaic tesserae. Holes in the pavement are filled with plastic conglomerate and sand is laid between the separate plates.

c. The removal of the stucco

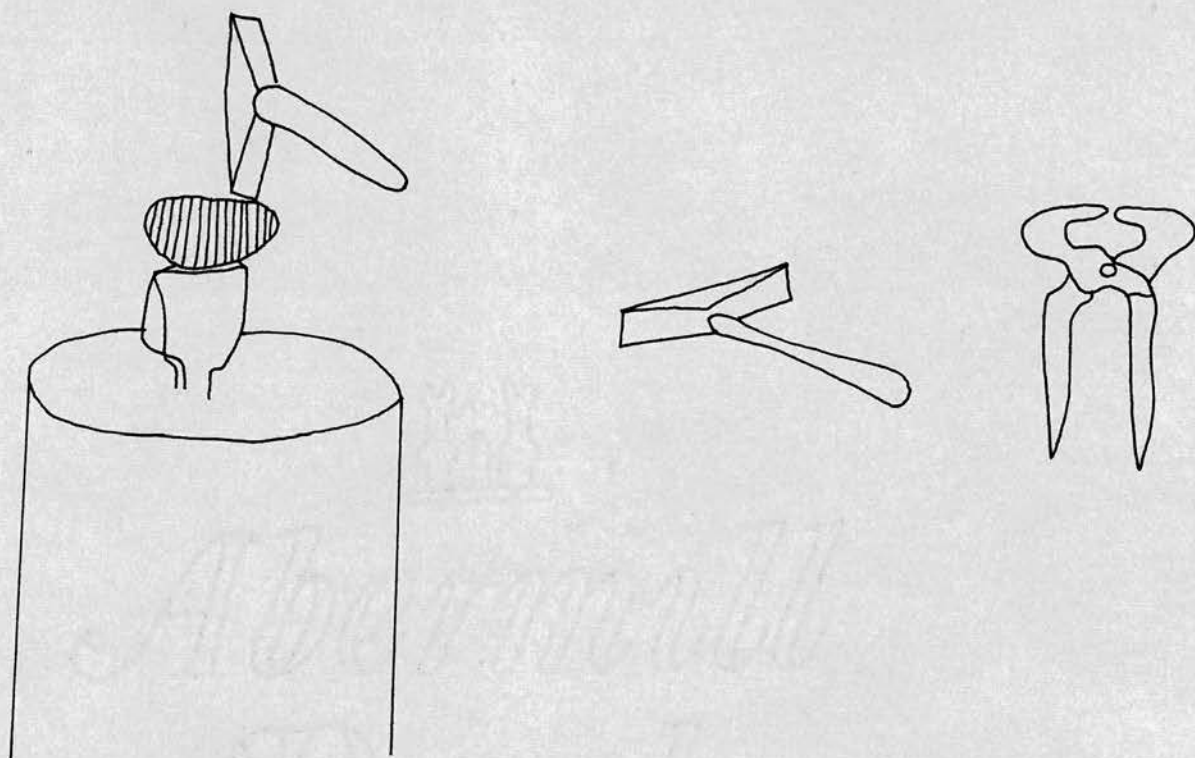
The mosaic floor is then transferred to the Restoration Laboratory in separate panels. The old stucco is removed by chisels and brushes, or with electric machines in particularly hard sections.

d. Casting

The cleaned mosaic sections are assembled according to

their original order, face down and cast in concrete reinforced with aluminium (each section is blocked off with metal strips 5cm. wide).

Holes in the pavement are filled with tesserae collected on the original site, recut if necessary, and stuck in with plaster. If loose tesserae are not available in sufficient quantity from the site, lumps of coloured limestone are cut into tesserae with a hammer, or pliers for the smaller cubes.



The mosaic sections are now ready to be reassembled on a suitable basis. The pavement may be relaid in situ or exhibited in panels in a museum, e.g. the pavement of the church of Elias, Mary and Soreg at Jarash (M.84a-b; Figs.284-286) the Shellal mosaic (M.39; Fig. 200), the Bet She'an fragment (M.46; Fig. 213) and the Sde Nahum pavement (M.48a-b; Figs.216-218). There are however problems inherent in such restoration. It has recently been discovered that the

concrete bedding upon which numerous mosaics found in Israel have been relaid is attacked by a still unidentified chemical substance which is part of the concrete mixture and which hastens the rate of disintegration of mosaics, as attested by the Birosaba (Be'er Sheva) acanthus scroll mosaic (M. 53; Figs.224-231). Restoration experts have so far been unable to find a solution to the problem. The Amman Restoration Laboratory lays a protective coat of varnish over the mosaic surface, which incidentally makes flash photography difficult. The Damascus Restoration Laboratory now prefers to back the pavement with a plastic "film", once it has been lifted and its original bedding chiselled out. When the panel is placed in a vertical position, the light shines through and emphasizes the patches devoid of tesserae - which is unaesthetic from the point of view of museum exhibiting; moreover the chemical effect of a plastic backing and of varnish on a mosaic is as yet unknown.

Whether mosaic pavements are restored in situ (by injecting cement solutions) or lifted, restored in a laboratory and relaid, roofing over of the pavement is always necessary - as in the Church of the Holy Apostles, Madaba (M.56; Figs.236-239).

Regulations not to walk over pavements and water them for tourists to take photographs should be enforced. The Maon-Nirim floor (M.40, Figs.201-203) although restored and cemented in situ, lies unprotected, trodden over and periodically watered for private photography by tourists and members of neighbouring kibbutzim.

LIST 1

CATALOGUE LISTCatalogue of Sculpture

Catalogue Number	Site	Building	Title	Date	Page (Vol.II)
S.1	Constantinople	Church of the Saviour in Chora	Lintel	5th c.	1-2
S.2	"	?	Relief	4th-5thc.	2
S.3	"	Church of the Holy Apostles	Sarcophagus	325-350	3-4
S.4	"	Church of St. John Studion	Relief	Late 5th or 6th c.	4-6
S.5	"	?	Column	5th or 6thc.	6-7
S.6	"	?	Column	5th or 6thc.	7
S.7	"	?	Baluster	6th c.	8
S.8	"	?	Chancel-screen ?	5th or 6th c.	8-9
S.9	"	?	Baluster	6th c.	9-10
S.10	"	?	Chancel-screen ?	5th - 6th c.	10-11
S.11	"	?	Chancel-screen ? or ambo?	5th - 6th c.	11
S.12	"	?	Chancel-screen ?	5th - 6th c.	11-12
S.13	Alakilise	Church of the Arch-angel Michael	Entablature	First half of 6th c.	13
S.14	Karabel	Monastery Church	Cornice	Mid-6th c.	13-14
S.15	Nicomedia (Izmit)	?	Baluster	6th c.	15

LIST 1 (Contd.)

Catalogue Number	Site	Building	Title	Date	Page (Vol. II)
S.16	Anazarbus (Anavarza)	Church of the Holy Apostles	Arch	Mid-6th c.	16-17
S.17	Curium	Basilica	Chancel-screens	5th c.	17-18
S.18	Paphos	Basilica Panayia Limeniotissa	Chancel-post	5th - 6th c.	18-19
S.19	Ayia Moni	?	Chancel-post	5th - 6th c.	19
S.20	Holmi (Taşucu)	?	Chancel-screen	5th - 6th c.	19-20
S.21	Alahan	East Church	Doorway	End of third or last quarter of 5th c.	20-22
S.22a	Coropissus ? (Dağ Pazari)	'Domed Ambulatory Church'	Door Jamb	6th c.	22-24
S.22b	"	"	Door Jamb	6th c.	24-25
S.23	Mons Admirabilis	Monastery of St. Symeon Stylites. Main Church	Capitals	541-551	25-28
S.24	Al-Bāra	North-West basilica	Architrave	End of 4th - end of 5th c.	28-30
S.25	Al-Ahwan	?	Lintel	August 460 or 463	30
S.26	Ummar-Raġīm	?	Door Jamb or Lintel	5th - 6th c.	30-31
S.27	Ḥamā region	?	Door Jamb ?	5th c.	31
S.28	Deir al-Za'afarān	Monastery of Mar Augēn Great Church	Frieze	Late 5th Early 6th c.	32-34
S.29a	Nisibis (Nusaybin)	Church of Dar Mar Yakub	Archivolt	359	35-36
S.29b	"	"	Archivolt	359	36-37

LIST 1 (Contd.)

Catalogue Number	Site	Building	Title	Date	Page (Vol. II)
S.30	Berytus (Beirut)	?	Lintel ?	5th - 6th c.	37
S.31	Rasm al-Qanafiz	?	Chancel slab	Late 6th c.	37-38
S.32	Elousa (Haluza)	?	Lintel	6th c.	39
S.33	Nessana (Nizzana)	North Church	Slab	End of 5th - beginning of 6th c.	39-40
<u>Catalogue of Mosaics</u>					
M.1	Constantinople	Imperial Palace Peristyle Court	Border	565-582	41-47
M.2a	Mopsuestia (Misis)	Church or Synagogue	Border	5th c.	48-51
M.2b	"	"	Border	5th c.	52-53
M.3	Seleucia (Silifke)	?	Field	First half of the 5th c.	53-55
M.4	Coropissus ? (Dağ Pazari)	"Basilica"	Field	Late 5th c.	55-58
M.5	Antiocheia (Antakya)	Constantinian Villa	Border	4th c.	58-61
M.6	"	"	Border	4th c.	61-63
M.7	"	House of the Worcester Hunt	Border	6th c.	63-65
M.8	Antiocheia (Antakya)	House of the Rams' Heads	Border	ca. 500	65-66
M.9	"	House of the Bird - Rinceau (upper level)	Border	526-540	66-69

LIST 1 (Contd.)

Catalogue Number	Site	Building	Title	Date	Page(Vol. II)
M.10	Seleucia	Martyrion Pieria (Samandag)	Border	Last quarter of the 5th c.	69-71
M.11	Serdjilla	Baths	Border	July 473	71-74
M.12	Khirbat Hass	Church	Field	Second half of the 4th c.	74-75
M.13	Ma'arat an- Nu'man	?	Field (panel)	6th c.	75-77
M.14	'Ayn al-Bad	Church ?	Field	6th c.	77-79
M.15	Dayr as-Salīb	Church A	Border	Second half of the 5th c.	79-82
M.16	Edessa (Urfa)	?	Border	5th c.	82-83
M.17	Qabr Hiram	Church of St. Christopher	Field	575	83-88
M.18	Nahariya	Basilica	Border	Late 5th - early 6th c.	88-93
M.19	Husifa ('Isfīya)	Synagogue	Field	Late 5th - early 6th c.	93-94
M.20a	Zahrānī	Church (nave)	Field	End of the 4th c.	95-97
M.20b	"	" (First antechamber)	Field	524	97-99
M.20c	"	" (Second antecham- ber)	Field	524	99-101
M.20d	"	" (Annexe No.3)	Border	524	101-102
M.20e	"	" (Diaconicon)	Border	535	103-106

LIST 1 (Contd.)

Catalogue Number	Site	Building	Title	Date	Page(Vol.II)
M.21	Bait Mari	Church	Border	Mid - 6th c.	107-108
M.22	Awza'i	Villa	Border	Second half of the 5th or first quarter of the 6th c.	108-109
M.23a	Jenah	Villa (Room 'm')	Field	First half of the 6th c.	109-111
M.23b	"	" (Room 'o')	Border	5th - 6th c.	111-113
M.24	Jenah ?	Villa ?	Border	5th - 6th c.	113-114
M.25	Khalda	Church	Border	Second half of the 5th c.	114-117
M.26	Bahan	Church	Field	6th c.	117-118
M.27	Hazor Ashdod	Church	Field	6th c.	118-123
M.28	Nicopolis (Imwas)	Church of Baptistery	Field	5th - 6th c.	123-125
M.29	Eleutheropolis (Bet Guvrin)	Chapel	Field	ca. 500	125-127
M.30	Dair 'Asfūr	?	Fragment	5th - 6th c.	128-129
M.31	Aelia Capitolina (Jerusalem)	Funerary chapel ? ("Mosaïque d'Etienne")	Field	5th - 6th c.	129-130
M.32	"	Funerary chapel ?	Border	5th - 6th c.	131-133
M.33	"	Funerary chapel ("Armenian Mosaic")	Field	6th c.	133-136
M.34	Carem (Ein Kerem)	Church of St. John. Funerary chapel ?	Border	Late 5th - early 6th c.	136-138
M.35	Bethlehem	Church of the Nativity	Border	Late 4th - first half of the 5th c.	138-139
M.36	'Ein Hanniya	Basilica	Field	5th - 6th c.	139-141

LIST 1 (Contd.)

Catalogue number	Site	Building	Title	Date	Page (Vol. II)
M. 37	Sebastia (Sabastiya)	?	Border	6th c.	141
M. 38a	Gaza	Synagogue	Field	July-August 509	142-146
M. 38b	"	"	Field	July-August 509	146-147
M. 39	Shellal	Church	Field	561-562	147-151
M. 40	Menois (Maon)	Synagogue	Field	ca. 538	151-156
M. 41	Nir 'Oz	?	Field	unknown	156
M. 42	Khirbat 'Asīda	Church	Field	5th c.	157-159
M. 43	Scythopolis (Bet She'an)	Monastery of Lady Mary. Room L	Field	553-554 or 568-569	159-163
M. 44a	"	El-Hammām. Funerary Chamber	Field	ca. 530	163-167
M. 44b	"	"	Border	ca. 530	168-169
M. 45a	"	Synagogue	Border	Second half of 6th c.	169-172
M. 45b	"	"	Field	Second half of 6th c.	173-174
M. 46	"	?	Fragment	6th c.	174-175
M. 47	Bet Alfa	Synagogue	Border	518-527	175-178
M. 48a	Sede Nahum	Monastery Church	Field	6th c.	178-180
M. 48b	"	"	Field	6th c.	180-182
M. 49	Pella (Tabaqat Fahl)	West Church	Field	End of 6th - 6th c.	182
M. 50	Tiberias	Baths	Field	6th c.	182-183
M. 51	"	"	Border	6th c.	183-184
M. 52	Mampsis (Kurnub)	West Church	Panel	5th c.	184-188

LIST 1 (Contd.)

Catalogue Number	Site	Building	Title	Date	Page (Vol. II)
M. 53	Birosaba (Be'er-Sheva)	?	Border	6th c.	188-190
M. 54	Medaba (Madaba)	Church No. 1	Field	560-565	190-191
M. 55	"	Cathedral	Border	562	191-195
M. 56	"	Church of the Holy Apostles	Border	578-579	195-199
M. 57a	"	Church	Border	Late 6th - early 7th c.	199-203
M. 57b	"	"	Field	Late 6th - early 7th c.	203-205
M. 58a	"	?	Border (panel)	6th c.	206-207
M. 58b	"	?	Border (panel)	6th c.	207-208
M. 59	"	?	Border (panel)	6th c.	208
M. 60	"	?	Border	6th c.	209
M. 61	"	?	Border	6th c.	209-210
M. 62	"	?	Border	6th c.	210-211
M. 63	"	?	Border (panel)	6th c.	211
M. 64	"	?	Border (panel)	6th c.	212
M. 65	"	?	Border (panel)	6th c.	212-213
M. 66	"	?	Border (panel)	6th c.	213-214
M. 67	"	?	Border (panel)	6th c.	214
M. 68	Kfer Abu Sarbut	Church	Field	6th c.	215-217
M. 69	Rās Siyāgha	Memorial of Moses. Basilica	Field	5th c.	218-219
M. 70	Nebo (Khirbat al-Makhāyyat)	Church of the Priest John	Field	6th c.	219-222

LIST I (Contd.)

Catalogue Number	Site	Building	Title	Date	Page (Vol. II)
M.71	Nebo (Khirbat al-Makhāyyat)	Church of SS. Lot and Procopius	Field	6th c.	222-226
M.72a	"	Church of St. George	Field	6th c.	226-229
M.72b	"	"	Field	November 540	229-230
M.73a	Beelmon (Mā'in)	Church	Panel	Last quarter of 6th - first half of 7th c.	230-231
M.73b	"	"	Border	Last quarter of 6th - first half of 7th c.	231-232
M.74a	Gerasa (Jarash)	Glass Court	Field	ca. 500	232-233
M.74b	"	"	Border	ca. 500	233
M.75	"	Church of the Prophets, Apostles and Martyrs	Border	464-469	233-234
M.76a	"	Procopius Church	Border	526	234-235
M.76b	"	"	Field	526	236
M.76c	"	"	Border	526	236
M.77a	"	Church of St. George	Border	529-530	237
M.77b	"	"	Field	529-530	238
M.78a	"	Synagogue Church	Panel	530-531	238-239
M.78b	"	"	Border	530-531	239-240
M.79a	"	Church of St. John the Baptist	Field	531	240-242
M.79b	"	"	Border	531	242-244
M.80a	"	Church of SS. Peter and Paul	Border	ca. 540	244-245
M.80b	"	"	Field	ca. 540	245

LIST 1 (Contd.)

Catalogue Number	Site	Building	Title	Date	Page (Vol. II)
M.80c	Gerasa (Jarash)	Church of SS. Peter and Paul	Border	ca. 540	245-246.
M.81a	"	Mortuary Church	Field	Mid-6th c.	246-247
M.81b	"	"	Border	Mid-6th c.	247
M.82a	"	Cathedral Chapel	Border	Mid-6th c.	247-248
M.82b	"	"	Field	Mid-6th c.	248
M.83	"	House	Field	6th c.	248-249
M.84a	"	Church of Elias, Mary and Soreg	Field	6th c.	249-254
M.84b	"	"	Border	6th c.	254-256
M.85	"	?	Field (panel)	6th c.	257-258
M.86	"	?	Field (panel)	6th c.	258
M.87	"	?	Field (panel)	6th c.	258-259
M.88	"	?	Field (panel)	6th c.	259
M.89a	Suāfiya	Church	Border	6th c.	259-262
M.89b	"	"	Field	6th c.	262-263

LIST 2A

Cat.No.	Size of tesserae	No. of tesserae to the dm ²	Index of density (Id)
M.1	0.8cm. x 0.8cm.	420	52.66
	0.5cm. x 0.5cm. (in faces)	437	87.4
M.2a	0.9cm. x 1cm.	160-170	17.3
M.2b	0.9cm. x 1cm.	160-170	17.3
M.3			
M.4			
M.5	0.9cm. x 0.8cm. (background)	160	18.8
	0.7cm. x 0.5cm. (faces)	182	30.3
M.6			
M.7			
M.8		239	
M.9	1cm. x 1cm.	144	14.4
M.10	1cm. x 1cm.	48	4.8
M.11			
M.12			
M.13	0.8cm. x 1cm.	85	9.4
M.14	1cm. x 0.8cm.	100	11.1
M.15			
M.16	1.3cm. x 1.3cm.	58	4.45
M.17	0.9cm. x 0.9cm.	115	12.8
M.18	0.9cm. x 0.8cm.	138	16.3
M.19			
M.20a	1.5cm. x 1.5cm.	70	4.65
M.20b	1.3cm. x 1.5cm.	55	3.92
M.20c	1.5cm. x 1.3cm.	55	3.92
M.20d	1.5cm. x 1.3cm.	88	6.3
M.20e	1.3cm. x 1.3cm.	76	5.85
M.21	1cm. x 1.5cm.	60	4.8
M.22			
M.23a	1.3cm. x 1.5cm.	44	3.12
M.23b			
M.24	0.7cm. x 0.8cm.	115	15.4
M.25	1cm. x 1.5cm.	90	7.2
	1.3cm. x 1.5cm.		6.45
M.26			
M.27	1cm. x 1cm.	120	12
	1cm. x 1.3cm.		10

Cat.No.	Size of tesserae	No. of tesserae to the dm. ²	Index of density (Id)
M.28	1cm. x 0.9cm.	90	9.45
M.29	1.2cm. x 1.2cm.	100	8.3
M.30	0.7cm. x 0.7cm.	81	11.5
M.31	1.3cm. x 0.9cm.	55	5
	1cm. x 1.4cm.		4.6
M.32	1.5cm. x 1.5cm.	44	2.94
		in acanthus and ground	
	1cm. x 1cm.	100	10
		in faces and bodies	
M.33	{ 1cm. x 1.2cm. }	84	7.65
	{ 1cm. x 1cm. }		8.4
	{ 0.6cm. x 0.6cm. (birds' wings) }	104	17.3
	{ 0.4cm. x 0.6cm. (peacocks' tails) }		20.8
M.34	0.8cm. x 0.8cm.	130	16.3
	0.6cm. x 0.7cm.		20
M.35	0.6cm. x 0.5cm.	200	36.2
M.36			
M.37			
M.38a	1cm. x 1cm.	111	11.1
	0.8cm. x 1cm.		12.3
	0.9cm. x 1cm.		11.7
M.38b	1.2cm. x 1.5cm.	70	5.2
M.39	0.9cm. x 0.9cm.	103	10.3
	0.6cm. x 0.9cm.		13.8
	0.6cm. x 0.6cm.		17.2
M.40	0.5cm. x 0.5cm.	76	15.2
	0.4cm. x 0.4cm.		19
M.41			
M.42		64	
M.43	1cm. x 1cm.	103	10.3
	0.6cm. x 0.5cm. (in faces)	361	66
M.44a	{ 1cm. x 1cm. }	108	10.8
	{ 0.9cm. x 1.2cm. }		10.1
	{ 0.7cm. x 0.5cm. (in bodies) }	167	27.8
	{ 0.3cm. x 0.4cm. (in faces) }		47.5
M.44b			
M.45a	1.5cm. x 1.3cm.	74	5.3
M.45b	1.5cm. x 1.3cm.	74	5.3

Cat.No.	Size of tesserae	No. of tesserae to the dm ²	Index of density (Id)
M.46	0.9cm. x 1cm. 0.7cm. x 0.6cm. (in arms, legs, faces)	110 196	11.5 30
M.47	0.7cm. x 0.5cm.	100	16.7
M.48a	1.1cm. x 0.8cm. 0.5cm. x 0.5cm. (in legs and bodies)	90 150	9.5 30
M.48b	1cm. x 1cm. 0.7cm. x 0.8cm. (in bodies vine stems and leaves)	119 160	11.9 21.2
M.49			
M.50		130	
M.51	0.5cm. x 0.4cm.	130	29
M.52	1.5cm. x 1.2cm.	60	4.45
M.53	1.1cm. x 0.9cm.	70	7
M.54			
M.55	1.8cm. x 1.8cm.	30	1.67
M.56	1.3cm. x 1cm. 0.3cm. x 0.4cm. (in faces)	60 400	5.25 115
M.57a	1.2cm. x 1.3cm.	irregular- ly laid	
M.57b	1.2cm. x 1.3cm.		
M.58a	1.2cm. x 1.4cm. 0.8cm. x 0.4cm. (in eyes)	51	4.5 8.5
M.58b	1.2cm. x 1.6cm. 0.8cm. x 0.4cm. (in face)	50	3.54 8.3
M.59			
M.60			
M.61	1cm. x 1cm.	83	8.3
M.62	1.5cm. x 1.3cm.	60	4.3
M.63	0.8cm. x 1.2cm. 0.4cm. x 0.6cm. (in face)	93	9.3 18.2
M.64	0.7cm. x 0.7cm.	118	16.9
M.65	1cm. x 1cm.	96	9.6
M.66	1.3cm. x 1.3cm.	60	4.6
M.67	1.2cm. x 1.2cm. 0.4cm. x 0.4cm. (in face)	104	8.7 22.6
M.68			
(fragment one)	1.2cm. x 1.2cm.	69	5.75
(fragment two)	1cm. x 1.5cm.	52	4.15

Cat.No.	Size of tesserae	No. of tesserae to the dm ²	Index of density (Id)
M.69	1cm. x 0.8cm.	85	9.45
M.70			
M.71	1.5cm. x 1.2cm. 0.3cm. x 0.4cm. (in faces)	80	5.95 23
M.72a			
M.72b			
M.73a		80-90	
M.73b		80-90	
M.74a			
M.74b			
M.75		79	
M.76a		90	
M.76b			
M.76c			
M.77a		85	
M.77b		85	
M.78a			
M.78b			
M.79a		85	
M.79b	0.9cm. x 1.2cm. 1.2cm. x 1.2cm.	74 86	7 7.15
M.80a			
M.80b			
M.80c			
M.81a			
M.81b			
M.82a			
M.82b		over 100	
M.83			
M.84a(1)	1.3cm.x1.4cm. (in ground) 1.1cm.x1.2cm. (in body) 0.4cm.x0.6cm. (in head)	60 107 too small an area to count	4.45 9.35
(2)	1.3cm.x1.4cm. 0.6cm.x0.3cm. (head and legs)	76	6.35 16.9
(3)	1.1cm.x1.3cm. 0.5cm.x0.8cm. (face and hands)	75	6.25 11.5

Cat.No.	Size of tesserae	No. of tesserae to the dm ²	Index of density (Id)
M.84a(4)	1.2cm.x1.2cm. 0.6cm.x0.6cm. (in head)	75	6.25 12.5
(5)	1.3cm. x 1.3cm.	68	5.2
(6)	1.2cm.x1.3cm. 0.5cm.x0.3cm. (face and hands)	57	5.2 14.2
M.84b	1.3cm.x1.3cm. 0.8cm.x1cm. (in bird's body)	85	6.55 9.45
M.85	1cm. x 1cm.	66	6.6
M.86			
M.87	see M.79		
M.88	see M.79		
M.89a	1.6cm.x1.4cm. 1.3cm.x1.4cm. (in heads)	60	4 4.45
M.89b	1.3cm.x1.3cm. 0.5cm.x0.5cm. (in faces)	54	4.15 10.8

LIST 2B

Date	Pavement Cat. No.	No. of tesserae to dm. ²
<u>4th</u> century	M.5	160 + 182
"	M.6	
Second half of 4th century	M.12	
End of 4th century	M.20a	70
Late 4th-first half of 5thc.	M.35	200
<u>5th</u> century	M.2a	160 - 170
"	M.2b	160 - 170
"	M.16	58
"	M.42	64
"	M.52	60
"	M.69	85
First half of 5th century	M.3	
Second half of 5th century	M.15	
"	M.25	90
464-469	M.75	79
July 473	M.11	
Late 5th century	M.4	
Last quarter of 5th century	M.10	48
Late <u>5th</u> - early <u>6th</u> c.	M.18	138
"	M.19	
"	M.22	
"	M.34	130
"	M.49	
<u>5th</u> - <u>6th</u> c.	M.23b	
"	M.24	115
"	M.28	90
"	M.30	81
"	M.31	55
"	M.32	44 + 100
"	M.36	
<u>6th</u> c.	M.7	
"	M.13	85
"	M.14	100
"	M.26	

Date	Pavement Cat. No.	No. of tesserae to dm ²
<u>6th</u> c. (contd.)	M. 27	120
"	M. 33	84 + 104
"	M. 37	
"	M. 46	100 + 196
"	M. 48a	90 + 150
"	M. 48b	119 + 160
"	M. 50	130
"	M. 51	130
"	M. 53	70
"	M. 58a	51
"	M. 58b	50
"	M. 59	
"	M. 60	
"	M. 61	83
"	M. 62	60
"	M. 63	93
"	M. 64	118
"	M. 65	96
"	M. 66	60
"	M. 67	104
"	M. 68 Frag. 1	69
"	M. 68 Frag. 2	52
"	M. 70	
"	M. 71	80
"	M. 83	
"	M. 84a	
"	M. 84b	85
"	M. 85	66
"	M. 86	
"	M. 87	85
"	M. 88	85
"	M. 89a	60
"	M. 89b	54
ca. 500	M. 8	239
"	M. 29	100
"	M. 74a	
"	M. 74b	

Date	Pavement Cat. No.	No. of tesserae to dm ²
July - August 509	M.38a	111
"	M.38b	70
518-527	M.47	100
524	M.20b	55
524	M.20c	55
524	M.20d	88
526	M.76a	90
526	M.76b	
526	M.76c	
526-540	M.9	144
529-530	M.77a	85
529-530	M.77b	85
ca. 530	M.44a	108 + 167
ca. 530	M.44b	108 + 167
530-531	M.78a	
530-531	M.78b	
531	M.79a	85
531	M.79b	74 + 86
535	M.20e	76
ca. 538	M.40	76
November 540	M.72a	
"	M.72b	
ca. 540	M.80a	
"	M.80b	
"	M.80c	
First half of <u>6th</u> c.	M.23a	44
Mid- <u>6th</u> c.	M.21	60
"	M.81a	
"	M.81b	
"	M.82a	
"	M.82b	over 100
Second half of <u>6th</u> c.	M.45a	74
"	M.45b	74
553-554 or 568-569	M.43	103 + 361
560-565	M.54	
561-562	M.39	103
562	M.55	30

Date	Pavement Cat. No.	No. of tesserae to dm ²
565-582	M.1	420 + 437
575	M.17	115
578-579	M.56	60 + 400
Late <u>6th</u> c. - early <u>7th</u> c.	M.57a	
"	M.57b	
Last quarter <u>6th</u> c. - first	M.73a	80 - 90
half <u>7th</u> c.	M.73b	80 - 90

LIST 3CODED INHABITED SCROLLS in ARCHITECTURAL SCULPTURE

S.1	Ax
S.2	Ao
S.3	Ao ?
S.4	(Ao + Ax) I ₂ c
S.5	C ₁ x
S.6	C ₁ x
S.7	Ax I ₁ c
S.8	C ₁ x
S.9	Ax I ₁ a
S.10	C ₁ x
S.11	C ₁ x
S.12	Ax
S.13	Ax VII
S.14	Ax VII
S.15	Bx I ₁ a
S.16	A(?)x
S.17	Bx; Ax?; Ao
S.18	Ax I ₁ b
S.19	Ax I ₁ b
S.20	Bx
S.21	Ax
S.22a	Ax I ₁ d
S.22b	Ax I ₁ d
S.23	Bx
S.24	Ao
S.25	A*VII
S.26	Ax VII or A*VII
S.27	Ax I ₁ b
S.28	Ao
S.29a	Bx VII (II ₁)
S.29b	Bx VII $\left\{ \frac{II_2d}{2} \right\}$
S.30	Ax $\frac{II_2b}{2}$
S.31	Ax VII (III ₁ d)
S.32	Ax
S.33	BC ₁ x IVb
S.34	C ₁ x
S.35	C ₁ x

LIST 4CODED INHABITED SCROLLS on MOSAIC PAVEMENTS

M.1	Ao
M.2a	Ao
M.2bi(Fields 1 and 2)	Ao
M.2bii(Field 3)	$C_1x \frac{VIb}{2}$
M.3	C_1x
M.4	$C_1x IVb$
M.5	Ao(II ₂ a+III ₁ c) or Ao(III ₂ a+III ₁ c)
M.6	Ax III ₁ a
M.7	AoIII ₂ c or Ao(II + III ₁)c
M.8	Ao
M.9	(A + B)x
M.10	Ax
M.11	Ao
M.12	CAx
M.13	C_1xIVb
M.14	C_2xIVb
M.15	Ax I ₁ b
M.16	Ao
M.17	$C_1x VIb$
M.18	Ao
M.19	C_1x
M.20a	$C_1x VII(2IVb)$
M.20b	$C_1x VIb$
M.20c	$(B+C_1)x Vb$
M.20d	Ax III ₁ or A*III ₁
M.20e	Ax III ₂ b
M.21	$Ax \frac{II_2b}{2}$
M.22	Ax(?)
M.23a	$C_1x VIb$
M.23b	Ao III ₁ c
M.24	Ao III ₁ c
M.25	Ao III ₁ c-1
M.26	CBx IVb or CBx Vb or CBx VIb
M.27	$C_4x IVb$
M.28	CBx
M.29	$C_3x IVb$

M. 30	undefinable
M. 31	C_2x IVb
M. 32	Ao III ₁ a
M. 33	C_3x IV _{$\frac{b}{c}$}
M. 34	Ao
M. 35	Ao
M. 36	Cx (IVb?)
M. 37	Ao
M. 38a	C_3x
M. 38b	CAX?
M. 39	C_4x IVb
M. 40	C_4x IVb
M. 41	CAX or CBx?
M. 42	C_4x IVb
M. 43	C_2x IVb
M. 44a	C_2x IVc
M. 44b	Ao III ₁ a
M. 45a	A*III ₁ b
M. 45b	C_1x IVb
M. 46	Ao
M. 47	Bx
M. 48a	CA/CBx
M. 48b	CAX
M. 49	Cx IVb ? or Cx Vb ?
M. 50	Cx
M. 51	Ao
M. 52	Cax $\frac{II_2b}{2}$
M. 53	Ao
M. 54	CAX
M. 55	Ao III ₁
M. 56	Ao III ₁ a
M. 57a	Ao III ₁ a
M. 57b	C_1x VIc
M. 58a	Ao
M. 58b	Ao
M. 59	Ao
M. 60	Ao
M. 61	Ao

M.62	Ao
M.63	Ao
M.64	Ao
M.65	Ao
M.66	Ao
M.67	Ao
M.68	C_1x
M.69	C_1x IVb
M.70	C_1o
M.71	C_1x VIc
M.72a	C_1o
M.72b	C_1x
M.73a	Bx I_1b
M.73b	Ao
M.74a	CAX
M.74b	Ao
M.75	Ao
M.76a	Ao
M.76b	C_1x VIb
M.76c	Ao III $_1a$
M.77a	Ao
M.77b	C_1x IVc
M.78a	CAX
M.78b	Ao
M.79a	C_1x VIb
M.79b	Ao
M.80a	Ao
M.80b	C_1x VIb
M.80c	C_1x IVb
M.81a	C_2x IVb
M.81b	Ao
M.82a	Ao
M.82b	C_1x [VIb + 4(IVc)]
M.83	C_1x VIb ?
M.84a	C_1x IVe
M.84b	Ao III $_1a$
M.85	C_1x
M.86	C_1x IVb ?
M.87	C_1x
M.88	C_1x
M.89a	Ao III $_1a$
M.89b	C_1x IVb

LIST 5NATURE OF SCROLLS IN ARCHITECTURAL SCULPTUREVINE (x): 29

S.1; S.5; S.6; S.7; S.8; S.9; S.10; S.11; S.12;
 S.13; S.14; S.15; S.16; S.18; S.19; S.20; S.21;
 S.22a; S.22b; S.23; S.27; S.29a; S.29b; S.30;
 S.31; S.32; S.33; S.34; S.35.

ACANTHUS (o): 4

S.2; S.3; S.24; S.28.

IVY (*): 1

S.25.

VINE + ACANTHUS (x + o): 1

S.4.

VINE or IVY (x or *): 1

S.26.

LIST 6NATURE OF SCROLLS ON MOSAIC PAVEMENTSVINE (x): 64

M.2bii; M.3; M.4; M.6; M.9; M.10; M.12; M.13; M.14;
 M.15; M.17; M.19; M.20a; M.20b; M.20c; M.20e; M.21;
 M.23a; M.26; M.27; M.28; M.29; M.30; M.31; M.33;
 M.36; M.38a; M.38b; M.39; M.40; M.41; M.42; M.43;
 M.44a; M.45b; M.47; M.48a; M.48b; M.49; M.50; M.52;
 M.54; M.57b; M.68; M.69; M.71; M.72b; M.73a; M.74a;
 M.76b; M.77b; M.78a; M.79a; M.80b; M.80c; M.81a;
 M.82b; M.83; M.84a; M.85; M.86; M.87; M.88; M.89b.

ACANTHUS (o): 49

M.1; M.2a; M.2bi; M.5; M.7; M.8; M.11; M.16; M.18;
 M.23b; M.24; M.25; M.32; M.34; M.35; M.37; M.44b;
 M.46; M.51; M.53; M.55; M.56; M.57a; M.58a; M.58b;
 M.59; M.60; M.61; M.62; M.63; M.64; M.65; M.66;
 M.67; M.70; M.72a; M.73b; M.74b; M.75; M.76a; M.76c;
 M.77a; M.78b; M.79b; M.80a; M.81b; M.82a; M.84b; M.89a.

IVY(*):1

M.45a.

VINE OR IVY (x or *)?: 1

M.20d.

VINE (x)?: 1

M.22.

LIST 7INHABITED SCROLLS IN BORDERS ON MOSAIC PAVEMENTS

<u>Pavement Cat. No.</u>	<u>Date</u>
M.1	565-582
M.2a	5th century
M.2bi	5th c.
M.2bii	5th c.
M.5	4th c.
M.6	4th c.
M.7	6th c.
M.8	ca. 500
M.9	526-540
M.10	Last quarter of 5th c.
M.11	July 473
M.15	Second half of 5th c.
M.16	5th c.
M.18	Late 5th - early 6th c.
M.20d	524
M.20e	535
M.21	Mid - 6th c.
M.22	Second half of 5th - first quarter of 6th c.
M.23b	5th-6th c.
M.24	5th-6th c.
M.25	Second half of 5th c.
M.32	5th-6th c.
M.34	Late 5th - early 6th c.
M.35	Late 4th - first half of 5th c.
M.37	6th c.
M.44b	ca. 530
M.45a	Second half of 6th c.
M.47	518-527
M.51	6th c.
M.53	6th c.
M.55	562
M.56	578-579
M.57a	Late 6th - early 7th c.

<u>Pavement Cat. No.</u>	<u>Date</u>
M.58a	6th c.
M.58b	6th c.
M.59	6th c.
M.60	6th c.
M.61	6th c.
M.62	6th c.
M.63	6th c.
M.64	6th c.
M.65	6th c.
M.66	6th c.
M.67	6th c.
M.73a	Last quarter of 6th-first half of 7th c.
M.73b	Last quarter of 6th-first half of 7th c.
M.74b	ca. 500
M.75	464-465
M.76a	526
M.76c	526
M.77a	529-530
M.78b	530-531
M.79b	531
M.80a	ca. 540
M.81b	Mid-6th c.
M.82a	Mid-6th c.
M.84b	6th c.
M.89a	6th c.

TOTAL: 58

LIST 8INHABITED SCROLLS IN FIELDS ON MOSAIC PAVEMENTS

<u>Pavement Cat. No.</u>	<u>Date</u>
M.3	First half of 5th c.
M.4	Late 5th c.
M.12	Second half of 4th c.
M.13	6th c.
M.14	6th c.
M.17	575
M.19	Late 5th-early 6th c.
M.20a	End of 4th c.
M.20b	524
M.20c	524
M.23a	First half of 6th c.
M.26	6th c.
M.27	6th c.
M.28	5th-6th c.
M.29	ca. 500
M.31	5th-6thc.
M.33	6th c.
M.36	5th-6th c.
M.38a	July-August 509.
M.38b	July-August 509.
M.39	561-562
M.40	ca. 538
M.41	
M.42	5th c.
M.43	553-554 or 568-569
M.44a	ca. 530
M.45b	Second half of 6th c.
M.48a	6th c.
M.48b	6th c.
M.49	End of 5th-early 6th c.
M.50	6th c.
M.52	5th c.
M.54	560-565

<u>Pavement Cat. No.</u>	<u>Date</u>
M.57b	Late 6th-early 7th c.
M.68	6th c.
M.69	5th c.
M.70	6th c.
M.71	6th c.
M.72a	November 540
M.72b	November 540
M.74a	ca. 500
M.76b	526
M.77b	529-530
M.78a	530-531
M.79a	531
M.80b	ca. 540
M.80c	ca. 540
M.81a	Mid-6th c.
M.82b	Mid-6th c.
M.83	6th c.
M.84a	6th c.
M.85	6th c.
M.86	6th c.
M.87	6th c.
M.88	6th c.
M.89b	6th c.

TOTAL: 56

FRAGMENTS

M.30	5th-6th c.
M.46	6th c.

LIST 9COMBINATIONS OF TYPES OF SURFACE AND NATURE OF SCROLLS
IN ARCHITECTURAL SCULPTUREBORDERS:Border + vine: 21

S.1; S.7; S.9; S.12; S.13; S.14; S.15; S.16;
 S.18; S.19; S.20; S.21; S.22a; S.22b; S.23;
 S.27; S.29a; S.29b; S.30; S.31; S.32.

Border + acanthus: 4

S.2; S.3; S.24; S.28.

Border + ivy: 1

S.25.

Border + vine or border + acanthus: 1

S.4.

Border + vine or border + ivy: 1

S.26.

FIELDS:Field + vine: 8.

S.5; S.6; S.8; S.10; S.11; S.33; S.34; S.35.

LIST 10COMBINATIONS OF TYPES OF SURFACE AND NATURE OF SCROLLS
ON MOSAIC PAVEMENTSBORDERS:Border + vine: 9

M.2b ii; M.6; M.9; M.10; M.15; M.20e; M.21;
M.47; M.73a.

Border + acanthus: 46

M.1; M.2a; M.2bi; M.5; M.7; M.8; M.11; M.16; M.18;
M.23b; M.24; M.25; M.32; M.34; M.35; M.37; M.44b;
M.51; M.53; M.55; M.56; M.57a; M.58a; M.58b; M.59;
M.60; M.61; M.62; M.63; M.64; M.65; M.66; M.67;
M.73b; M.74b; M.75; M.76a; M.76c; M.77a; M.78b;
M.79b; M.80a; M.81b; M.82a; M.84b; M.89a.

Border + ivy: 1

M.45a.

Border + vine or Border + ivy: 1.

M.20d.

Border + vine?: 1

M.22.

LIST 11FIELDS:Field + vine: 54

M.3; M.4; M.12; M.13; M.14; M.17; M.19; M.20a;
 M.20b; M.20c; M.23a; M.26; M.27; M.28; M.29; M.31;
 M.33; M.36; M.38a; M.38b; M.39; M.40; M.41; M.42;
 M.43; M.44a; M.45b; M.48a; M.48b; M.49; M.50; M.52;
 M.54; M.57b; M.68; M.69; M.71; M.72b; M.74a; M.76b;
 M.77b; M.78a; M.79a; M.80b; M.80c; M.81a; M.82b;
 M.83; M.84a; M.85; M.86; M.87; M.88; M.89b.

Field + acanthus: 2

M.70; M.72a.

BORDER OR FIELD?Border + vine or field + vine?: 1

M.30.

Border + acanthus or field + acanthus?: 1

M.64.

LIST 12POINTS OF DEPARTURE OF SCROLLS IN ARCHITECTURAL SCULPTURENONE: 22

S.1; S.2; S.3; S.5; S.6; S.8; S.10; S.11; S.12;
 S.13; S.14; S.16; S.20; S.21; S.23; S.24; S.25;
 S.26; S.28; S.32; S.34; S.45.

BORDERS:ONE POINT: 11

S.4; S.7; S.9; S.15; S.18; S.19; S.22a; S.22b;
 S.27; S.29b; S.30.

TWO POINTS: 1

S.29a.

FOUR POINTS: 1

S.31.

FIELDS:ONE POINT: 1

S.33.

NATURE OF POINTS OF DEPARTURE OF SCROLLS IN ARCHITECTURAL SCULPTUREONE POINT: HEAD (a): 2

S.9; S.15.

VASE (b): 5

S.18; S.19; S.27; S.30; S.33.

ACANTHUS FOOT (c): 2

S.4; S.7.

TWO POINTS: undefinable: S.29a.FOUR POINTS: VINE LEAF (d): S.31.

LIST 13POINTS OF DEPARTURE OF SCROLLS IN BORDERS ON
MOSAIC PAVEMENTSNONE: 27

M.1; M.2a; M.2bi; M.8; M.9; M.10; M.11; M.16; M.18;
M.22; M.34; M.35; M.37; M.47; M.51; M.53; [M.59;
M.62; M.66]; M.73b; M.74b; M.75; M.76a; M.77a; M.78a;
M.79b; M.80a; M.81b; M.82a.

ONE POINT: 3

M.15; M.21; M.73a.

TWO POINTS: 1

M.2bii.

FOUR POINTS: 17

M.6; M.20d; M.20e; M.23b; M.24; M.25; M.32;
M.44b; M.45a; M.55; M.56; M.57a; [M.58a; M.58b];
[M.60; M.61; M.63; M.64; M.65; M.67]; M.76c;
M.84b; M.89a.

FOUR OR SIX POINTS: 1

M.7.

SIX POINTS: 1

M.5.

BORDER FOUR-POINT ARRANGEMENTS

III₁: Head (a): M.6; M.32; M.44b; M.56; M.57a; [M.58a, M.58b];
[M.60, M.61, M.63, M.64, M.65, M.67]; M.76c;
M.84b; M.89a.

Vase (b): M.45a.

Acanthus (c): M.20d; M.23b; M.24; M.25.

Hybrid: M.55.

III₂: Vase (b): M.20e.

LIST 14NATURE OF POINTS OF DEPARTURE OF SCROLLS IN BORDERS
ON MOSAIC PAVEMENTS

ONE POINT: VASE (b): 3
M.15; M.21; M.73a.

TWO POINTS: VASE (b): 1
M.2bii.

FOUR POINTS:

HEAD (a): 10
M.6; M.32; M.44b; M.56; M.57a; [M.58a, M.58b];
[M.60, M.61, M.63, M.64, M.65, M.67]; M.76c; M.84b; M.89a.

VASE (b): 2
M.20e; M.45a.

ACANTHUS FOOT (c): 4
M.20d; M.23b; M.24; M.25.

HYBRID: 1
M.55: 3 golden eagles + 1 head.

FOUR OR SIX POINTS: 1
M.7: Acanthus feet

SIX POINTS: 1
M.5 (2 heads + 4 acanthus feet)

LIST 15POINTS OF DEPARTURE OF SCROLLS IN FIELDS ON
MOSAIC PAVEMENTSNONE: 20

M.3; M.12; M.19; M.28; M.38a; M.38b; M.41; M.48a; M.48b;
M.50; M.54; M.68; M.70; M.72a; M.72b; M.74a; M.78a;
M.85; M.87; M.88.

ONE POINT: (i) at end of panel: 21

M.4; M.13; M.14; M.27; M.29; M.31; M.33; M.36;
M.39; M.40; M.42; M.43; M.44a; M.45b; M.69;
M.77b; M.80c; M.81a; M.84a; M.86; M.89a.

(ii) at centre: 2

M.20c; M.52.

(iii) either: 1

M.49.

TWO POINTS: 1

M.20a.

FOUR POINTS: 9

M.17; M.20b; M.23a; M.57b; M.71; M.76b; M.79a;
M.80b; M.83.

EIGHT POINTS: 1

M.82b.

UNDETERMINED: 1

M.26.

LIST 16NATURE OF POINTS OF DEPARTURE OF SCROLLS IN FIELDS
ON MOSAIC PAVEMENTSONE POINT:VASE (b): 21

M.4; M.13; M.14; M.20c; M.26; M.27; M.29;
 M.31; M.36; M.39; M.40; M.42; M.43; M.45b; M.49;
 M.52; M.69; M.80c; M.81a; M.86; M.89a.

ACANTHUS FOOT (c): 2

M.44a; M.77b.

VASE IN ACANTHUS FOOT ($\frac{b}{c}$): 1

M.33.

TREE (e): 1

M.84a.

TWO POINTS:VASE (b): 1

M.20a.

FOUR POINTS:VASE (b): 7

M.17; M.20b; M.23a; M.76b; M.79a; M.80b; M.83.

ACANTHUS FOOT (c): 2

M.57b; M.71.

EIGHT POINTS: M.82b (4 vases + 4 acanthus feet).

LIST 17SCROLL TYPES ON MOSAIC PAVEMENTSBORDERS

Type A: 54

M.1; M.2a; M.2bi; M.5; M.6; M.7; M.8; M.10; M.11; M.15;
 M.16; M.18; M.20d; M.20e; M.21; M.22; M.23b; M.24; M.25;
 M.32; M.34; M.35; M.37; M.44b; M.45a; M.51; M.53; M.55;
 M.56; M.57a; M.58a; M.58b; M.59; M.60; M.61; M.62; M.63;
 M.64; M.65; M.66; M.67; M.73b; M.74b; M.75; M.76a; M.76c;
 M.77a; M.78b; M.79b; M.80a; M.81b; M.82a; M.84b; M.89a.

Type B: 2

M.47; M.73a.

Type A + B: 1

M.9.

Type AC₁: 1

M.2bi1.

FIELDSType C₁: 28

M.3; M.4; M.13; M.17; M.19; M.20a; M.20b; M.23a; M.45b;
 M.68; M.69; M.70; M.71; M.72a; M.72b; M.76b; M.77b;
 M.79a; M.80b; M.80c; M.82b; M.83; M.84a; M.85; M.86;
 M.87; M.88; M.89b.

Type C₂: 5

M.14; M.31; M.43; M.44a; M.81a.

Type C₃: 3

M.29; M.33; M.38a.

Type C₄: 4

M.27; M.39; M.40; M.42.

Type CA: 7

M.12; M.38b; M.48b; M.52; M.54; M.74a; M.78a.

Type CB: 2

M.26; M.28.

Type BC₁: 1

M.20c.

Type CA or CB: 2

M.41; M.48a.

Type C unspecified: 4

M.36; M.49; M.50; M.57b.

LIST 18SCROLL TYPES IN ARCHITECTURAL SCULPTUREBORDERS

Type A: 22

S.1; S.2; S.3; S.4; S.7; S.9; S.12; S.13; S.14; S.18;
S.19; S.21; S.22a; S.22b; S.24; S.25; S.26; S.27; S.28;
S.30; S.31; S.32.

Type B: 5

S.15; S.20; S.23; S.29a; S.29b.

Type A or B: 1

S.17.

Type A ? : 1

S.16.

FIELDS

Type C₁: 7

S.5; S.6; S.8; S.10; S.11; S.34; S.35.

Type BC₁: 1

S.33.

LIST 19DEPICTIONS IN ARCHITECTURAL SCULPTURE

<u>Type of depiction</u>	<u>No. of depiction</u>	<u>%</u>
Animal	4	7.1
Basket	5	62.5
Bear	6	10.7
Bear or Lion	1	1.8
Bee	5	35.7
Bird	26	30.2
Boar	3	5.4
Bull	3	5.4
Bull or Sheep	1	1.8
Bunch of grapes	1	5.0
Camel	1	1.8
Caterpillar	3	21.4
"Chi Rhô" monogram	1	25.0
Chukor partridge	1	1.2
Cock	1	1.2
Cow	1	1.8
Crane or Heron	1	1.2
Crow-like birds	6	7.0
Crow or Starling	1	1.2
Deer	4	7.1
Deer or Dog	1	1.8
Dog	6	10.7
Dove	5	5.8
Duck	2	2.3
Female bust	1	5.6
Finch	3	3.5
Fox	2	3.6
Fruit	2	10.0
Gazelle	1	1.8
Goat	3	5.4
Hen	1	1.2
Horse	3	5.4
Human figure	2	11.1
Insect	1	7.1
Lamb	4	7.1
Lion	4	7.1

<u>Type of depiction</u>	<u>No. of depiction</u>	<u>%</u>
Lizard	4	28.6
"Orans" figure	1	5.6
Parrot	4	4.7
Partridge	2	2.3
Partridge or Quail	2	2.3
Partridge or Swallow	1	1.2
Peacock or Pheasant	2	2.3
Peasant	1	5.6
Hen Pheasant	3	3.5
Pheasant or Francolin	1	1.2
Pigeon	18	20.9
Pigeon or Dove	2	2.3
Pigeon or Quail	1	1.2
Putto	8	44.3
Rabbit	5	8.9
Reindeer	2	3.6
Scenes	3	75.0
Shepherd	3	16.7
Snail	1	7.1
Squirrel	1	1.8
Thrush	1	1.2
Thrush or Finch	1	1.2
Thrush or Pigeon	1	1.2
Vase	3	37.5
Vine leaf	8	40.0
Vine leaves and Bunch of grapes	9	45.0
Woman	2	11.1

LIST 20DEPICTIONS ON MOSAIC PAVEMENTS

<u>Type of depiction</u>	<u>No. of depictions</u>	<u>%</u>
Animals	19	5.1
Almonds or Ivy Leaves	5	1.5
Antelope	4	1.1
Antelope or Gazelle	2	0.5
Apple	1	0.3
Artichokes	1	0.3
Bag for transporting grapes	2	1.7
Basket	22	19.0
Basket with grapes	12	10.3
Basket with pomegranates	5	4.3
Basket with apples	5	4.3
Basket with figs	1	0.9
Basket with fruit	6	5.2
Bear	11	3.0
Bear or Lion	1	0.3
Beetle	1	11.1
Bird	34	8.5
Bird cage	10	8.6
Boar	5	1.4
Bowl	2	1.7
Bowl of fruit	2	1.7
Bull	21	5.7
Bull or Cow	2	0.5
Bunch of grapes	53	16.4
Bush-buck	1	0.3
Bustard	1	0.2
Camel	1	0.3
Cat	4	1.1
Cat or Tiger	1	0.3
Cat or Leopard cub	1	0.3
Caterpillar	1	11.1
Chicken	7	1.8
Child	6	5.0
Chukor partridge	32	8.0
Chukor partridge encaged	5	1.2
Citrus fruit	1	0.3
Cock and Cockerel	20	5.0
Cow	2	0.5
Crane	16	4.0
Crane or Heron	2	0.5
Crow	1	0.2
Crow of Magpie	2	0.5
Crow or Magpie or Rook	1	0.2
Crow or Pigeon	4	1.0
Crow or Thrush	3	0.8
Cup	2	1.7
Deer	22	5.9
Deer or Goat	2	0.5
Disks	1	0.9
Dog	32	8.6

Type of depiction	No. of depictions	%
Dog or Wolf	1	0.3
Donkey	12	3.2
Donkey or Horse	3	0.8
Dove	13	3.2
Dove or Parrot	1	0.2
Dove or Pigeon	2	0.5
Duck	34	8.5
Duck or Goose	3	0.8
Eagle	7	1.8
Egret	1	0.2
Egret or Heron	1	0.2
Elephant	3	0.8
Ethrog	4	3.4
Falcon or Parrot	1	0.2
Female Bust	3	2.5
Finch	5	1.2
Finch or Swallow	2	0.5
Fish	2	66.7
Flamingo	15	3.8
Flower	56	17.3
Flute(pipe)player	6	5.0
Fox	7	1.9
Fox or Dog	1	0.3
Fruit	30	9.3
Gallinule or Moorhen	3	0.8
Gazelle	21	5.7
Giraffe	3	0.8
Goat	20	5.4
Goose	5	1.3
Goose or Swan or Duck	1	0.3
Goose or Swan	6	1.5
Grape-treaders	4	3.4
Grasshopper	1	11.1
Guinea-fowl	11	2.8
Hare or Rabbit	31	8.4
Hawk or Falcon or Kestrel	1	0.2
Hedgehog	1	0.3
Hen	4	1.0
Heron	3	0.8
Heron or Stork	1	0.2
Heron or Stork or Wader	1	0.2
Horse	11	3.0
Human figure	9	7.6
Hunter	35	29.4
Ibex	6	1.6
Ibis	4	1.0
Ibis or Stork	1	0.2
Incense-vessel	1	0.9
Inscription	8	6.9
Insect	2	22.2
Jackal	1	0.3
Jar	5	4.3
Kite	1	0.2
Lamb	3	0.8

Type of depiction	No. of depictions	%
Lamb or Sheep	1	0.3
Leaf	42	13.0
Ivy leaf	16	4.9
Vine leaf	8	2.5
Leopard	16	4.3
Lion	27	7.3
Lioness	9	2.4
Lioness with cubs	3	0.8
Lizard	3	33.3
Lulab	1	0.9
Magpie	3	0.8
Magpie or Thrush	1	0.2
Magpie or Pigeon	3	0.8
Man	18	15.2
Man leading animal	6	5.8
Melon	8	2.5
Menorah	3	2.6
Mongoose	6	1.6
Moorhen	2	0.5
Negro	1	0.8
Offerer	4	3.4
Oryx	1	0.3
Ostrich	2	0.5
Ox	2	0.5
Palm	3	0.9
Panther	2	0.5
Paprika pods	4	1.2
Parrot	4	1.0
Parrot or Pigeon	1	0.2
Partridge	16	4.0
Partridge or Quail	2	0.5
Partridge or Swallow	1	0.2
Peacock	28	7.0
Peacock or Pheasant	3	0.8
Pear	17	5.2
Peasant	1	0.8
Pelican	1	0.2
Pheasant	24	6.0
Pheasant or Francolin	1	0.2
Pigeon	28	7.0
Pigeon or Hen	1	0.2
Pigeon or Quail	1	0.2
Pomegranate	68	21.0
Putto	3	2.5
Quail	2	0.5
Quince	2	0.6
Ram	3	0.8
Shofar	2	1.7
Rail	2	0.5
Reaper	1	0.8
Reindeer	2	0.5
Rhinoceros	1	0.3
Robin	1	0.2
Rodent	1	0.3

<u>Type of depiction</u>	<u>No. of depictions</u>	<u>%</u>
Sea-shell	1	33.3
Snake	6	1.6
Sheep	21	5.7
Shepherd	8	6.7
Solomon's knot	1	0.9
Stork	4	1.0
Stork or crane	1	0.2
Sunflower	1	0.3
Swan	4	1.0
Thrush	4	1.0
Tree	1	0.3
Tiger	10	2.7
Tigress	2	0.5
Tortoise	1	11.1
Tray-like flower	3	0.9
Turkey	1	0.2
Twig	1	0.3
Vase and Amphora	20	17.2
Vine leaves and Bunches of grapes	3	0.9
Vintager	12	10.1
Volute	1	0.9
Wagtail or Pipit	1	0.2
Wolf	1	0.3
Woman	1	0.8
Woodcock	1	0.2
Woodcock or Wader	1	0.2
Zebra	1	0.3

LIST 21CONTOUR LINESONE CONTOUR LINE: 58

M.1; M.2a; M.2bi; M.2bii; M.3; M.4; M.9; M.10; M.13; M.16;
 M.17; M.18; M.20a; M.20b; M.20c; M.20d; M.20e; M.21; M.23a;
 M.24; M.25; M.28; M.29; M.30; M.31; M.32; M.33; M.34; M.35;
 M.38a; M.38b; M.39; M.40; M.42; M.43; M.44a; M.44b; M.45a;
 M.45b; M.46; M.48a; M.48b; M.51; M.52; M.53; M.54; M.55;
 M.56; M.57a; M.57b; M.58a; M.58b; M.61; M.62; M.68; M.69;
 M.71; M.79b; M.84a; M.84b; M.85; M.86; M.87; M.88; M.89a;
 M.89b.

TWO CONTOUR LINES: 2

M.14; M.28.

ONE AND TWO CONTOUR LINES: 8

M.1; M.20b; M.28; M.34; M.39; M.48b; M.57a; M.71.

THREE CONTOUR LINES: 1

M.36.

NO CONTOUR LINE: 10

M.5; M.6; M.47; M.59; M.60; M.63; M.64; M.65; M.66; M.67.

UNKNOWN: 37

M.7; M.8; M.11; M.12; M.15; M.19; M.22; M.23b; M.26; M.37;
 M.41; M.49; M.50; M.70; M.72a; M.72b; M.73a; M.73b; M.74a;
 M.74b; M.75; M.76a; M.76b; M.76c; M.77a; M.77b; M.78a;
 M.78b; M.79a; M.80a; M.80b; M.80c; M.81a; M.81b; M.82a;
 M.82b; M.83.

RESULTS: TOTAL NO. OF PAVEMENTS: 116

1 line : 58

2 lines : 2













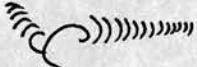




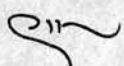






1 and 2 lines: 8









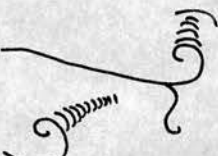










3 lines : 1

None: : 10

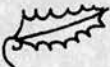





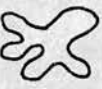
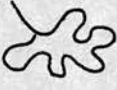






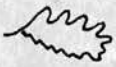






Unknown : 37
















LIST 22VINE TENDRILS

- M.2bi1 MISIS 
- M.3 SILIFKE. AŞARKAYA 
- M.5 - M.6 ANTIOCH. Constantinian Villa 
- M.9 ANTIOCH. House of the Bird Rinceau 
- M.10 SELEUCIA. Martyrion 
- M.13 MA'ARAT an NU'MAN 
- M.15 DAIR AS-SALĪB 
- M.19 'ISFIYA 
- M.20a ZAHRĀNĪ. Nave 
- M.20b ZAHRĀNĪ. First antechamber 
- M.20c ZAHRĀNĪ. Second antechamber 
- M.20e ZAHRĀNĪ. Diaconicon  X
- M.21 BAIT MARI 
- M.23a JENAH   
- M.27 HAZOR ASHDOD 
- M.29 BET GUVRIN 
- M.31 JERUSALEM. "Mosaïque d'Etienne"   but no 
- M.33 JERUSALEM. "Armenian Mosaic"  
- M.36 'EIN HANNIYA 

- M. 38a GAZA 
- M. 39 SHELLAL 
- M. 40 MAON-NIRIM 
- M. 42 KHIRBAT 'ASĪDA 
- M. 43 BET SHEAN. Monastery of Lady Mary, Room "L" 
- M. 45a BET SHE'AN. Synagogue 
- M. 45b BET SHE'AN. Synagogue (Field) 
- M. 47 BET ALFA 
- M. 48a SEDE NAHUM 
- M. 48b SEDE NAHUM 
- M. 54 MADABA. Church No.1. 
- M. 57b MADABA. Church 
- M. 68 KFER ABU SARBUT 
- M. 71 KHIRBAT AL-MAKHĀYYAT. Church of SS. Lot
and Procopius 
- M. 73a MĀ'IN 
- M. 77b JARASH. Church of St. George 
- M. 82b JARASH. Cathedral Chapel 
- M. 84a JARASH. Church of Elias, Mary and Soreg 
- M. 89b SUĀFIYA 

LIST 23SHAPE OF VINE LEAVES

- M.3 SILIFKE 
- M.5 ANTIOCH. Constantinian Villa Room 1 
- M.6 ANTIOCH. Constantinian Villa Room 2 
- M.9 ANTIOCH. House of Bird-Rinceau 
- M.10 SELEUCIA. Martyrion 
- M.13 MA'ARAT AN-NU'MAN 
- M.14 AIN AL-BAD 
- M.17 QABR HIRAM 
- M.20a ZAHRĀNĪ. Nave 
- M.20b ZAHRĀNĪ. First antechamber 
- M.20c ZAHRĀNĪ. Second antechamber 
- M.20e ZAHRĀNĪ. Diaconicon 
- M.21 BAIT MARI 
- M.23a JANAĤ. Mosaic "m" 
- M.27 HAZOR ASHDOD 
- M.28 'IMWĀS 
- M.30 DAIR ASEŪR 
- M.31 JERUSALEM. "Mosaïque d'Etienne" 
- M.33 JERUSALEM. "Armenian Mosaic" 
- M.38a GAZA 
- M.39 SHELLAL 

- M.40 MAON-NIRIM 
- M.42 KHIRBAT 'ASIDA 
- M.43 BETH SHE'AN. Monastery of Lady Mary. Room "L" 
- M.44a BETH SHE'AN. Hammām 
- M.45b BETH SHE'AN. Synagogue 
- M.47 BET ALFA 
- M.48a SEDE NAḤUM 
- M.48b SEDE NAḤUM 
- M.52 MAMPSIS 
- M.57b MADABA. Church 
- M.68 KFER ABU SARBUT 
- M.71 KHIRBAT AL-MAKHĀYYAT. Church of SS.Lot and
Procopius 
- M.84a JARASH. Church of Elias, Mary and Soreg  
- M.89b SUĀFIYA 

IVY LEAF

- M.20d Zahrānī. Annexe 

LIST 24SHAPE OF BUNCHES OF GRAPESELONGATED: 9

- M.3 SILIFKE (AŞARKAYA)
 M.57a MADABA. Church
 M.71 KHIRBAT AL-MAKHĀYYAT. Church of SS. Lot and
 Procopius
 M.84a JARASH. Church of Elias, Mary and Soreg
 M.85 JARASH ?
 M.86 JARASH
 M.87 JARASH
 M.88 JARASH
 M.89b SUĀFIYA

TRIANGULAR: 5

- M.10 SELEUCIA. Martyrion
 M.20a ZHRĀNĪ. Nave
 M.28 'EMWĀS
 M.31 JERUSALEM "Mosaique d'Etienne"
 M.54 MADABA. Church No.1

SMALL: 3

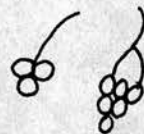
- M.14 AIN AL-BAD
 M.25 KHALDA (3-4 grapes)
 M.47 BET ALFA (3 grapes)

ROUND: 2

- M.68 KFER ABU SARBUT
 M.72b KHIRBAT AL-MAKHĀYYAT. Church of St. George

2 TYPES (ROUND AND ELONGATED): 5

M.20c ZHRĀNĪ. Second antechamber

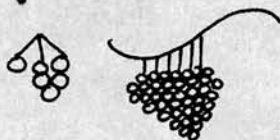


M.39 SHELLAL

M.42 KHIRBAT 'ASĪDA

M.44a BET SHE'AN. Hammām.

M.23a JENAH 'O'

HANG FROM TWO STEMS: 3

M.29 BET GUVRIN

M.33 JERUSALEM. "Armenian Mosaic"

M.48a SEDE NAHUM

HANG FROM ONE, ONE OR TWO, TWO OR THREE STEMS: 4

M.38a GAZA

M.40 MAON (1 or 2 stems)

M.43 BET SHE'AN. Monastery of Lady Mary.
Room "L" (1 or 2 stems)

M.52 MAMPSIS (2-3 stems).

LIST 25ATTRIBUTES

1 = Acanthus border + vine field	17 = Scroll diameter Group 3
2 = One vase	18 = Scroll diameter Group 4
3 = Four vases	19 = Crosslets
4 = Four acanthus feet	20 = Pomegranate and flowers
5 = C ₂ pattern	21 = Characteristic acanthus
6 = C ₃ pattern	22 = Subsidiary vine stem
7 = C ₄ pattern	23 = Vine tendrils
8 = Borders Group 1	24 = Rings and knots in vine stem
9 = Borders Group 2	25 = Shape of vine leaves
10 = Borders Group 3	26 = Colour of vine leaves
11 = Borders Group 4	27 = Grapes
12 = Tesserae Group 1	Total No. of characteristic attributes
13 = Tesserae Group 1/2	
14 = Tesserae "mixed" Group	
15 = No contour line	
16 = Scroll diameter Group 1	

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