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Design Structures of Treasure Book Covers from the 6th to the 12th Century.

Ian Andrews

Submitted for the Degree Master of Arts by Research.

September 2010.

School of Art, Design and Architecture
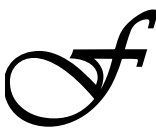
The University of Huddersfield.

Abstract.

This investigation is a new approach to the assessment of the richly-ornamented book-covers of the early Christian Church. Pictorial data on approximately seventy five covers of actual books together with a similar number of pictures of books portrayed by artists in contemporary carvings, mosaics and paintings have been analysed as a group. This enabled attention to be directed to the geometrical structures and arrangements of the ornamental features of the cover decoration and avoided the problems intrain when considering them purely as works of art.

The results of this research have enabled several distinct trends and watersheds in the design structure to be distinguished which have potential for improving the dating of such book bindings. These include, the significance of border decoration as an indicator of date and the techniques with which jewels and gemstones were arranged and mounted. It is believed that with these techniques considerable new possibilities exist for more substantial analysis of the covers of these unusual books.

Preface on the Background and Origins to this Research.

Some years ago, a friend who was a collector of antiquarian books, persuaded me to take an interest in the bindings of books. Following a course at West Dean College in Hampshire, I was able to attend specialist courses on gold finishing and the restoration of fine leather bindings with John Mitchell, who is the author of several books on gold-tooling and edge decoration and one of the best gold-finishers in the country. The decoration of leather book-bindings with gold requires the use of a considerable number of tools, each of which is made to impress an individual design element or motif. The precise selection of these tools and the manner of their placement on the surface of the book's cover, determine the nature of the design. From the point of view of restoration, it is of great importance that only those tools should be employed that are appropriate for the cover being restored and it was the question of how to decide which tools were appropriate for which designs that became the fascination that resulted in this area of research. My initial focus of interest was to try to analyse the origins of the cover design of the 'Great Omar' bound and decorated by Frank Sangorski in the late nineteenth century. This led, inexorably, to the examination of the

classical design styles of gold-tooled decoration, that is those styles that evolved between the advent of printed books and the *Art Nouveau,* styles of the later nineteenth century. It became apparent that, whereas a great deal had been written on the generalities of the major design styles, there had been very little attention given to the precise details of the tooled decoration that defined them.

*F*ollowing close scrutiny of the decoration of a great many books, it proved possible to achieve more effective definition of the overall design styles and to identify many of the smaller features of these and to distinguish the manner of their variation with the date when the books were bound. The work on bindings from the beginning of the sixteenth century to the end of the eighteenth has been completed and several articles have been published. During the course of that research I had become aware of a few book covers of much earlier date and whose covers were embellished with sumptuous amounts of gold and jewels. While a few pictures and odd reference material had been accumulated on these, so-called, *Treasure Bindings,* no analysis had been contemplated until the opportunity to seriously engage with the subject was presented through this research degree programme. While a small number of pictures of books and a few useful references were on hand at the commencement of this research activity, the majority of material employed in this analysis and interpretation were sought out during the course of the degree period. The project has been a satisfying experience since not only has it proved possible to discover concepts and structures in the design of the decoration applied to treasure book covers but the structural origins of many of the design styles of the later period have been distinguished as well as those of several of the ubiquitous motifs whose presence characterise many of those styles.

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Introduction and Rationale

Early Christian codices bound in heavy wooden board covers decorated with applied panels of gold, jewels, ivory and enamel are generally known as 'Treasure Bindings'. For various reasons very few are still in existence and those that are date mainly from about the tenth to the twelfth century.[1] Pictures of them are occasionally found in books about books, Thomas (1975, p.220) for example, includes a picture of an eleventh century silver gilt and jewelled cover made for Judith of Flanders and (Bullough 1965, p170) includes a picture of the front cover of the Lindau Gospels and several ivory panels from book covers, while the catalogue for the exhibition, 'Le trésor de la Sainte-Chapelle, (Durand 2001), includes both front and back gold covers of three evangelaries. Two full-page, colour pictures of 12th century treasure book covers were included by Tobin in his book, Romanesque.[2] Pictures of such books are usually included either in sections in which the author is discussing aspects of the style of some other decorative art or who is concentrating on one particular book, such as Peter Metz' work on the Golden Gospels of Echternach.(Metz 1957) or Horst's work on the Utrecht Psalter.[3] They are also found alongside images of icons and reliquaries with which book covers are on occasion, confused. It is not unusual for a particular book-cover, to be defined as a book cover by some writers but as an icon by others

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[1] Munkhammer L. (1998) Codex Argenteus – From Ravenna to Uppsala – The Wanderings of a Gothic Manuscript. *64th IFLA General Conference August 16-21 1998.*

[2] Tobin R. ed (1997) *Romanesque: Architecture: Sculpture: Painting,* Kőnemann, Kőln. P 368-9.

[3] Horst K. van der, Noel W. and Wüsterfeld W. eds (1996) *The Utrecht Psalter in Medieval Art,* HES Publishers with Universiteit Utrecht and Museum Catharijneconvent.

Fig. 1: A footstool, drawn with inverse perspective. This technique was intended to link the viewer into the scene since they would feel themselves at the meeting point of the lines extending from the edges of the stool. This was a frequently employed technique in icons but not on book covers and appears to be an effective means to distinguish between the two artforms.[4]

To some degree, incorporating the discussion of the decoration of book covers within that of some other related field is understandable, due to their scarcity and that they were made from the same materials by artisans with similar skills. The analysis of the decoration of bookbindings has however become a recognised area of specialism on the fringe of fine art despite the proverbial difficulty of deciding whether it should be considered an art[5], a craft or even an early industrial product[6]. The literature on the decoration of bookbinding is now very extensive[7] with a considerable number of books detailing the evolution of the styles of

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[4] Nes S. (2005) *The Mystical Language of Icons,* Canterbury Press, Norwich. P 21.

[5] Benton M. L. (2007) The Book as Art, Chapter 36 p 493 in *A Companion to the History of the Book* ed: Eliot S. and Rose J. Blackwell Publishing.

[6] Williamson (1966 p.1) suggested that a book was not an artform but rather an industrial product whereas Quaritch (1889 p iii)defined bookbinding as, 'one of the industrial arts, capable of high and splendid cultivation, and absolutely indispensable for the preservation of the literary monuments of former ages.'

[7] Breslauer (1986 p. 9) commented that the study of the history of bookbinding is still a comparatively new subject and has slowly developed reliable methods of investigation. In his guide to

cover decoration[8] and many learned articles drawing attention to the work of individual

binders and their techniques. Although numerous authors have written about book covers

of gold and jewels, their work has tended to be focused on a particular cover and not

comparative between several and the discussion of any single cover is most often almost

entirely restricted to the relationship between the ornamentation of the cover and that of

comparable jewellery. Books, in which the authors have set out to explain concepts,

sequential patterns and transitional phases in the history of decorative style, which includes

those listed in the Bibliography section on 'Books on Bookbinding', have rarely provided

much about books of this type apart from explaining that they existed. They have been

relegated, as Quaritch did, effectively to being novelties[9], the province of goldsmiths, or

with their existence being noted, they were not considered sufficiently significant to merit

the detailed and comparative analysis offered for the products of later generations of

binders.

The purpose of this research has been to explore the subject from a different perspective.

These books were among the first to be bound in the codex format and yet the decoration

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the literature on the subject he states that earlier publications on the subject contain much valuable
information and details that are not found elsewhere.

[8]Bernard Quaritch, the London bookseller extraordinaire, had a special section in his 1889 catalogue
for 'Books on Bookbinding' and the earliest entry is for a volume by Lesne, 'relieur á Paris' whose
limited edition book of 1827 Quaritch described as, " A very curious and extremely ridiculous composition
which has nevertheless its value as giving the names and describing the methods of several French binders of
repute…". (Quaritch 1889 p 200)One of the first attempts to write a substantial review of the subject was Salt
Brassington whose book of 1894 received extremely positive acclaim and since that time there have been
many others. Some of the more significant of these are listed in the 'Books on Bookbindings' section of the
Bibliography section of this document.

[9] Bernard Quaritch was the outstanding bookseller in London in the late nineteenth century. In 1889 During
the 1880s he published a series of facsimiles of artistic bindings in monthly parts which he subsequently
released in book form in 1889. (Quaritch 1889) In the preface he claimed there was, "no other history of
bookbinding from which the amateur may more readily and pleasantly acquire at least a rudimentary
acquaintance with the development of the most fascinating of the minor decorative arts" In a review of this
book, (Anon 1890) the writer summarises Quaritch's view on early books with the words, " With the history of
bookbinding before the Renaissance, Mr Quaritch does not greatly concern himself. The cylindrical boxes in
which the Greeks and Romans kept their rolls of MSS. Have nothing in common with the covers of modern
books, nor have the wonderful bindings in ivory and metal, nailed on wooden boards and studded with jewels,
of the Byzantine and Carolingian periods, much greater connection with the subject."

of their covers was of the most flamboyant and sumptuous style that has ever been applied to bookbindings. The entire purpose of these books was outside of modern comprehension, (Cameron 1979) but they were undoubtedly made to meet the requirements of their time. (Pollard 1956). Books made to carry treasure covers were themselves a new invention[10]. Nothing like it had been done before[11]. Such books were made to serve the specific needs of the new Christian Church [12]and the furtherance of its ambitions. This included significant roles in promoting the 'power' of the Christian God and the Christian Church. Krushelnitskaya and Solov'eva [13] also, Calkins. Books were made and decorated in ways to enhance the liturgical rituals of the Church, becoming on a par with reliquaries (Eliot and Rose 2007) since they were considered the embodiment of the 'Word of God' and therefore deserving of their place on the altar, (Grabar, cited by Cameron 1979, p 17) and frequently also to be blatantly indicative of the status, position and wealth of the patron who commissioned them for presentation.(Diehl 1910 P 19, also Cameron 1979 p 3-35; Grabar 1974 and Alfoldi 1970) In view of the thickness of the wooden board covers, it was not unusual for secret compartments to be hollowed out for the storage of small relics[14] and by the 10th century, such precious items were mounted beneath polished cabochons of rock crystal which not only protected them but also magnified them.

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[10] Appreciation of the iconic status of the book as an object for veneration was transmitted to the West as was the practice of enshrining sacred texts within treasure bindings. Eliot S. and Rose J. (2007) *A Companion to the History of the Book* Blackwell Publishing p 190.

[11] The legacy of the Emperor Constantine, according to his biographer, Bishop Eusebius, was that he placed, 'the poverty of Christ in a golden setting'. (Strong 1962)

[12] Elton and Elton (1893 p 22) relate that after St Boniface resigned his office as Primate of Germany to work among the 'rude tribes of Friesland' he wrote to the Abbess of Eadburga for a Missal, "gay in colours, even as a glittering lamp and an illumination for the hearts of the Gentiles…… to send me St Peter's Epistles in letters of gold."

[13] Krushelnitskaya C. and Solov'eva I. (2007) *Bindings and Applied Covers of the Old Russian Altar Gospels,* www.nlr.ru/eng/exib/Gospel/drus/bind.html

[14] Reischl W.K. and Rupp J. (1848) ed: *Cyril of Jerusalem,* Opera Omnia.

Clearly there were very special reasons for this and the circumstances that made it possible and the interpretation of these is the central theme of this thesis. The major objective for this investigation was to analyse the structures of the design of decoration applied to books with treasure bindings and where possible to explore the connections between these early designs and the styles of gold-tooling that developed in the post-incunabular period from the beginning of the sixteenth century.

More specifically, the time period covered in this study commenced with the sixth century which is the earliest time for which book covers are still in existence through to around the end of the twelfth century. In the twelfth century there are indications that the decoration of treasure bindings had reached a peak and were being replaced with border decorations of scrollwork and the complex panel designs that would evolve into the design styles of the sixteenth century. At this time also the prime position of the books of Gospels as objects for adoration was becoming replaced by the monstrance[15].Lynn White observed that there was a very significant transition at the end of the 12th century when the empathy of the church moved from adoration of the word of God, that is, the Gospels books, to adoration of the 'host'. The cult of the Eucharist had made God more accessible. God could be seen and touched. As White expressed it;

"It seemed as if the Latin Church, in centring its devotion upon the actual physical substance of its deity, had inadvertently, deified matter." (White 1978 p.34)

While this study has concentrated solely upon cover decoration of the treasure category, most books were secured in more ordinary covers of plain leather some of which were decorated with various forms of linear structure, Egyptian bindings of Coptic origin,(van

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[15] Monstrances replaced books as objects for adoration in the 12th Century.

Regemorter 1958) Manichean (Gulácsi 2005), those from Nag Hammadi (Robinson J. McC.) and later the Arabic and the Mudejar bindings from Spain (Mullaly 1976, Thomas 1939 and Haldane 1983) with their intensely contrived geometric constructions. In their way, contributions from all of these were eventually absorbed into the styles of Western European gold-tooled bookbinding. By the end of the twelfth century, treasure bindings had reached a kind of peak of richness but in parallel there were strong indications that new styles of decoration were developing that would ultimately lead into the styles that became established in the sixteenth century[16].

Many people have concluded that once created, a style of ornament or decoration appears to acquire a life of its own which is not dependent upon the artefact for which it was initiated.(Ward-Jenkins 1967) Copplestone's assertion however, offers a more effective vehicle with which to interpret significance in a form a decoration. He suggested that every artefact has its place in time and in the culture of the place in which it was made.[17]

As a means for the analysis of decoration, time appears to be a parameter that would be expected to produce a profitable distribution of variations. The potential of this approach to distinguish significant trends has been established by the work of Deetz and Dethlefsen (1994   p 33.) in their study of 25,000 gravestones in New England. In their investigation, time was very precisely defined because the date of manufacture of the artefact could reasonably be presumed to correlate very closely to the date of death of the

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[16] Hobson G.D. (1938-9) Some Early Bindings and Binders Tools, *The Library, 4th series vol XIX p 202-49.*
Devaux Y. (1977) *Dix Siècles de Reliure,* Editions Pygmalion, Paris. Hobson A. (1995) Italian fifteenth-century bookbindings, *Renaissance Studies vol 9 No 2 p 129-36*
[17] Copplestone T.   *The Art Informer*

recipient. In the case of the covers of treasure bindings, there is no such correlation.[18] The elements applied to decorate a cover are not themselves dated and their probable date can only be estimated by association with other artefacts whose dating may have been attributed more precisely and with more certainty of correctness[19]. It was disconcerting therefore to discover that the variation, between expert opinions, in attributions of the date of manufacture of specific parts of a book cover, are often exceptionally broad. A photograph of one particular treasure binding appears in three books, each written by an eminent art historian and all three clearly state different centuries for its manufacture, one convinced it was 6th century, the second 7th to 8th while the third attributed it to the 9th century.[20] In another instance, that of a repoussé silver book cover[21], it is claimed as dating from somewhere between the 10th and the 12th or 13th centuries. Davenport (1929, p.74) presented a Byzantine cover as being 8th century while reporting that the same cover had been considered 7th century work by the Russian collector, Szenigorodskoi, 9th century by Labarte and 12th by Pasini. On this basis it would appear that to be strictly correct, the date of manufacture of any treasure book cover can only be presumed to be within about plus or minus two hundred years which would make any attempt to deduce chronological trends effectively meaningless.

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[18] "Not until Carolingian times can the covers of treasure bindings be connected to their original codices and even then clear-cut examples are few. The earliest would seem to be the ivory covers of the Dagulf Psalter, presented by Charlemagne to Pope Hadrian I (772-95) although the covers, now in the Bibliotheque Nationale in Paris, and the text are now separate, Dagulf's dedicatory verses make explicit mention of the cover decoration………Jewelled covers are particularly susceptible to migration from one codex to another because they are not integral to the bookbinding" (Needham 1979)

[19] Bosch (1952 p 137) mentions the technique used by Sarre (1923) to derive an approximate date, within centuries based on comparison of the ornamentation of the binding with that of dated manuscripts.

[20] Note on book and the books in which it appeared and references to authors.

[21] This information relates to the first cover of Binding 17 of a Gospel Book, Image Number JRL021567tr in the Rylands Collection. Web site http://enriqueta.man.ac.uk viewed 12.11.2009.

These are most probably 'worst case' examples but nevertheless very clearly indicate that any kind of precise dating, which is argued on the basis of the recognition of factors that are believed to be identified convincingly with very specific time dates, is not a reliable assumption for decorated covers within this period. Prospects for being able to identify chronological trends in the evolution of designs were therefore extremely limited though a number of unexpected similarities between seemingly unconnected cover designs were observed and are discussed in later sections. The uncertainties in interpreting the significance of a particular cover may be discovered to have been further confused since covers from one book were quite frequently removed and re-used on some other volume[22]. (Walther and Wolf 2005) The decoration of a cover has frequently been recognised as containing an ivory panel from one century surrounded by metalwork from another and studded with jewels from somewhere else. It has been suggested that it was not until Carolingian times that there can be any confidence that the cover now attached to a manuscript was in fact the one originally fitted when the book was bound.[23]

The place in which an item from a cover was originally made is also fraught with uncertainties and subjective interpretation. The association of an artefact with its believed place of production is based upon the identification of stylistic appearance and the recognition of particular details that are known and agreed as reliable indicators. For the

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[22] Davenport (192 p 86 and plate IX) presented his drawing of a 9th century Latin Gospel book from Germany, the later, 14th century cover of which had undergone restoration in 1838. The border consists of a series of tiles of various sizes and decorated with a scrolling arabesque with daisies and gemstones. It is however very clear that the patterns on adjacent tiles do not match so it would appear that the tiles were either misplaced during the restoration or had perhaps more likely, been redeployed when the cover of this book had previously been constructed.

[23] It appears that there is a convincing case for believing that a manuscript from the Carolingian period was originally bound with a particular cover, although the two had become separated in the past. The reason for believing they belonged together is due to a record left by Dagobert in which the cover is described in such detail that it clearly refers to this particular one.

time period covered in this study, this involves Roman (Cunliffe 1978), Byzantine (Nordenfalk 1957), Carolingian (Bullough 1965)[24], Germanic, Anglo-Saxon, Irish, Islamic (Haldane 1983) and Scandinavian cultures, (Beckwith 1969, p78) and the artistic traditions of the Barbarians migrating into what is now known as 'Western Europe'. (Altet 1997, Laing and Laing 1995 also, Wilson 1980) The period was characterised by periods of military rule and ecclesiastic rule (Fouracres 2001) interspersed with the degradations from the invasion by the so-called 'barbarian' populations[25] migrating from the East and the North.(Zarnecki G. 1989) It is appropriate too, to note that international trade was already well-established and developing with increasing capacity. Sea routes from Europe to the Far East and to Africa were in regular use and the 'silk road' to China brought steady supplies of silks and precious stones to Europe[26]. Chang'an, was the largest and most cosmopolitan city in the world and already, by the 7th century, had a large population of foreigners including travellers and merchants from India, Asia and Japan. The arts flourished there and life at the court was both sophisticated and steeped in luxury. (Paludan 1998) The place of the books bound with covers of gold and jewels and pearls through this landscape of cultural and political ferment was complex in ways measurable only on a scale as ornate as their decoration. The appearance of the treasure bindings of the Christian Church probably owes its original conception to the life-style of the Emperors. Eusebius, Bishop of Caesarea, was instructed, by Constantine, to supervise the compilation of the first complete set of the holy books of Christianity which became the authoritative original form of the Bible. Fifty of

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[24] Gardiner G. (1966) in a review of 'The Utrecht Psalter in Medieval Art ed by Koert van der Horst, William Noel and Wilhelmina Wüsterfeld wrote that the Carolingian attempts to unify Western Europe into a new Christian Roman empire meant that they harked back to the greatness of Rome and it was this artistic heritage that the craftsmen of Charlemagne and Louis the Pious attempted to recreate. (Gardiner G. *Paper Conservation News Number 80 December 1996 p 21.)*

[25] Barbarian migrations, sack of Rome by ..etc.

[26] Paludan A. (1998) *Chronicles of the Chinese Emperors,* Thames and Hudson, London.

these books were to be bound and the covers adorned with gold and precious stones and pearls[27]. In this way, Constantine took the riches to which the Emperors of Rome had been accustomed, (Bernstein 2000) and applied it to his newly adopted Christian church. (Bowersock 1999) By so doing, he set the standard for the appearance of ceremonial church books that was to last for a thousand years and in vestigial form continues to this day. Modern imitations of treasure bindings for the Orthodox Church can be purchased to cover present day bibles.

Instances in which the appearance of some aspect of cover decoration is pertinent to one or another of these cultural traditions are discussed in the appropriate section. Also, within the general area of cultural influence lies the problem of what constitutes an artefact that was made as a book cover and what distinguishes an intended book cover from an item made to be an icon, a reliquary or in the case of carved panels of ivory, the lid of a casket.(Rice 1958) There are examples where different experts have included pictures of the same piece in their books, one of whom asserts it to be a book cover whereas the other presents it as an icon.[28] As a structural design, the similarity in appearance of certain reliquaries, particularly that of the 'true cross' with book covers is extremely close. A large panel of carved ivory having a decorative structure composed from interlinked leafy quatrefoils that encompasses the entire panel area right to each edge, appears to be more appropriate in appearance as the lid of a casket (de Sager 1975 fig. 6 p. 92) and yet is the precision of placement of the various items that constitute the cover. In this connection, presented by de Sager as a book cover. A theme that has been recognised as being of considerable significance in the design and appearance of treasure book covers concerns

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[27] A surviving letter from the Emperor Constantine in 332 ordered fifty new testament bibles to be made for the churches he had had built in Constantinople.
[28] Icon or book cover Archangel Michael panel

the achievement of a number of covers are analysed in terms of the concepts of Picasso and of Delacroix[29]. Picasso suggested that, "the value of a work of art resides in precisely what it is not – finished" whereas in Delacroix' opinion, "Exactitude is not art. Laborious perfection is the art of being boring."

Following from previous work on the analysis of decorative design on bookbindings, (Andrews 2009) the proposed methodology for this study was similarly based on the intention to analyse a quantity of photographs of relevant book covers. This contention is considered to be a valid technique for this purpose since the objective was to investigate the design structures of the various cover decoration so that access to the cover itself was not necessary. In order to obtain the maximum information in regard to the appearance and design of books of the selected period, both pictures of books as well as pictures of books portrayed by artists in mosaics, paintings and carvings were also included. Both sources were considered to be valid repositories of useful information for this study but at no stage were they presumed to be mutually interchangeable. The use of artist's representations of art objects has been employed by previous researchers in art history for such purposes as investigation of the appearance of silverware (Buckland 1983) and paintings (Bloch 1969). The two sources of information were found to exhibit significant differences but also some intriguing correlations.

It was found that the number of books from the period sixth to twelfth century was very limited. For various reasons, the covers of remarkably few such books have survived to the present day for the reason that Quaritch so elegantly expressed it,

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[29] Copplestone T. (-) *The Art Informer.*

" the intrinsic value of their exterior rendering it liable at all times to become the prey of aesthetic burglars, or to undergo translation from one book to another till it disappeared utterly." (Quaritch 1889 p iv).

There were many reasons for the disappearance of so many of these book covers. One was that in their time, at least in the earlier part of this period, the application of rich materials to the covers of liturgical holy books, was accepted effectively as an 'insurance' against hard times. There are records of monasteries and churches having to sell precious books to cover their needs for building purposes or to enable the monastery to survive through difficult periods. Equally the very richness of the decoration of these books resulted in them becoming 'known'. It became common knowledge that certain monasteries for example, possessed books of unusually rich ornamentation. Such valuable possessions were an easy target for marauders seeking a quick route to riches. This subject is dealt with, in considerable detail, in a later section The iconoclasm,(Lassus 1967 p 86) instigated by Yazid II in 721 followed by Pope Leo III in 726 that lasted from the 720s until the final re-establishment of images in 843, resulted in the loss and destruction of many treasure-bound books.(Beckwith 1969). The confiscation of monastic and church treasures by King Henry VIII is well known but similar destruction of books occurred under Cromwell and in France in 1793 when books were confiscated and their covers removed and sent to the mint to be melted down and used as coinage. This destruction is not limited to the past however and there are instances in the recent past when, for example, one owner of a major collection removed the gold corner pieces from a treasure binding and sold them separately from the book. [30] By fortuitous chance many of the book's covers, confiscated in France, were drawn

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[30] It is reported on the website, http://www.schoyencollection.com/bindings.htm viewed 09.09.2009, of the Schoyen Collection, on p 3, that Major J R Abbey removed the four Mosan enamel cornerpieces, from MS 258,

in fine detail by Félibien before being sent to the mint. These drawings were subsequently published and the record still exists[31]. Several pictures of book covers from this source were included in this investigation and are discussed in the appropriate section though sadly the degree of detail in the drawings is comparatively crude though the drawings still provide decent indications of the design structure. Interestingly, similar drawings of treasure bindings were made by Davenport of the British Museum in the 1920s and published. (Davenport 1929) Davenport's drawings tend to be more detailed than Felibien's and by chance in this investigation it has proved possible to compare his drawing of an eighth century treasure binding with a photograph of the same book. Curiously, it was discovered that the emphasis introduced by Davenport in his drawing, (p. 75) obscures the two most significant design motifs in the mosaic border and this aspect is discussed in detail in a later section of this work.

In addition to applying analytical attention to the structural design of the decoration on these book covers and the symbolisms represented therein, close study was also made of the ways in which the various precious materials were employed and some discoveries identified that appear to have identified possible indicators that could be applied to more effectively define the time period of original manufacture. In this section the techniques employed to mount gemstones, especially those of irregular form, will be discussed, also the various types of enamel work and the complex interchangability or replacement in certain design structures between the use of ivory, enamel and repoussé work. Whereas no progressions of particular usage can be defined with certainty it will be suggested that

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a Bible with Psalms of c1200. The cornerpiece enamels were sold at Sotheby's in their auctions of the 16 May 1968 and 13 December 1979.
PPM museum & France
[31] Felibien

certain transitional stages, identified in this work, may have further potential as indicators of date.

Others features that will be reviewed and discussed in this thesis include, the importance of the richness of cover decoration in relation to the functions for which it was originally commissioned, including publicity and the innate effectiveness of the ceremonial display of these books as a means to persuade and influence people. It has been suggested that one interpretation for the elaborate carvings, often in massive tiers over the doors of the major French cathedrals, is that they were made as advertising for the effectiveness of the Christian religion (Altman) and as a regular 'top-up' or reminder of the importance of religion to the common folk. As a reminder of their spiritual dependence upon the good graces of the church to approve of their eventual entry into paradise. It would seem that the holy books of the church, embellished with such a splendour of gold, jewels and pearls were designed to serve a similar purpose. The books were part of the liturgical equipment of the church, shown to the congregation in solemn procession, raised to the status of a reliquary, since they contained after all, the word of god. Quite apart from the desirability of a monastery or church possessing such wondrous objects, if only for its own prestige and to satisfy the covetous instincts of its clergy, books with covers of this calibre were considered more as insurance policies than merely valuable heirlooms. At this period, apart from their content, the perceived value of books with covers embellished with heavy plates of gold and studded with jewels, was limited to the intrinsic value of the precious materials (James 1998) and it is known that many of the apparent precious stones that stud these book covers, were actually 'paste', that is faked glass imitations.(Tait 1995)

Literature Review.

The essential feature that distinguishes the covers of treasure bookbindings from gold-tooled bookbindings is that the decoration on the covers is not an intrinsic part of the book. Contrary to all the later techniques of gold-tooling, leather inlay, *cuir cisele* and stamping, in which decoration was produced by imposing decorative materials into the cover of the book, the decoration of a treasure cover was achieved by the simple expedient of hammering ready-made, jewellery-like, pieces onto the cover boards with small pins. The term, 'Treasure Binding' is indicative of the nature of the materials from which such cover decorations were made, gold, silver, jewels, pearls, ivory and enamel, the working of which was the province of goldsmiths, jewellers and carvers of ivory. Bookbinding today is considered to be divided into two specialisms, forwarding and finishing. In medieval times this was not necessarily the practice since Merryweather records that Prior Raymond in the late 12th century, "wrote two copies of the Gospels and bound them in silver and gold and adorned with various figures"[32] which appears to be saying, as also did Cundall[33] that certain monks in those days had the skills to undertake both the bookbinding functions and also the production and fitting of the cover decorations. By the end of the 6th century, capability in metalworking had achieved a high standard, particularly in the monastic

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[32] Merryweather F.S. (1849) *Bibliomania in the Middle Ages from the Anglo-Saxon and Norman Periods with anecdotes illustrating the History of the Monastic Libraries of Great Britain,* Merryweather, London. p 178.

[33] Cundall J. (1881) *On Bookbindings Ancient and Modern* George Bell, London.

establishments of Ireland, Britain and Western Europe,[34] in the south of France where

many of the monks had trained, and the Germanic peoples with whom there were extensive

trade and other contacts with Ireland.[35] A valuable summary of information relating to the

techniques employed in the medieval period has been given by Toman[36] and the 12th

century treatise, now known as 'O*n divers arts by Theophilus Presbyter'* made available by

Dodwell[37] and Hawthorne and Smith.[38]

Scholarly studies of the history of bookbinding have, in general, followed the pattern of

Howard Nixon, who when opening his formative survey on the history of decorated

bookbindings in 1929[39], commenced with a binding of c1390. In fact, for a variety of

reasons, this was an eminently appropriate place to begin. For one reason this was the time

when book bindings were first decorated with gold-tooling and since printed books were

only then becoming more readily available, this resulted in a period of unique development

in the decoration of book covers. The three centuries from the start of the sixteenth, saw

the establishing of all the major styles of decorative gold-tooled work on leather book

covers. From those centuries there were plenty of books to analyse and many decorative

styles to be distinguished. The focus of research on book decoration however shifted rapidly

to the tempting prospect of identifying binders responsible for the design and decoration of

individual books[40]. Some binders could be identified by name, others only by some

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[34] Swartwout (1932) *The Monastic Craftsmen* p 25 and appendix 3. Also: Wilson D.M. (1961) Anglo-Saxon
     Bookbinding at Fulda, *The Antiquaries Journal, 41 p 199-217*
[35] http://www.visual-arts-cork.com/irish-crafts/celtic-metalwork-art.htm. Viewed 06/11/2009
[36] Toman R. (1997) *Romanesque: Architecture, Sculpture, Painting,* Kőnemann, Kőln p 376-77.*.*
[37] Dodwell C.R. ed. (1961) *The Various Arts,* Thomas Nelson, London.
[38] Hawthorne J.G. and Smith C.S.eds. (1963) *On divers arts,* University of Chicago Press, reprinted 1979 Dover
     Publications, New York
[39] Nixon H.M. (1962) *The Development of Certain Styles of Bookbinding,* Published by The Private Libraries
     Association, London.
[40] Hobson A.R.A. (1999) *Renaissance Book Collecting,* Cambridge University Pres

characteristic of their style or even by the possession of a specific tool.[41] Scholarly attention to the covers of books before this period was hampered by uncertainty regarding the relative dates of a manuscript and its cover and, to some degree, scholastic 'fashion'. As Foot expressed it,

" The attraction of fine materials……….precious metals and glittering stones, has been known to lure many a scholar away from the straight and narrow path of learning" a comment which clearly expresses her view that the study of treasure bindings is outside the canon of material that is considered proper for the study of bookbinding.[42] This attitude is in marked contrast to that of Cyril Davenport, her predecessor at the British Library whose book on manuscripts and bookbindings is remarkably informative.[43]

Needham has argued that it was, 'not until Carolingian times that the covers of treasure bindings could be connected to their original codices…..The earliest, he writes, would appear to be the ivory covers of the Dagulf Psalter, presented by Charlemagne to Pope Hadrian I, 772-795, and now in the Bibliothéque Nationale in Paris and awareness of this possibility depended on the existence of Dagulf's dedicatory verses which includes explicit mention of the cover decoration. Needham states that' in general the separation of covers and codex is more the rule than the exception and that it is rare to find a book written before the fifteenth century that has not been rebound'. Jewelled covers of treasure bindings he wrote were particularly susceptible to migration from one codex to another because they are not integral to the bookbinding.[44]

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[41] Hobson G D (1934) *Further Notes on Romanesque Bindings*, The Library p161-211, also *Some Early Bindings and Binders Tools,* The Library 4th series vol XIX p 202-249 (1938-9)
[42] Foot M. (1990) *Notes from Studies in the History of Bookbinding,* Scolar Press, London.
[43] Davenport C. (1929) *Beautiful Books,* Methuen, London.
[44] Needham P. (1979) *Twelve Centuries of Bookbinding 400-1600,* p 22-23.

Two silver bookcovers attributed to the second half of the sixth century, part of the find known as the 'Antioch Treasure' discovered in Syria in 1910, are decorated with hammered repoussé work. The description of one of these was,

"A silver panel, executed in repoussé (hammered relief) with incised details, showing a bearded figure with halo, turned three-quarters to right, wearing tunic and mantle and holding an open book. He stands under an arch composed of foliate ornament springing from a pair of twisted columns with foliate capitals and concave bases. In spandrels of arch are two peacocks. Raised and bevelled border of grapevine rinceau, set with baskets, quail, cross and other symbols."

This is essentially descriptive and as such provides a succinct and clear summary of the decorative appearance of the silver cover. It is stated that the covers have received very little attention since interest in the items found at Antioch was concentrated on the problem of the Antioch Chalice.[45] Comment on this cover and a similar one, tended to be directed at establishing provenance as part of the Antioch find and cites other covers of comparable date and believed conventions for the positioning of figures in such panels. By way of comparison, information provided by Beridze et al on similar silver repoussé covers is much more specific regarding the decorative design substantiated with itemised comparisons with similar items.[46] It would appear that Beridze et al when preparing their critique had two advantages, firstly they had more items available so were able to form more generalised opinions and secondly, by handling the cover as an item of embossed silver work, they had a better vocabulary at their service. A treatment of comparable

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[45] *The History of Bookbinding 525 – 1950 AD,* The Walters Art Gallery, Baltimore, Maryland 1957.

[46] Beridze V. et al 1983 *The Treasures of Georgia,* Century Publishing, London.

sophistication is given by Backhouse[47] in which an ivory bookcover is written up in the context of an item of jewellery with highly detailed interpretations of many symbolic associations. Again, the intellectual terrain appears to engender the advantages of a wider and more appropriate vocabulary than was available when dealing with it as a bookbinding. Pictures of treasure book covers are often included in books on art history though the amount of specialist information accompanying them is often rather inadequate. This neglect by the author to provide expert comment is particularly marked by the manner in which pictures of treasure book covers were included in their books by Hobson[48] when writing on Great Libraries and Thomas on 'Great Books and Book Collectors'.[49] In both cases the potential insights that might have been imparted, were limited to a brief note on the historical existence of the book cover and since each is treated as an individual 'masterpiece' it is rare to find significant comparative interpretation.The visual impact of pictures of those treasure bindings still in existence, prove to be attractive additions to books on many aspects of the decorative arts and architecture and on occasion, even tourist guides. In these situations it is typical for the legend that accompanies a picture to be merely a note of its date or who had owned it. Superior comment on covers is usually to be found in the catalogues for the auction sales of companies including Christie's and Sotheby's and occasionally in the catalogues of specialist booksellers.[50]

Overall therefore, it appears that scholarly study of the covers of books of the 'treasure' category, is considered to fall outside that of mainstream research on decorated bookbindings yet is equally not fully a part of any other speciality. While treasure book

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[47] Backhouse J, Turner D.H, and Webster L, (1984) *The Golden Age of Anglo-Saxon Art 966 – 1066,* British Museum Publications, London, p 39.

[48] Hobson A.R.A. (1970) *Great Libraries,* Weidenfeld and Nicolson, London p 65

[49] Thomas A.G. (1975) *Great Books and Book Collectors,* Weidenfeld and Nicolson, Londonp 220-21.

[50] A particularly impressive volume of this type was Catalogue 14, *Medieval Manuscripts,* Sam Fogg, Rare Books and Manuscripts, London 1991.

covers are considered as 'works of art' it has been natural to consider each one as unique. In consequence there are inadequacies in terms of stylistic frameworks in contrast to those including semy, cottage roof, strapwork etc identified post 1500, and to some extent, vocabulary, with which their particular attributes may be analysed and discussed and this difficulty is further hindered by the limited number of such book covers still in existence.

It is the intention of this research to approach the subject of the decoration of the covers of treasure bound books directly from the perspective of design structure with two particular objectives. These are to investigate the possibility that such book covers may be related through aspects of their decorative design and to determine whether there is evidence contained in these covers indicative of early forms of motifs and features that characterised gold-tooled decoration of the sixteenth century and later. Consideration will also be given to the question of the date of manufacture of these book covers in order to explore the possibility that the nature of the cover design may itself be employed to substantiate attributions of date.

Methodology

Since the objective of this research activity has been to analyse the design structure of treasure book covers, rather than to discuss their 'artistic merit', photographs of covers have been considered to be primary sources. Artistic representations of decorated covers, from mosaics, paintings, carvings etc, have been included but of as yet 'unproven' significance. In view of the wide range of complex associations of these book covers, artistic, cultural, historical and religious, information and interpretations provided by other writers have been studied as necessary background. While this has yielded valuable insight and appreciation of the significance of this group of book-covers, the focus of this research investigation was the way the materials were used, that is, their design.

The essential processes of analysis were directed towards the identification of common characteristics, that is similar layout, the appearance of similar constructional elements in the design, the placement and arrangement of motifs and ornaments. Searches were carried out, scrutinising every available cover throughout the entire time period. Following several preliminary trials of this procedure, in which several search categories had proved to be too vague and others required extension, a comprehensive set were identified that could be applied across the entire time period and to both pictures of actual books and to the portrayals of books. The categories employed in the main analytical study are listed below, each category being used for a simple positive or negative entry dependent solely on whether that particular item was included in the design. Copies of the working sheets developed during this process of scrutiny, are included in the appendix to the document.

Crosses: Byzantine, Latin, Latin with flared tips, Byzantine with 'coin' tips

Scales

Arches

Christ in a mandala: double circle, citron, elliptical

Lettered borders

Angels: floating horizontally, crossed wings

Frames: Tiled, Strips, Continuous, Shaped portraits, 5-stone groups, enamel tiles

Roman wreaths

Shapes of Corner Pieces: Round, Rectangular, Gammation, Large Bosses

Centre Field: Plain, Filigree, Foliated

Border: Vine scrolling

Saltires, Diamond Lozenge, Square Lozenge, Solomon's Knot

Ivory panels, Repoussé panels, Enamel Panels

Straps: Plain, Decorated, Boss ends, mounting lugs

Brooch designs

Jewel outlining

5-Stone Groups

Large Stones

'Randomly distributed' jewels

Mounts: Basic, Intrinsic or pinned on, toothed mounts

Amygdala: with Round/Square centre,

Centre and Corners: Round corner element, rectangular corner elements, smaller elements between: round, square

Pearls: borders, individual, in pairs, in triplets, in lines

Particular attention was drawn to the following features due to the frequency of their occurrence:

Angels and the Crucifixion scene.

Boss ornaments.

Brooch ornaments.

The methods of mounting gemstones and jewels.

The major reasons for interest in these particular categories was primarily that there was potential either for deducing indication of date of manufacture or as a means for more closely relating certain covers. From more detailed consideration of these four topics, it became apparent that there are aspects of the appearance of the crucifixion scene that change with time but that the manner of their variation is more significant for its religious implications than from the design point of view. The mounting of the jewels and gemstones appears to exhibit variation with time such that it may prove to be the basis for a method of dating which is discussed elsewhere in this document. '*Boss*' and '*Brooch*' ornaments[51] are clearly ubiquitous elements with some degree of significant time localisation.

This process resulted in considerable appreciation of 'families' of design, that is, groups of covers the decoration of which showed related likeness. In parallel with this investigation, two more theoretical studies had been made exploring particular design structures. In one, the range of possible geometric combinations was explored that involved centre and corner,

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[51] The term, 'Boss' is used to describe large hemispherical ornaments that occur particularly on Irish book-covers. While there is similarity between the shape of these and that of large cabochon gemstones and, even more so, with the large polished sections of rock crystal, the term, 'Boss' is essentially restricted to ornaments consisting solely of raised metal domes. 'Brooch' is the name used to denote a particular arrangement of jewels. In its definitive form it consists of a central blue sapphire surrounded by a ring of eight other gemstones, four jewels in the cardinal positions and four pearls between them. This arrangement is clearly important since it occurs on many significant artefacts including venerated rings and ceremonial costume.

that is, five-circle designs[52], and a Latin cross. By making minor variations to the size and position of the four outer circles, it was shown that a wide range of 'modified cross' forms could be developed and which corresponded with forms actually observed on particular book covers. The second investigation was directed at exploring the possible ways in which a design could be 'expanded' from a small central panel to the larger format of the board on which it was to be used and vice versa. The problem concerned the need to convert from the dimensional balance of the smaller panel to that of the larger while maintaining an outer border of uniform size. Details of the development of these various configurational studies are contained in the section on geometric design.

The availability of the theoretical developments of pattern structure together with the 'practical' equivalents resulting from the scrutiny of book covers, invited comparison and from this comparison, it became possible to construct the large charts that illustrate how the entire range of complex designs of the cover decoration of the so-called Treasure Bindings'could be related back to the small number of originating forms. The name given to this relationship structure, is 'Proliferation of Designs'.

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[52] A 'Centre and Corners' design distinguishes an arrangement of ornamental elements based on one at the centre and one towards each corner. Depending on the precise artefacts employed for these ornamental purposes, synonyms including, 'Five-Circle', 'Five-Ring' and 'Five-Stone' are used when they are considered to engender greater clarification of the visual appearance or structural arrangements of the situation.

The Geometry of Design Structures.

The purpose of this section is to survey the fundamental structures of designs that are potentially appropriate to the rectangular format of a book cover and to show how small variations in their construction result in the creation of extensive families of related designs. The approach that evolved for this analysis drew on three sources, geometrical methods for dividing the cover area, techniques for format conversion and indications of the more common design constructions obtained from preliminary searches of the design structures of treasure book covers. Of these three sources, the first represents abstract forms that could be constructed from first principles, within a rectangular field. Whilst it can be argued that this would naturally be a logical technique for distinguishing fundamental elements of designs, this approach also recognises the intense contemporary interest in an area of mathematical expertise for the solution of problems by the use of ruler and compasses and derived from the analytical techniques of the 'ancients' which had been brought together in the fourth century, by Pappus of Alexandria in the eight books of his Mathematical Collections[53]. Deductions from this study were supplemented by considerations of techniques for the adjustment of format whereby entire decorative layouts were developed around constructions required for the conversion of one dimensional format to another. This therefore, represents design constructions that originated in the solution of practical problems of application. The results from the preliminary searches of cover designs drew

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[53] Par F. G-M. (1907) *Exercises de Géometrie, Quatrième Édition,* Maison A. Mame & Fils, Tours, France.

attention to the importance of combinations of basic design structures, particularly structures based on the combination of a central panel with a Latin cross and the Latin cross with five-ring pattern. As a result of this study, it has been possible to identify familial relationships in groups of cover designs and to distinguish the ways in which artists have achieved the objective of developing a design in order to fill the entire area to be decorated in a visually satisfying manner.[54]

Design Structures based on Ruler and Compass Constructions:

A wide variety of structures can be developed from such basic operations. Records of the time indicate that techniques of analysis by means of geometrical construction had reached a high degree of draughtsmanship. The study of complex problems involving angles, scaling and the shapes of curves especially loci had reached a level of considerable sophistication and it is reasonable to assume that the designers of decoration for book covers would have at least had an awareness of the techniques of using ruler and compasses. Whilst documents recording the sketches from which particular cover designs were developed do not exist, the general complexity of such designs is such that clear insights into the construction of many can be related to the more fundamental procedures and constructions of analytical geometry. The types of design structures that can be achieved by the application of various basic geometrical techniques are summarised in the following

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[54] Nordenfalk C. (1977) *Celtic and Anglo-Saxon Painting* Chatto and Windus, London p19.

sections which will be used as a reference resource when discussing the cover designs of the known sample of treasure book covers.

Lines drawn parallel to the edges of the design area:

Such lines may be single or doubled and in the extreme case, as the lines become closer to the centre of the area, tend to the form of a Latin cross.
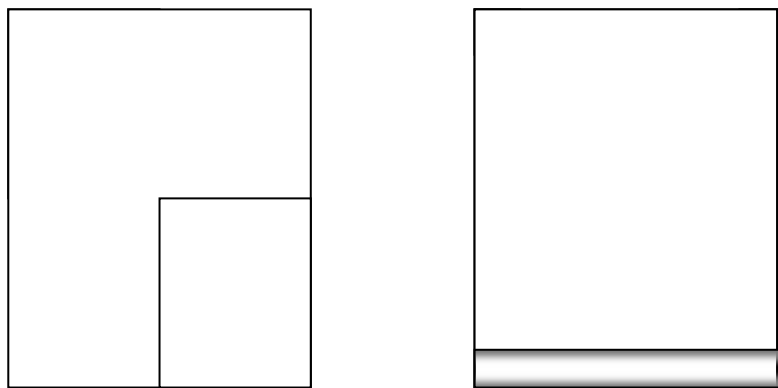
Fig 2: Above left: Simple division of the cover into four equal rectangular spaces. Fig 3: Above right: Creation of border with four lines that continue right to the edge of the design area. Despite the simplicity of this construction, it is significant that with only four straight lines, a central panel is defined and also four corner pieces.

Fig 4: Above left: Two sets of four lines creating a Latin cross within a simple frame border. There are however numerous options that are available to be utilised to enhance the decorative potential of the format. These include the distinction between the centre and arms of the cross as well as side and corner pieces in the frame. Fig 5:Above right: By the simple expedient of using two lines instead of a single one, the definition of the various areas available for decoration is not only more strongly distinguished but also the space within the double line could permit additional decoration.

Fig 6: Right: The inclusion of additional lines to divide the central design area results in a matrix of similar sized panels.
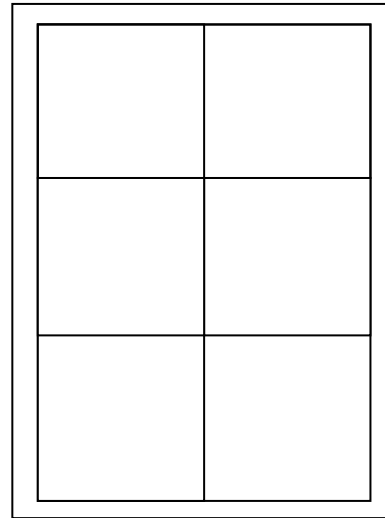
Lines drawn diagonally within the design area:

Constructions based on straight lines result in Lozenges and Saltires which when multiplexed create lattice patterns. If the four lines of a single lozenge are replaced with curvilinear ones, corner quadrant shapes are produced.
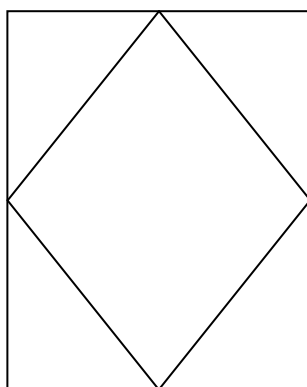
Fig 7: Above left: A basic diamond lozenge.　　　**Fig 8: Above right: A basic Saltire.**
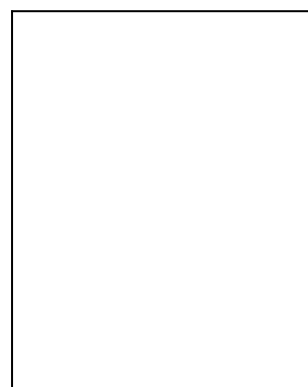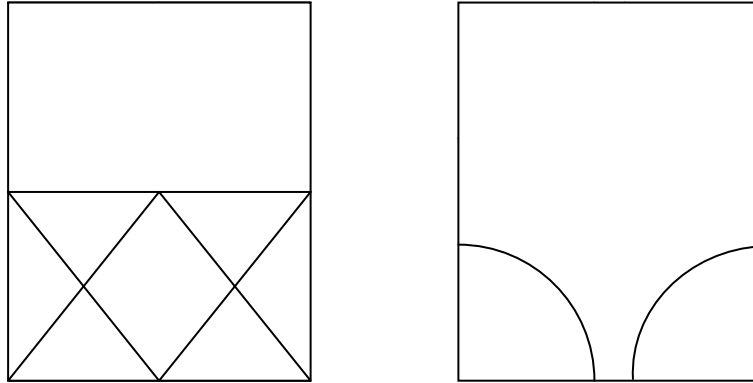
Fig 9: Above left: Diamond lattice structure.   Fig 10: Above right: Replacement of the straight outlines of a basic lozenge by circular arcs creating corner quadrants. Such circular quadrants can be drawn with compasses using the corner of the rectangle as centre. These quadrant corners offer new possibilities for border decoration and for a different concept for 'centre and corners' designs.

Constructions based on circular arcs primarily produce citron shapes or mandalas.
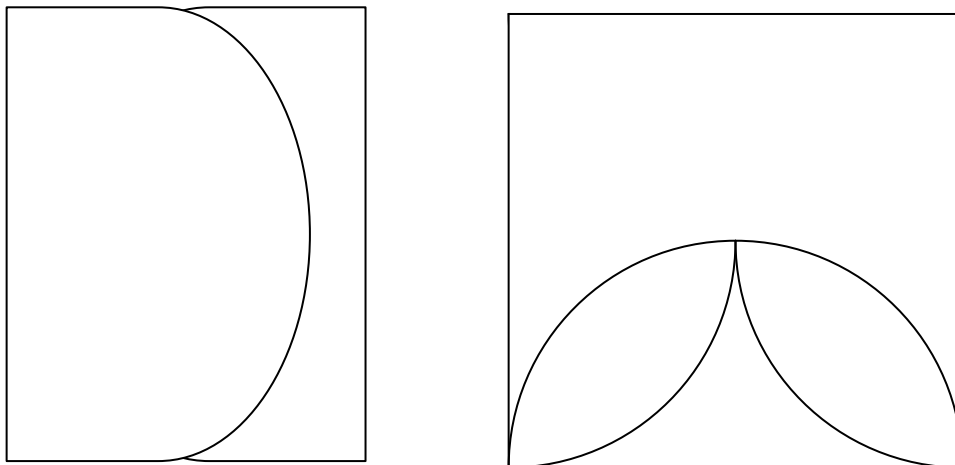
Fig 11: Above left: Overlapping , opposing arcs producing a mandala shape. Such arcs would be produced by compasses centred on the horizontal axis of the rectangle and at a suitable distance to generate arcs of the required size. Fig 12: Above right: A set of four citron shapes produced from four overlapping semi-circles. These semi-circular arcs are the result of centreing the compasses on the mid-point of the sides of the rectangle.

Fig 13: The 'trompe l'oeil' effect of a Byzantine cross with four almond shaped, amygdalas created one at each corner by the construction of. four circular arcs drawn using compasses centred on the axes but outside the design area.
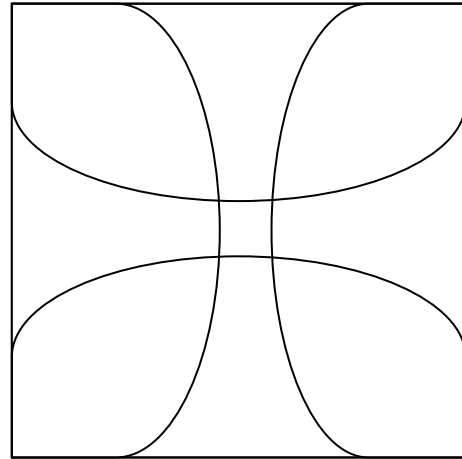
Combinations of a Latin cross with a central plaque:

By adding a Latin cross to a design field having either a rectangular or circular centrepiece,

many designs with considerable potential for decorative structures become available.
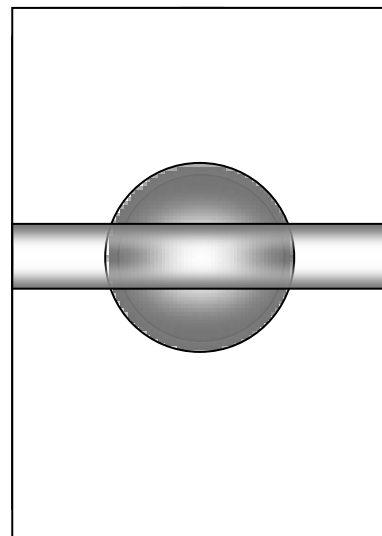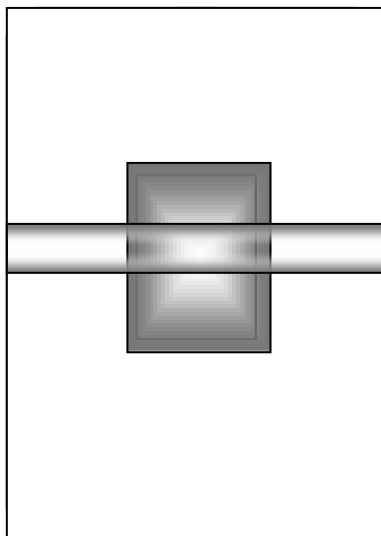
Fig 14: Above left: A Latin cross with a rectangular central plaque. Fig 15: Above right: A Latin cross with a circular central plaque. In both examples all the smaller areas that are created by the overlapping geometry are shown as being available for maximising the extent of the decorative effect.

Assemblages of small circles, rings or roundels, particularly that consisting of five circles,

appear to have been one of the fundamental design structures for the decoration of book

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covers. It is seen on the earliest portrayals of decorated book covers and many degrees of embellishment are known.

Fig 16: The fundamental arrangement of five circles as a basic pattern element, one placed at the centre of the design field and the other four located, in equivalent positions, one at each corner.
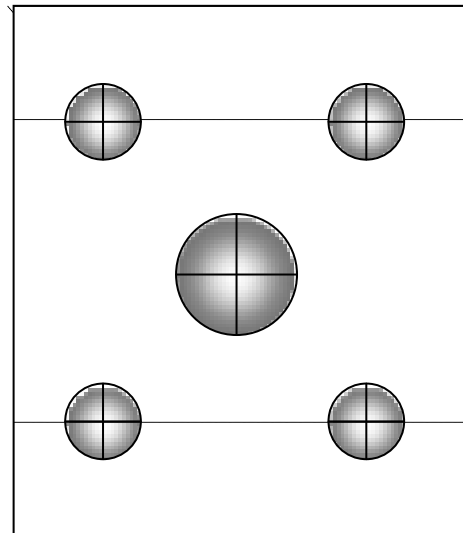
The essential feature of this pattern is the placement of the five decorative elements, at the centre and corners of the design area and not their intrinsic form. Thus decorative elements of any preferred shape, or size, could be place in this arrangement. Equally, the precise position for the placement of the elements in the vicinity of each corner is open to choice, the only and essential criterion is that all four elements are placed in identical positions in relation to the corner.

The basic five circle, five ring, centre and corners pattern structure is itself an exceptionally versatile construction since it can be added to in many ways. Apart from the obvious potential for adding outer framing borders, additional elements can be added at the sides, top and bottom between the four corner ones. Rings of small decorative elements could be located around the central element and the five primary elements could themselves by ornamented and surrounded with individual decorative frames.

It is, however, when the five-ring, centre and corners pattern is amalgamated with a Latin cross that a family of exceptionally variable designs can be generated.
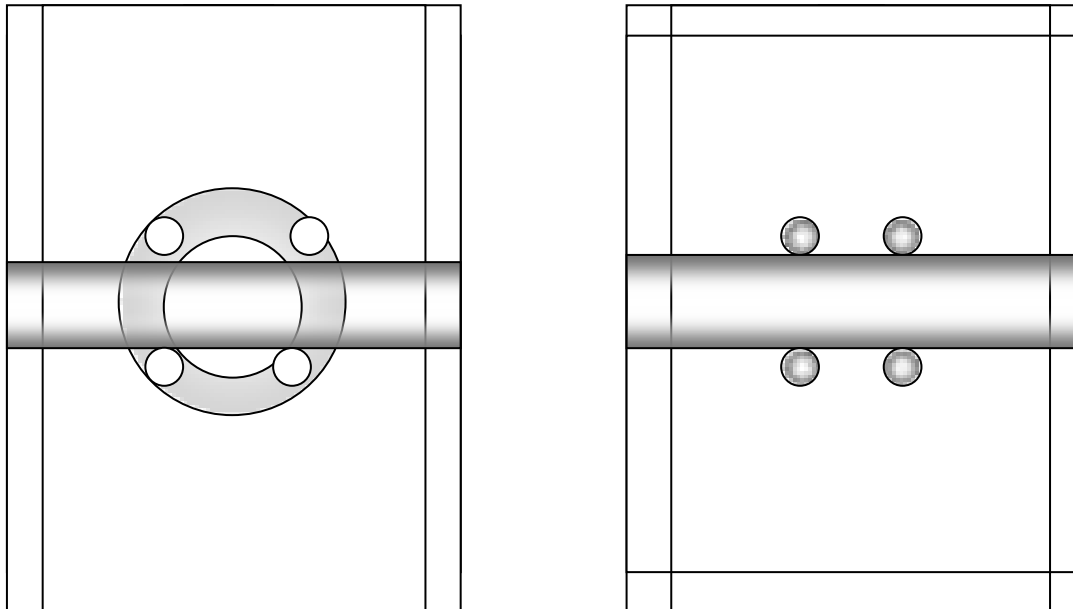
Fig 17: Above left: The result of superimposing a roundel device over the centre of a Latin cross. This provides a powerful location for additional decorative display and in the above example the five-circle pattern format has been included within the central roundel as the basis for such ornamentation.Fig 18: Above right: In this example, the central element of the five circle pattern has been reduced in size to zero and the four outer circles located tightly into the interstices of the cross.
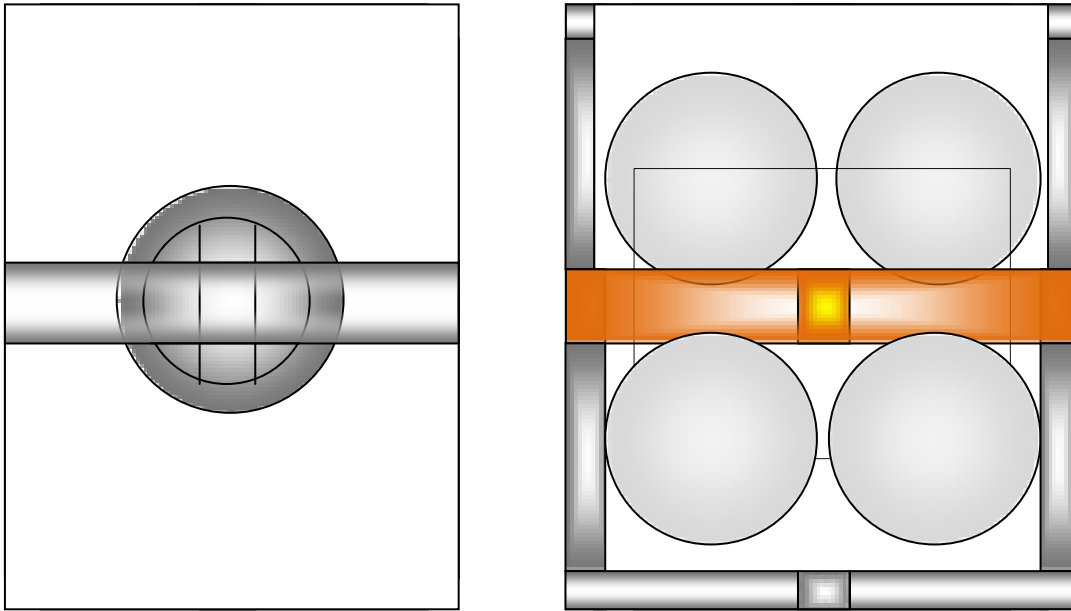
Fig 19: Above left: Similar to the previous examples but in this case only the central circular element is featured and has in effect been 'doubled' to produce an annular embellishment around the centre of the cross shape. This construction affords even more opportunities for ornamentation both inside the annulus and of the various spaces created within it.

Fig 20: Above right: The construction illustrated indicates the general effect of enlarging the four outer circular elements in the five circle construction. The consequences of this are to erode parts of the arms of the cross. The degree to which the circular elements invade the arms of the cross is dependent upon the radius of the circles and their location along the diagonals of the design structure, smaller radii circles located nearer to the interstices of the cross penetrate more deeply into the arms of the cross than larger circles centred farther from the intersection of the cross.
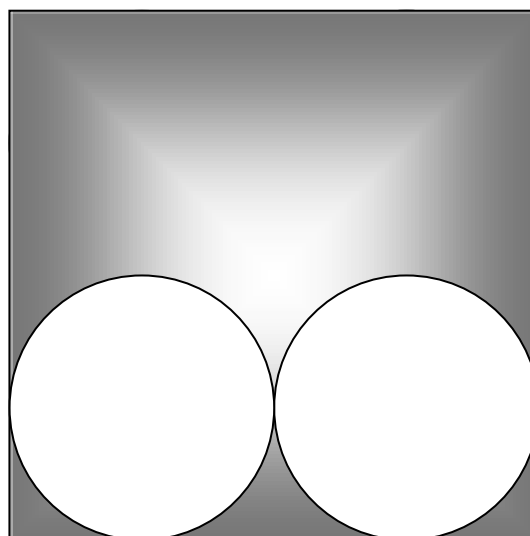
Fig 21: Above: When the radii of the four outer circles is increased such that they are in contact, as indicated in the above example, a curvilinear lozenge shape is produced at the centre and curvilinear triangular

shapes at the sides, centre top and centre bottom of the design area. Clearly also, when the radii of the circles is approaching this condition but before they are in actual contact a very 'distorted' form of the Byzantine cross is generated in which the arms are very thin but with exceptionally widely flaring tips.
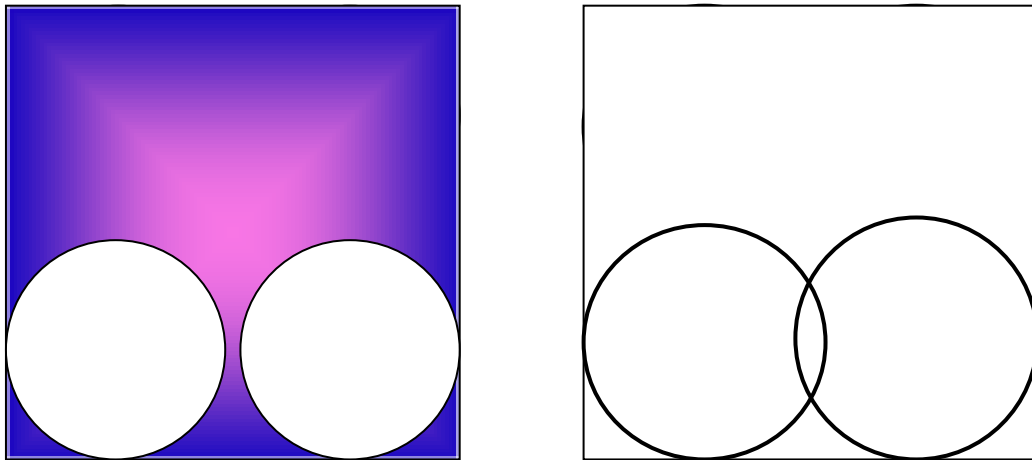
Fig 22: Above left: Four circles with radii less than half the side length of the framing square showing the production of a very-squeezed Byzantine cross with extremely wide flaring tips.

Fig 23: Above right: Four circles with radii larger than half the length of the framing square showing the production of a central curvilinear lozenge shape having citron shapes attached to its four tips and potentially triangular tips beyond that.

The central structure created by the overlapping circles, consisting of a square, curvilinear lozenge with loops extending outwards from each corner, has been described as an 'endless knot' or Solomon's Knot.

Design Structures based on Format:

The primary feature of these designs is that they are evolutions from the rectangular format of either the overall design area or that of the central panel. When evolved from the outer edge of the book's cover, such designs might be described as 'reduction' patterns whereas when originating from the central panel, as 'expansion' patterns. In both cases they are techniques that enabled the format of a shape to be expanded to fill an entire design area.

Progressions based on the Shape Relationship of the Rectangle Itself:

Progressions are possible both inward going from the periphery or outward going from a smaller rectangular centre panel.
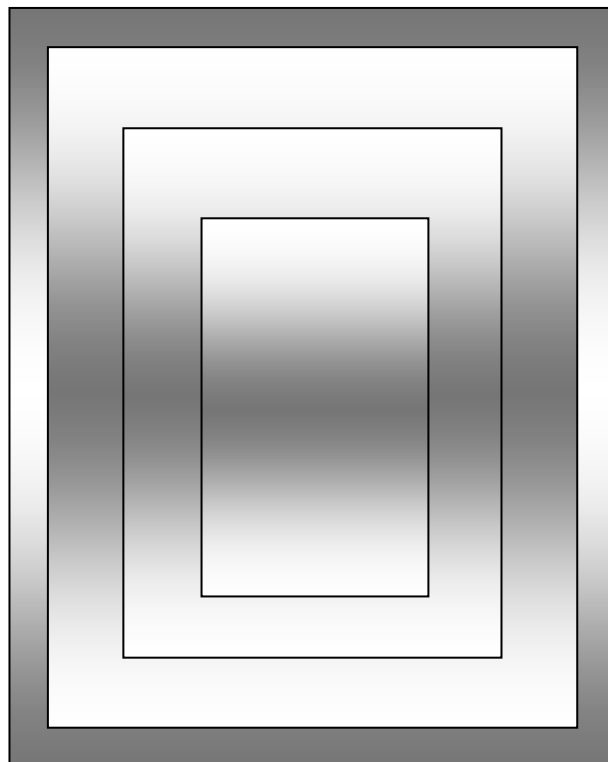
In fig 24. above, the multiple frame structure results from ever-decreasing concentric rectangles drawn repetitively inside the original frame. It is a design structure that particularly suited the repetitious blind-tooled sequences of the later Spanish Mudejar style but was also employed for the construction of the tiers of heavily jewelled frames on some later treasure book covers.

Covers arising from ivory diptychs for example, however required outward expansion from a previously chosen central panel and two distinct techniques are possible for the evolution of border construction to enable the dimensional format of the central panel to be converted

to that of the board area. For a situation where the overall dimensions of the cover do not exceed two or three times the dimensions of the central plaque, expansion ca be achieved by the addition of several small squarish panels, one above the other, to each side of the central one and full-width strips to the top and bottom. This assemblage of panels, can be contrived to fit the board area. It would appear likely that a cover having decorative plaques arranged in this manner would be indicative that the panels were actually designed and made for that particular book.

Fig 25: Multi-panel structure typical of early ivory 5-, 7- and 9-piece book covers.
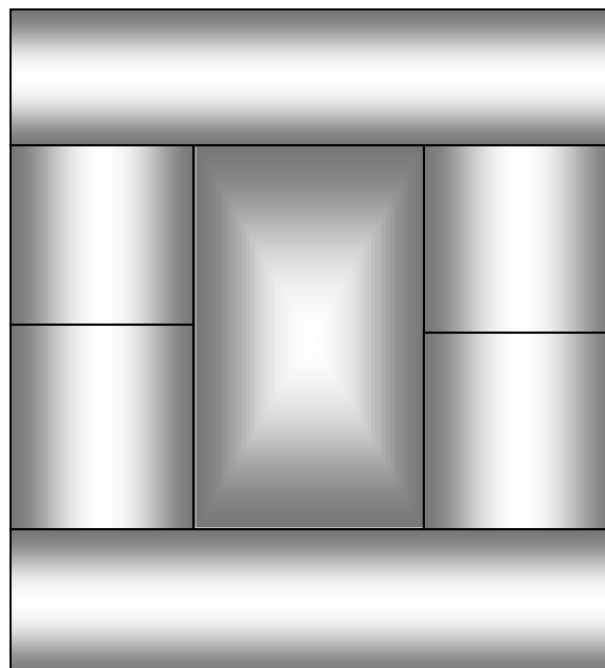
A more versatile expansion technique is apparent in the second phase of such designs. In this 'system', it could be thought that the designer was obliged to employ a particular panel as the central feature of a book cover which was significantly larger and of different dimensional format. In design expansions of this type an initial expansion is achieved by the introduction of two or more subsidiary decorative strips adjoining the central panel and which effectively change its dimensional format to that of the cover of the book. This permitted auxiliary bands of framing to be inserted to fill the space between this enhanced

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central plaque and the outer edge of the cover.This design expansion is very common on book covers for which the central element is a panel of carved ivory and it is usually because such ivory panels were re-used from triptychs or earlier bookcovers. The two, or four, strips of ivory introduced to correct the shape relationship were normally carved with some fairly simple design often rosettes[55] which could be constructed to fill the shape of the strips required.
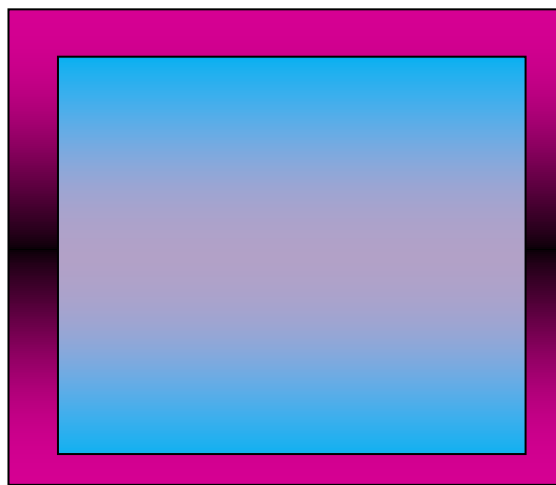
Fig 26: Expansion designs using in-fill strips.

It is not unusual to see bindings of this form where the ivory panel is tall and narrow and carved with either two or more often three biblical scenes, one above the other.

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[55] Strips of such rosettes were also commonly used to form the entire border areas around panels of carved ivory on Byzantine secular caskets of the 10th and 11th centuries. Matthews T.F. (1998) *The Art of Byzantium, Weidenfeld and Nicolson, London.* p 84-5.

Progressions Unrestricted by the Shape relationship of the Outer Rectangle:

The starting point is again a central panel but the space-filling structures devised by the dimensions of the space to be filled and not by the shape of either the initial centre panel or the external rectangle. This construction establishes the position of the centre panel and defines four corner modules outside it with the intermediate spaces available for subsidiary decorative plaques of whatever shapes or sizes suit the design or availability of appropriate artefacts.
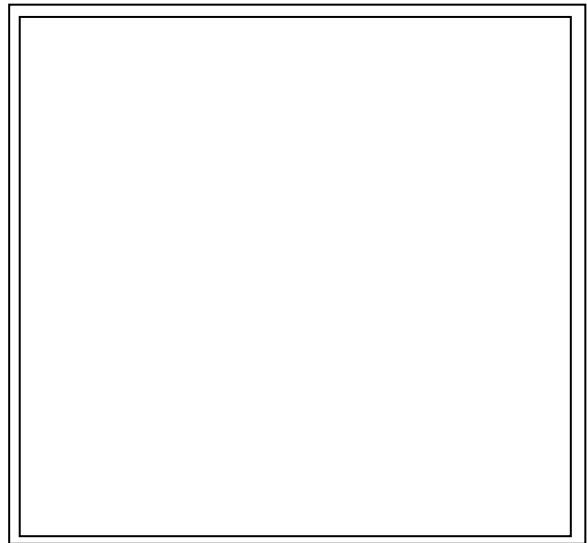
Fig 27: Division of the border with rectangles.

Identification of Geometrical Structures in Actual and Portrayed Treasure Bindings.

This section deals with the shapes and structures identified in the section on Geometrical Design as recognised in the decoration of actual and portrayed treasure book covers. The protocol adopted for this section has been to concentrate initially on the main design structures and to follow with considerations of the geometrical constructions that essentially relate to framing and border features. The reason for this protocol is that the former constructions, those that relate to the generalities of the design, determine the layout and arrangement of the elements of the decoration whereas consideration of the frames tends to involve the deployment and application of additional ornamental items including jewels and decorative plaques.

For the purposes of interpretation in this section, it has been assumed that the designs created by geometrical construction, and detailed in that section, are definitions of 'principle' and are not therefore employed to define precise forms for inclusion in a category and nor are they used to limit inclusion since it is realised that the manner in which a design structure was handled was at the discretion of the artist. For example, when

considering the centre and corners pattern, shown as being composed from five circles in the Geometrical Design section, judgement has to be made as to whether a cover decorated with four rectangles should be included or excluded in this particular group. As a working hypothesis, it has been considered appropriate to consider all designs in which the decorative effect has been achieved by the placement of five discrete elements as the essential requirement for inclusion in the centre and corners category. In view of the significance of the relationship between rectangular and lozenge shapes, they have been distinguished into separate sub-groups of this category. Due to the occurrence of many results of cross-fertilization between different 'fundamental' geometrical design structures, it is not unusual for some cover designs to feature in more than one category. The following is a list of the categories under which the covers of actual and portrayed book covers have been related to the constructions distinguished in the section of Geometric Designs:

Centre and Corners Designs

1. **Designs based on Five Circular Elements**

2. **Designs based on Five Elements of Mixed Shape**

3. **Designs based on Compass Constructions**

4. **Designs in which the Central Elements is a Mandala**

5. **Designs in which the Pattern is dominated by a Lozenge**

6. **Designs based on division of the Panel into Rectangular Sections**

7. **Designs based on a Combination of the Latin cross and a Central Frame**

8. Designs based on the Combination of a Latin cross and the Five-Ring Pattern

    1. Four roundels within a central disc

    2. Four very small roundels or similar tight into the interstices of the cross

    3. Four small roundels centred faily close to the centre

    4. Four roundels of such size and location as to modify most of the length of the arms of the cross

    5. Four roundels of large size

Design, Decoration & the Structures & Functions of Frames and Borders

1. Individual Large Stones in Corner-pieces and similar

2. Spaced Jewel Borders

3. Jewelled Outlines

4. Five-Stone and Brooch Groupings

5. Running Five-Stone and Running Brooch Patterns

6. The Use of Pearls

7. Mosaic

8. Gold and Ivory

Centre and Corners Designs:

1. Designs based on Five-Circular Elements:

Of this type, the most basic is on the book held by the figure of Christ from the Godescalc Evangelistary painted at the Court School of Charlemagne c782[56]. In this the cover decoration is clearly defined as consisting of just five roundels. Similarly decorated and identical books are carried by the twelve disciples in the Ascension scene attributed to the 7th century from Bawit except that in this example, the decoration on the book covers includes a pearl border and a ring of pearls around the central roundel[57].(Du Bourguet 1971) (This scene includes a device, mounted on the book held by the figure of Christ for keeping the pages open.) The design structure is common also on Roman ivory panels of the style used as Consular Diptychs[58]. Books with this cover decoration are portrayed in the manuscript painting of the life of St Benedict and St Maur 1057-85.[59] (Argan 1969) Of the eight books in this picture, two have the five roundel decoration, a third has an additional ring of eight smaller roundels surrounding the central one and four of the others have a large citron or elliptical centrepiece.

The pattern is clearly defined on the cover of the book held by 'a sainted bishop' in the icon attributed to the 5th century where it is composed from a group of five roundels in embellished mounts and includes additional square ornaments to each side. A pearled

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[56] Mütherich F. and Gaehde J.E. (1977) *Carolingian Painting* Chatto and Windus, London. pl 1. The figure of Christ from folio 3r of the Godescalc Evagelistary.
[57] Du Bourguet P. (1971) *Coptic Art,* Methuen, London. p53.
[58] Heilbrunn Timeline of Art History. http:// www.metmuseum.org/toah/ho/06/eusb/ho_17.190.52,53.htm
[59] Argan G.C. (1969) *Art Treasures in Italy,* Hamlyn, London. p60.

border is indicated as well as a few isolated pearls[60]. The way in which these round and square elements are emphasised by the rings drawn concentrically around them would appear to indicate that the decorative elements are gemstones and secured in gold mountings.

The centre and corners pattern of five round elements continued as a major pattern structure after the end of the 12th century. Of the forty book covers visible in the fresco in the Ospedale di Santo Spirito in Rome showing the Library of Pope Sixtus IV, at least thirty-three unmistakably show this form of decoration[61].(Willis Clarke 1901) The book carried by Aristoteles in the woodcut by Paulus Hurus of 1492 is decorated with the basic five roundel pattern[62] and in the 15th century painting by Roger van der Weyden of Jean Wauquelin offering his translation of the *Chronique du Hainault* to Duke Philip the Good of Burgundy the book he offers features five massive cabochon stones in decorated mounts[63].
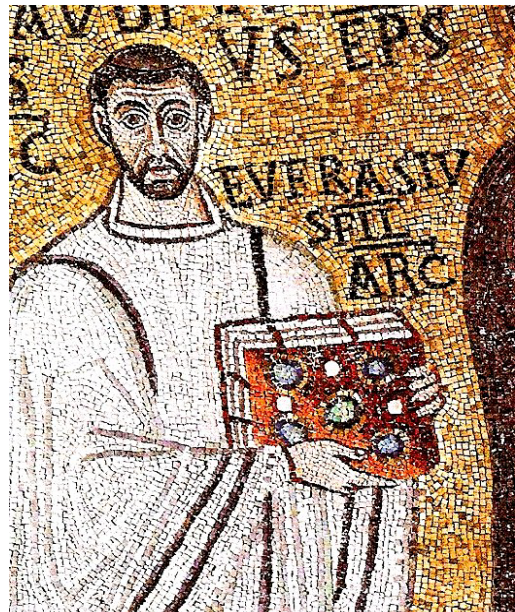
Fig 28: Mosaic of mid-6th century from the Cathedral church of Porec, former Yugoslavia.

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[60] Talbot Rice D. (1958) ИКОНА The Icon, *The Connoisseur, vol CXLII (574) Dec fig 1 p 213.*
[61] Willis Clark J. (1901) *The Care of Books. Fig 99.*
[62] *The Book Collector* Vol 21(1) Spring 1972 pl 10 following p352.
[63] Godfrey F.M. (1948) Philip the Good and the Knights of the Golden Fleece. *Connoisseur* Dec 1948 p 83.

Fig 29: 7th century mosaic from Bawit.

2. Designs based on Five Elements of Mixed Shape:

In the icon from the Monastery of St Catherine, Mount Sinai attributed variously to the 6th - 8th century, shows a book with a clear five-element decoration composed of a central roundel with four square corner elements. Similar portrayals of books feature in a wall-painting at the monastery of St. Jeremias at Saqqara attributed to the late 6th - 7th century.[64]

Each appears to be in an ornamented mount and the cover of the book has a pearl frame

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[64] Beckwith J. (1979) *Early Christian and Byzantine Art* fig 56 p 72.

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and pairs of pearls between the cornerpieces.[65] A very similar portrayal of a book cover is that held by the figure of Christ on the crown of St Stephen of Hungary, believed to have been made in Constantinople between1074-77. (Durand 1999) Again the five elements are indicated within concentric frames and in this instance the central element is elliptical whereas the four corner ones appear square. Examples of more complex variants of this design occur in several mosaics of the 12th century. The cover of the book carried by St Peter in the apse mosaic at S. Marco, Venice attributed to 1100-1112 has a central elliptical ornament with lozenge shapes to each corner and square ones between[66] whereas in the mosaic in the church of S. Maria in Trastavere, Rome, Pope Innocent II and St Callistus are portrayed carrying books, with covers decorated with elaborate centre and corner designs and both indicative of many additional ornamental details.[67](Johnson 1997) Similar to the former of these is the mosaic of St Demetrius at Salonika believed to have been made in the second half of the 7th century. In this mosaic, the cover decoration of Bishop John's book has a Latin cross as the central element with red lozenges to each corner and additional green roundels top and bottom and rectangular ornaments at the sides.[68] Other mosaics in which figures are portrayed holding books with similar decoration are to be seen in Maria Regina in Rome where the late 8th century mosaic shows a central square lozenge with rectangular cornerpieces[69], the cover of the 7th century Coptic Freer Gospels,[70] the Hagia Sohia in Istanbul[71] and the Hagia Sophia, Thessaloniki[72] both of the late 9th century and both with

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[65] Du Bourguet P. (1971) *Coptic Art*, Methuen, London p 43. Huyghe R. (1958) *Larousse Encyclopaedia of Byzantine and Medieval Art,*Hamlyn, London. p71. Matthews T.A. (1998) *The Art of Byzantium: Between Antiquity and the Renaissance.* Weidenfeld and Nicolson, London fig 31 p 48.

[66] Beckwith J. (1979) *Early Christian and Byzantine Art. Fig 244 p279.*

[67] Johnson P. (1997) *The Papacy,* Weidenfeld and Nicolson, London. p97.

[68] Beckwith J. (1969) *Early Medieval Art,* Thames and Hudson, London fig 141 p 164.

[69] Eastmond A. and James L. (2003) *Icon and Word – The Power of Images and Byzantium.* Ashgate Pub. Aldershot. P 153.

[70] http://www.asia.si.edu/exhibitions/online/ITB/html/F1906.297-8.htm viewed 09/09/2009.

[71] Beckwith J. (1979) *Early Christian and Byzantine Art* p 189.

the same design of a central lozenge and corner rectangles. Both these last two book covers were shown as having heavily pearled edging.
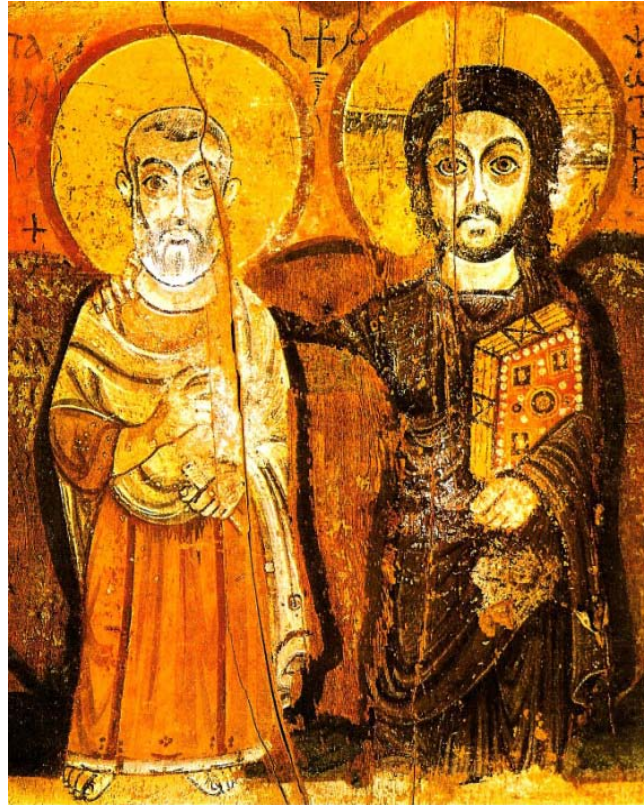
Fig 30: Tempera painting on wood, 6th – 7th century, from Bawit.

3. Centre and Corners Designs Based on Compass Constructions.

Two particular forms of centre and corners pattern developed from constructions made using ruler and compasses. These were the 'trompe l'oeil' combination of a Byzantine cross and four amygdalas[73] and the very similar construction that produced four citrons. Both forms proved popular devices for the decoration of portrayals of books for a considerable

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[72] Matthews T. F. (1998) *The Art of Byzantium: Between Antiquity and the Renaissance.* Weidenfeld and Nicolson, London fig 2 p 8

[73] The shape of the amygdala is believed to be that of the nut of the almond tree and its use as a decorative motif pre-dates Christianity by several centuries. Clark W.B. (2006) *A Medieval Book of Beasts,* Woodbridge, (u.a.) Boydell.

period. In both forms, the essential aspect of the design is a achieved by four lobes occupying, essentially, the diagonals of the design area. In both the precision of the originating construction appeared in time, to give way to the more relaxed placing of the four elements. Thus it is noticeable that although the original amygdalas [74]were generated through the construction of a Byzantine cross and in consequence were oriented with their pointed ends directed towards the centre of the cross, most later forms were reversed with their points directed into the outer corners of the cover design. Likewise the precise star-like construction that geometrically generated the assemblage of four citrons is rarely seen, the more usual appearances of the motifs from the 10th century and later,[75] consist of four citrons outside a circular centre or more frequently, just four citrons whose placement was so imprecise as to appear to have been squeezed into the available space rather than to have been carefully placed[76]. What appears perhaps, to have been a further degraded form of the four citron structure consists of four very thin streaks along the diagonals often of somewhat irregular outline.

Cover decoration in which both the amygdala and Byzantine cross are both clearly indicated appear to be limited to ivory panels for which examples exist such as that on a Carolingian ivory attributed to the Aachen Palace School, early 9th century[77] and some of the books carried by figures in scenes on the Throne of Maximian attributed to 546-556.[78] A centre

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[74] Amygdala ornaments appear on a Late Cimmerian silver bowl of 6th century BCE. Akurgal E. (1968) *The Birth of Greek Art,* Methuen, London pl 67 p 216.

[75] Bullough D. (1965) *The Age of Charlemagne,* Elek Books, London. p 72 shows citrons on the cover from the Lorsch Gospels. De Hamel C. (1994) *A History of Illuminated Manuscripts,* Phaidon, London. p 59. Evans J. (1969) *Art in Medieval France 987-1498,* Clarendon Press, Oxford fig 33a. Anon (1984) *The Burlington Magazine Vol cxxvi No. 973 p 207.*

[76] On the book carried by St. Marcel in the stained glass window of St. Quentin,c1235, the four citrons are placed in two vertical pairs. Huyghe R. (1958) *Larousse Encyclopaedia of Byzantine and Medieval Art,* Hamlyn, London fig 852.

[77] Sotheby's (1977) Important Medieval, Renaissance and Baroque Works of Art, *Burlington Magazine Dec. p xi*

[78] Argan G.C. (1969) *Art Treasures in Italy,* Hamlyn, London. fig 68 p 47.

and corners design on an ivory panel from the diptych at Genoels-Elderen attributed to the late 8th century[79] shows four, centre-pointing amygdalas around a central square and mosaics from Macedonian churches show four centre-pointing amygdalas around a central disc.[80] In these the amygdalas are relatively narrow as compared to the shape that would be the complement of a Byzantine cross which is perhaps an indication that the shapes had been adopted as having a significance in their own right, rather than just from being adjuncts to the cross. Apart from portrayals on ivory diptych panels, the nearest instance of a single outline producing both features is the back cover of the Lindau Gospels. In this the amygdalas are not of 'ideal' shape since the overall design is confined to a rectangular format and the 'perfectly balanced' shape of the amygdala can only be generated from a square construction. The earliest indication of amygdalas on a portrayed book cover drawn with their tips pointing outwards instead of to the centre, is on an ivory book cover attributed to the 7th century and of German origin.[81] Apart from another ivory diptych panel attributed to the 6th century,[82] portrayals of books on which such amygdalas appear tend to be attributed to the 9th – 11th centuries[83] with a book featured on a mosaic attributed to c1030 having heart-shaped, double amygdalas in each corner[84]. If the observation regarding date could be verified with additional examples, a criterion could be postulated purely on the basis of the orientation of the amygdala.

[79] St. Hubyn F. (1987) *Ivory – A History and Collector's Guide,* Thames and Hudson, London. p 71.
[80] Hoddinott R.F. (1963) *Early Byzantine Churches in Macedonia and Southern Serbia,* MacMillan, London. pl.VII
[81] Newton and Neil (-) *The Catholic Faith in Art,* p 2.
[82] Beckwith J. (1979) *Early Christian and Byzantine Art,* Penguin Books, London. fig 67 p. 84.
[83] Bullough D. (1965) *The Age of Charlemagne,* Elek Books, London. p 157.
[84] Talbot Rice D. (1966) *Art of the Byzantine Era,* Thames and Hudson, London fig 90 p104.

Fig 31: above left: The appearance of the amygdala shape in an early mosaic. Even at this time all the gemstones are portrayed as being in gold mounting flanges and the book is shown as having two securing straps at the fore-edge.
Fig 32: above right: From the ivory cover of the Lorsch Gospels, showing a rather disorganised array of four citrons[85].

It is pertinent to note that the construction of more complex curves would also have been

relatively common knowledge in this period since it is known that the Egyptians had the

capability to employ exponential relationships. (Lungman 1991)

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[85] Bullough D. (1965) *The Age of Charlemagne,* Elek Books, London. p 72.

 Fig 33: The back cover of the Lindau Gospels, believed to be 8th century. The design exhibits the best large-scale version of the Byzantine cross/amygdala trompe l'oeil pair though the amygdala is not perfectly formed since the design field is not square. It has mosaic outlining as well as a single-tier, tiled border.

4. Centre and Corner Designs in which the Central Element is a Mandala:

As was established in the section on geometric design, the shape of the mandala is the product of a pair of over-lapping circular arcs. This shape has become suffused with extensive symbolic meaning, serving both as a female indicator and as signifying power and divinity[86]. The mandala construction is most commonly used as an auxiliary frame, especially as a surround to the figure of Christ, the so-called Christ in Majesty portrayal. In this appearance, the mandala is often of considerable size and is usually 'supported' by four symbols representing the evangelists or as in the example of the carved ivory bookcover, by angels. Replacement of the five roundels in the centre and corners pattern by a dominant central mandala and four supporters, one to each corner, was apparent as a significant variant by the late 11th century as for example, the carved ivory book cover from Italy attributed to the late 11th –early 12th century.[87] This format of the centre and corners pattern became the norm in the enamelled book covers of Limoges that became extremely popular from the late 12th century and from the 'export' of these, spread across Europe.

ITt would appear however, that the transition from the centre and corners pattern of five roundels to the supported mandala form did not occur without preamble. Examples exist

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[86] Hoddinott R (1963) *Early Byzantine Churches in Macedonia and Southern Serbia: A Study in the Origins and the Initial Development of East Christian Art.* MacMillan London. Hoddinott wrote that it was a Persian convention to represent the ruler, enthroned upon a round shield, supported by winged creatures, in order to signify his assumption of divinity as supreme ruler of the entire cosmos. Apart from the tradition in Ancient Egypt of enhancing the status of pharaohs by surrounding their names with cartouches, Adkins L. & R. (2000) *The Keys of Egypt: The Race to Read the Hieroglyphs.* Harper-Collins p61, cite de Guignes as having recognised similar usage of cartouches in Chinese. Adkins, p 154, also mention the use of the citron shape being added to the end of names as a female indicator.

[87] http://www.christusrex.org/www1/vaticano/SB-Maiestas.jpg

where the equivalent design structure is based on a central element constructed from a double circle and after by several versions centred on an elliptical form.

he cover of the 11th century, Gospel Book of Uota, Abbess of Niedermünster[88], believed to have been made at Regensberg, is indicative of a further development in the use of the mandala. The central feature of the design combined the presentation defined by the Christ in Majesty in its mandala framing with the earlier stylisation of the emperor seated on a throne which had been typical of many of the designs of the early ivory diptychs. The mandala at the centre of this design differs from those of earlier ones in that its presence is implied rather than fully defined and envelopes the upper half of the figure only. The figure of Christ is portrayed holding a book which is most probably the most richly furnished portrayal of a treasure book cover of the entire period. Despite its small size, the cover is laid out with a wide border around a central panel. The borders are filled with a variety of precious jewels of varying size but all arranged in a careful simulation of a full-size design. In this feature, that is, the ornamentation of a small portrayed book encrusted with a comparatively massive array of jewels, it invites comparison with the book held by the figure of Christ in one of the enamel panels of the Pala D'Oro altar-piece,(Murano and Grabar 1963) the enamel of which are understood to have been pillaged from Constantinople. In contrast to the careful arrangement of jewels on the Abbess Uota Gospel Book, those on the Pala D'Oro enamel plaque appear merely to have been closely packed.

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[88] Beckwith J. (1969) *Early Medieval Art,* Thames and Hudson, London p143.

Fig 34: Ivory book cover late 11th to early 12th century.[89] There appear to be some similarities between this panel and the Genoels-Elderen diptych attributed to the late 8th century which St Aubyn(1987) has commented, point to strong insular influence.

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[89] http://www.christusrex.org/www1/vaticano/SB-Maiestas.jpg

Fig 35: Limoges enamel book cover with cabochons of rock crystal. France 13th century.

Fig 36: Cover of the Gospel book of Abbess Uota of Niedermünster.

Fig 37: The frontispiece from the Vivian Bible Folio 329v, the so-called first Bible of Charles the Bald 845-6.[90]This shows the figure of Christ in a double circular shape supported by four winged symbols. The cover of the book he is holding is decorated with the extremely thin form of cross resulting from the over-lapping set of four circles. This pattern is closely related to the the flared-tips form of the Byzantine cross.
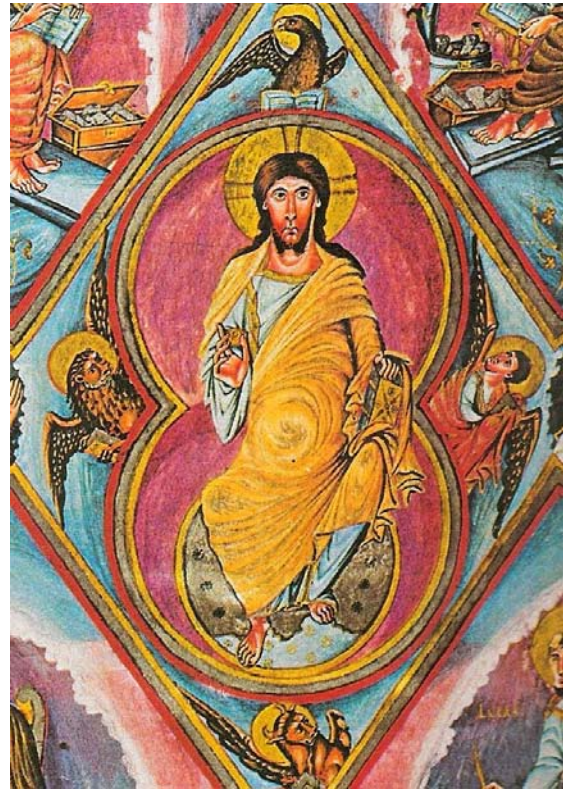
5. Designs in which a Centre and Corners Pattern is Dominated by a Central Lozenge.

In the section on geometric design structures, two constructional techniques are included that result in the formation of a central lozenge. The construction resulting from four straight lines produces a clear diamond shaped lozenge whereas a curvilinear form results from the four circle pattern. Both forms are observed in the decorative design of treasure bookbindings. It has been mentioned in Section 2 above, that the conversion of square elements into lozenge shapes by rotation was in use in mosaics attributed to the 8th and 9th centuries. Curvilinear lozenges, used in the same way are apparent on several of the books portrayed in the 12th century mosaic of the west dome in the nave of St Mark's, Venice

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[90] Mütherich F. and Gaehde J.E. (1965) *The Age of Charlemagne,* Elek Books, London. p 72.

(Muraro and Grabar 1963) though in these representations, the lozenge elements are larger, appear to have bulbous tips and the corners of the design decorated with quadrant structures. The treatment of the tips of these lozenges, detailed interpretation of which could not be ascertained due to limitations of the material available at this time, would indicate similarity with the version of the lozenge often described as 'Solomon's Knot'. This form is best described as a lozenge produced by laying down a rope such that an additional loop was included outside of each tip. In the section on geometrical constructions it is shown that the equivalent form can result from the overlapping of four circles. Several examples of the 13th century have been seen in which the main element of decoration of a book cover consists solely of a Solomon's Knot motif in a centre and corners configuration in which the four corner ornaments have been considerably reduced.[91]

A full-field diamond lozenge appears as the decoration on a book portrayed in one of the enamel coin portraits in the Pala D'Oro Alter Screen panel of the Archangel Michael, now in St Mark's, Venice (Muraro and Grabar 1963) and is also the decoration indicated for virtually all the books in the picture, *Ezra in his study* from the Codex Amiatinus ascribed to the early 8th century[92].

After the 12th century, more ornamented motifs appear that may have evolved from the inclusion of internal decoration within the lozenge. The detailed embellishment of the lozenge shape in these cases often has the appearance of lace. Several examples of books portrayed with this type of decoration appear on the alter-piece of S. Francesco a Prato in

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[91] Honour H. and Fleming J. (1982) *A World History of Art,* MacMillan, London. P301 features a picture of St. Francis, attributed to Bonaventura 1235, holding a book with this form of Solomon's Knot and a similar book cover appears in a painting believed by Cimabue and studied by Bologna. Bologna F. (1983) The crowning disc of a duecento 'Crucifixion' and other points relevant to Duccio's relationship to Cimabue. *Burlington Magazine,* June fig 4 p 331.

[92] Nordenfalk C. (1988) *Early Medieval Book Illumination,* Rizzola Int. Pub. Inc. New York. p 37.

Perugia attributed to the painter, Taddeo di Bartolo in 1403.[93] The decoration on the book

carried by St. Stephen in the portrait by Giotto c1335, is dominated by a grouping of five

such lozenges with lacework within each lozenge and a single such lozenge on the book

carried by Augustine.[94]
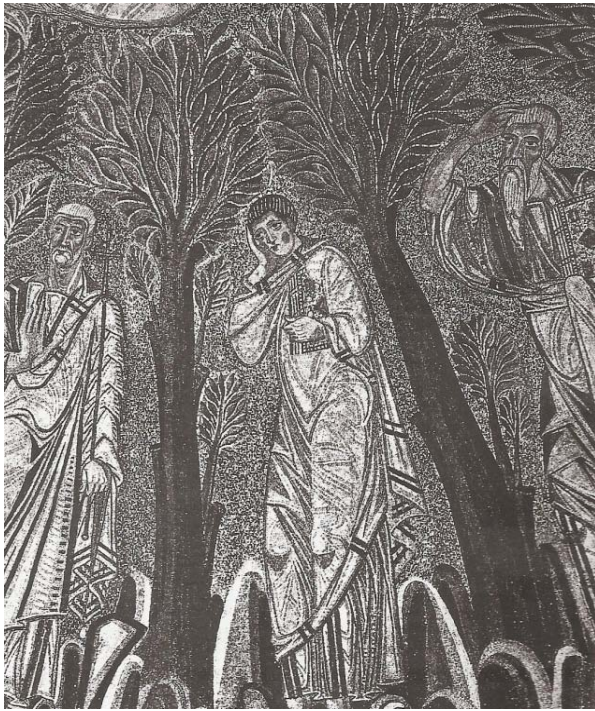
Fig 38: (left)   Mosaic of the Ascension in
Hagia Sophia, Thessaloniki, Greece, late 9th century

Fig 39: (right) The Evangelists, Luke and
John from the Four Gospels of Adiši 897.

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[93] Solberg G.E. (1992) A reconstruction of Taddeo di Bartolo's alter-piece for S. Francesco a Prato, Perugia. *Burlington Magazine p 646-656.*
[94] Drinkwater J.F. and Drummond A.(1993) *The World of the Romans,* Cassell, London. p 174.

Also dating from the mid-13th century, Christ was portrayed, in a church at Torpo in Norway, holding a book, the cover of which bears a clear diaperwork lattice design, in a scenic setting much of which is decorated with diamond motifs.[95] Virtually identical to this portrayal is that on a book carried by one of the apostles in the 12th century mosaic in the apse of Torcello Cathedral, Venice.[96] A pair of books portrayed in an 11th century Sacramentary from Mainz or Fulda exhibit cover decoration of similar complexity but based on multiple saltires rather than lozenges.[97](Kren 1997)
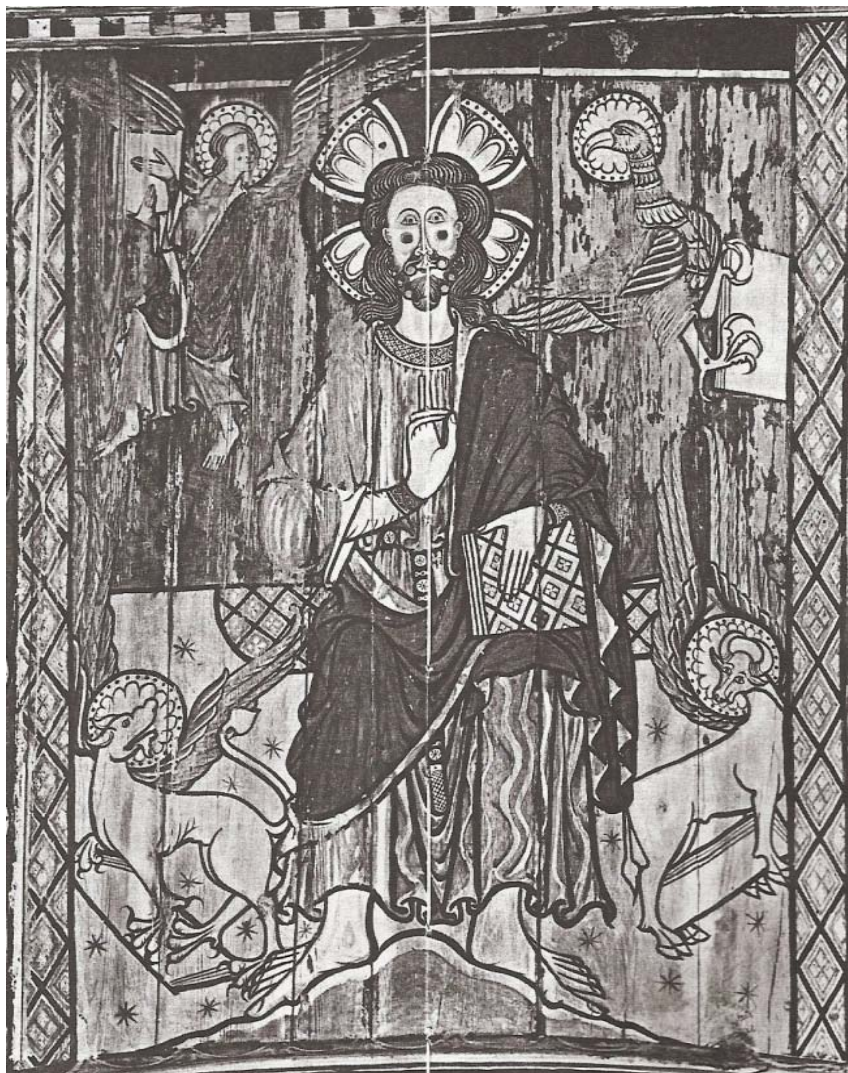
Fig 40: From the church at Torpo, Norway, c1250.

[95] Every G. (1970) *Christian Mythology,* Hamlyn, Middlesex. P 127.
[96] Beckwith J. (1979) *Early Christian and Byzantine World.* Penguin Books, London. Fig 80.
[97] Kren T. et al (1997) *Masterpieces of the John Paul Getty Museum,* Thames and Hudson, London. fig 5 p19-20

6. W Designs based on the Division of a panel into Rectangular Sections:

Whilst the inclusion of a cross inevitably results in the delineation of four rectangular areas, as for example on the cover of the book shrine of the 7th century Evangelary of Queen Theodelinda,[98] presented to her in 603 CE. by Pope Gregory the Great, it is considered appropriate to discuss these in the section on designs based on crosses since in those cases the cross would be decorated as the dominating part of the design structure. Apart from the natural creation of a central rectangular field by the construction of an outer frame, two further constructions result in rectangular areas for paramount decorative use. As indicated in the section on geometric design, division of the panel by three lines creates six spaces and division by four lines, nine spaces. Despite the simplicity of the construction, ivory panels which feature portrayals of figures holding books with just such decoration appear to have been comparatively common from the late 9th – 12th centuries.[99] Indications also exist, for example on the embossed lamina of the Ascension from Sagolašeni,[100]attributed to the late 10th – early 11th centuries, that ornamented frames could be employed instead of mere lines, such that the design area would be dominated by the heavily ornamented frame structure leaving a series of recessed panels. The appearance of this Georgian portrayal is

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[98] http://medievalwriting.50megs.com/decoration/binding3.htm

[99] Beckwith J. (1979) *Early Christian and Byzantine Art fig 164 p 198 shows this book decoration on a jasper pendant*
attributed to the late 9th century. Beridze V. (1983) *The Treasures of Georgia,* Century Pub. London show four figures with such book covers on the 10th century ivory triptych from Nikorcminda p 212-3. Similarly the Harbaville triptych has many figures with book covers of this design. Matthews T. (1998) *The Art of Byzantium: Between Antiquity and the Renaissance.* Weidenfeld and Nicolson, London. p 64-5. The Connoiseur May 1962 vol CL No 603 figs 4 and 5 p 4. Williamson P. (1982) *Medieval Ivory Carvings,* HMSO London pl 14 p 31.

[100] Beridze V. et al (1984) *Art Treasures of Georgia,* Century Publishing, London. p 193.

effectively the bookbinding equivalent of the altarpiece of San Ambroglio, Milan of the mid-9th century.[101] The consequential appearance of this design structure is not dissimilar to that of a Latin cross with an outer frame as on the Evangelary of Queen Theodelinda cited above.
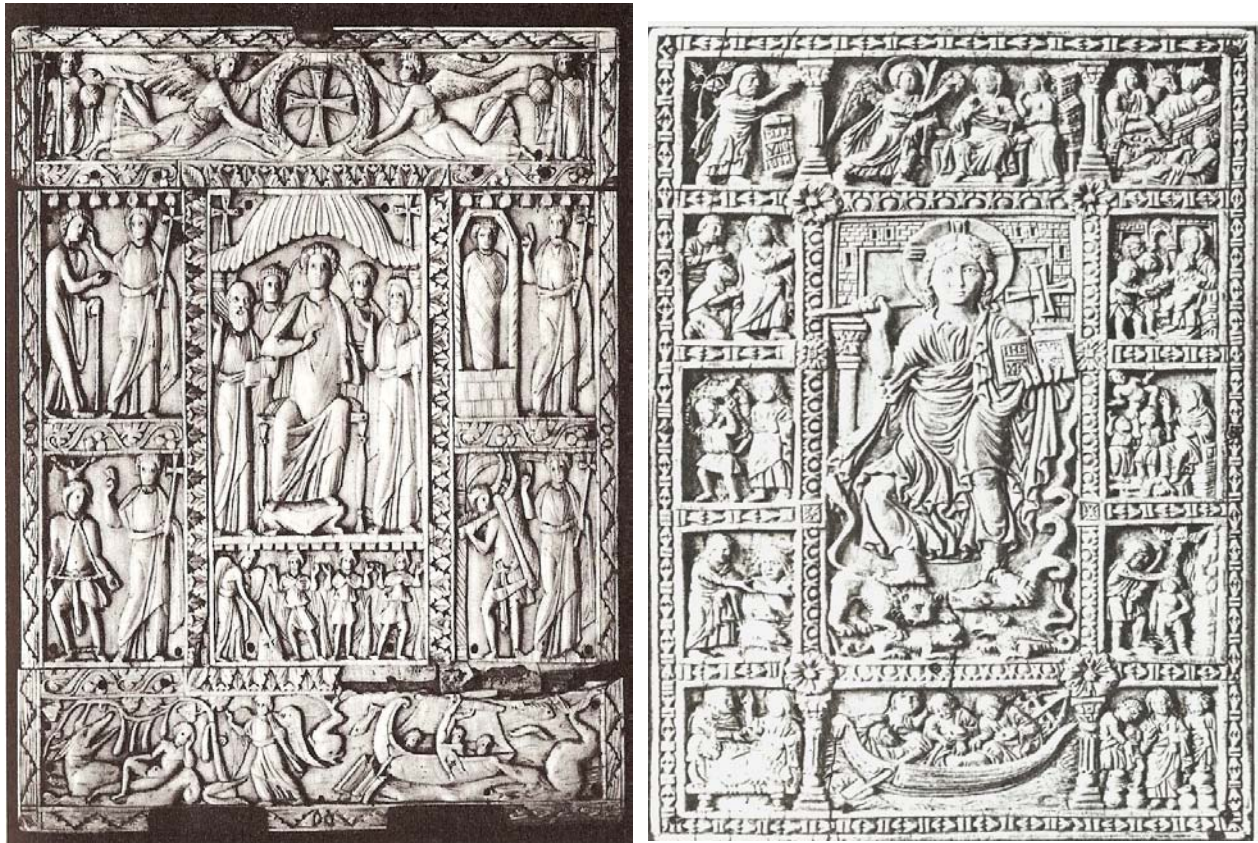
Fig 41 (above left) This shows the construction of the typical multi-panel ivory book covers. In this example the five pieces from which it is composed, top, bottom, two sides and the centre panel, can be seen.

Fig 42 (above right) The bands that divide this cover into scenic panels are decorated with pattern elements, the 'ball and cup' and the 'diamond beading' that characterised the design of many later gold-tooled bookbindings.

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[101] The altar made by Volvinio for Sant'Ambroglio, Milan. Bullough D. (1965) *The Age of Charlemagne,* Elek Books, London p 154..

Fig 43: The Triptych of Constantine VII Porphyrogennetos   Ivory, 945-59.

The style of this is representative of several similar carved ivory altar pieces of the mid- to late 10th century. In all cases, the figures are portrayed carrying books, the covers of which have a clearly-defined, two-wide by three high, multi-panel design. (Matthews 1998 p 64-5).

Fig 44: (right) A jasper pendant believed to be 9th century showing Christ with a book with its cover decorated in the multi-panel style. (Beckwith 1979 fig 164, p 198)
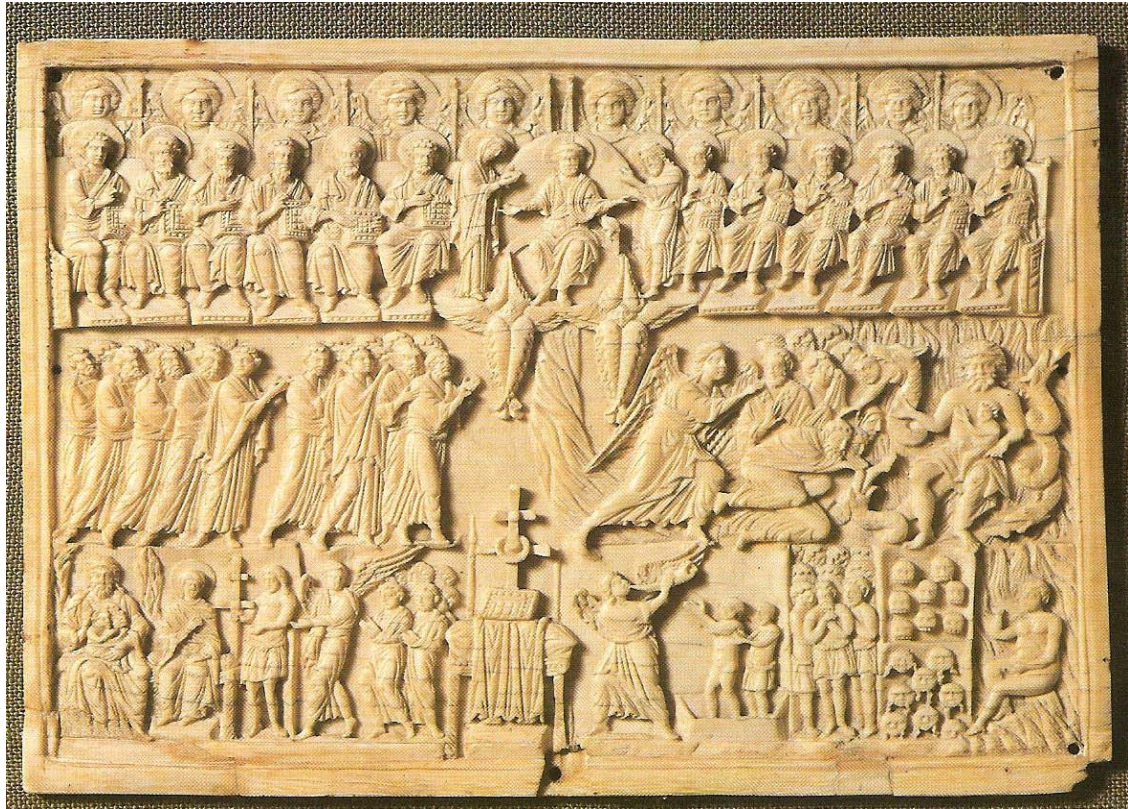
Fig 45: The Last Judgement, ivory carving attributed to the 12th century.(Williamson 1982 p 30). All the apostles seated in the top row hold books whose covers have been given the same type of multi-panel design, except that in this particular case, the design consists of three-panels wide by three high. The detail of the panels is much more crudely defined than on the Harbeville Triptych but is similar to those on the 10th century triptych from Nikorcminda, Beridze 1984 p 212) and on the 10th century triptych of the standing Hodegetria.(Zeitler 2003 p 204)

Fig 46: The two angels in this repoussé silver plaque hold up two books, each of which has covers that are heavily decorated with broad bands with latticework decoration and studded with simulated jewels. The visual appearance of these books is that they have four 'sunken' panels around the central cross.
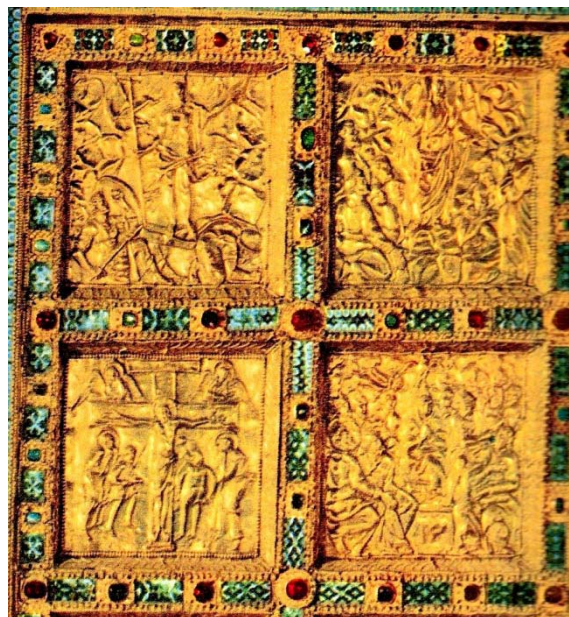
Fig 47: Detail of the silver-gilt altar of Sant'Ambroglio, Milan. The design of this shows the same division of space to create scenic panels separated by substantial and heavily ornamented frames.

Another form of rectangular work could be distinguished in a variety of cover designs which perhaps originated as much from technology as from analytical geometry. Artefacts in which this is apparent tend to be small shapes that often consist of a group of four small squares. They are usually arranged as a row of three with one additional one placed above the row. It is a decorative 'motif' that is seen on covers from Northern Europe and decorative artefacts of Norse origin as well as in the metalwork on doors of forts of the Great Wall of China. The shape however, is also seen, cut in solid metal sheet where it would be ideal for the insertion of individual enamel-like jewels or glass inserts. Other shapes based on this design sometimes described as the 'Gammation' for its shape are seen on mosaics of the 12th century.[102](Holden-MacMichael 1907)
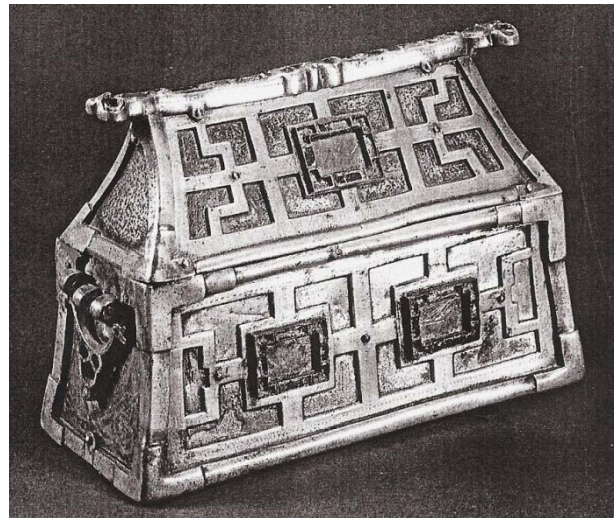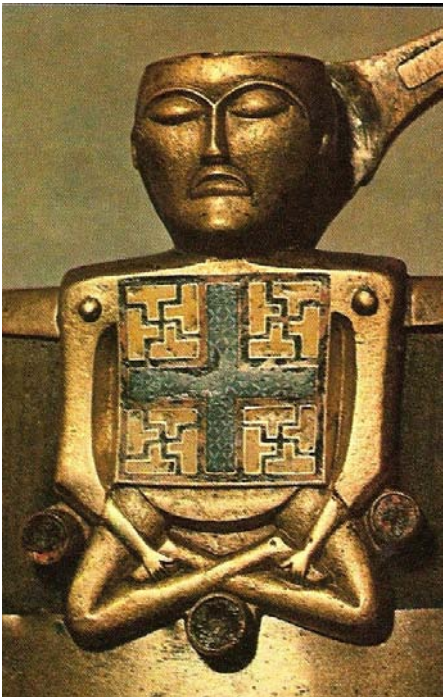
Fig 48: (above left) Small bronze and enamel figure believed made in Britain but found in a 9th century grave at Micklebostad in Norway. Shows the 'three plus one' arrangement of squares that is seen in Celtic work but also in China, as for example in the doors to the Jiayuguan Fort on the Great Wall.

Fig 49: Ranvaig's casket, found in Copenhagen but believed to have been made in Ireland or Scotland.   Campbell J.G. (2001)

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[102] Holden MacMichael J. (1907) The Evil Eye and the Solar Emblem, *The Antiquary vol XLIII p 341-46.*
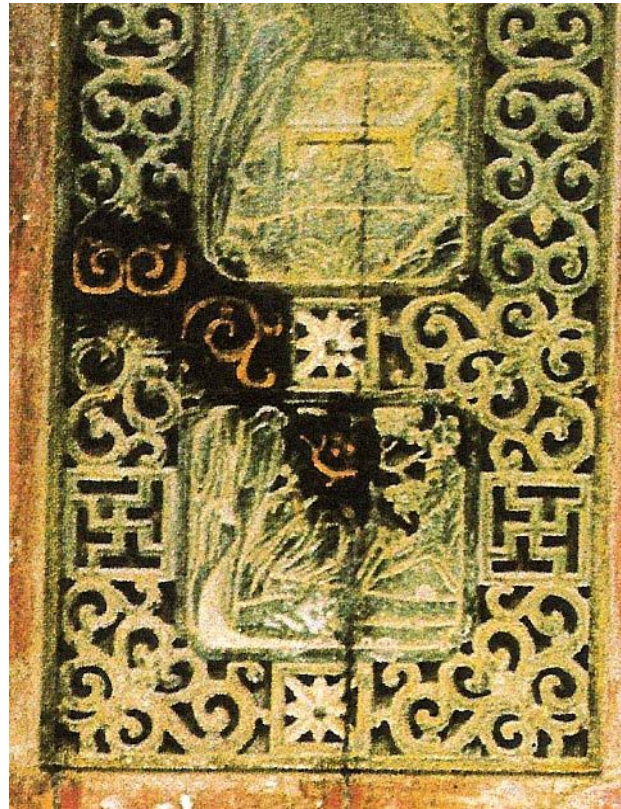
Fig 50: Metal insert of a door of the Jiayuguan Fort, one of the earliest parts of the Great Wall of China. (Thubron 1989) The two square sections of this panel show the same 'three-plus-one' rectangular structures as in the previous cases and in this example it is obvious that they are the result of a Fylfot, swastika design.
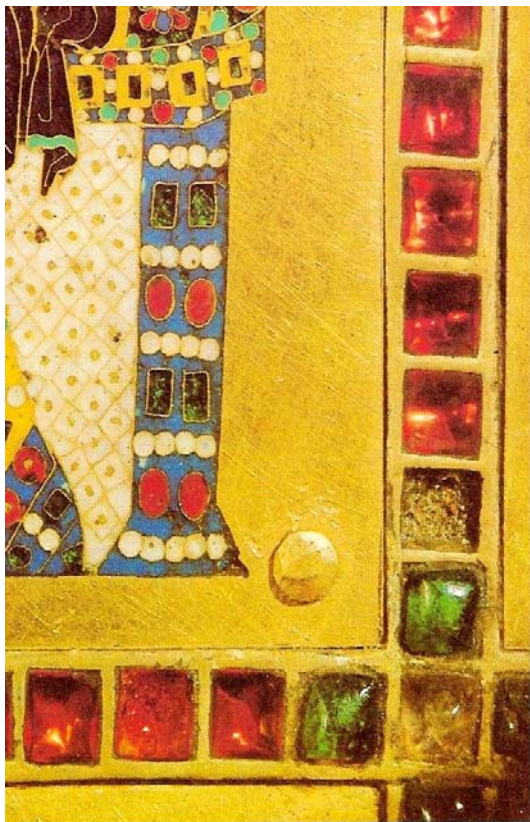
Fig 51: Portion of gold plate that has been cut to provide rectangular spaces for the insertion of individual gemstones. Garnet was the most commonly used gemstone but glass containing cuprite was used to produce the rich red coloured ones.[103]

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[103] Buckton D. (1981) From a resume of a talk by David Buckton to the AGM of the Association of Enamellers.
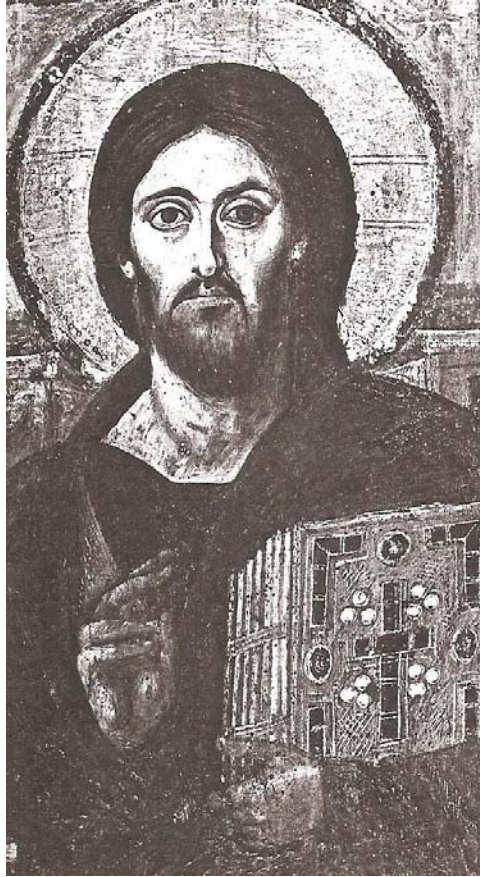
Fig 52: (lower right) Figure of Christ holding a book, the cover of which, is decorated with 'Gammations' at the corners.

7. Designs based on the Combination of the Latin cross and a central Frame.

For the purposes of definition, the construction of this group of book covers is presaged to have been the result of adding a rectangular cross to either a rectangular or circular central frame. Some affinity might be expected therefore between these structures and the wheeled crosses of Ireland. The opportunities for additional ornamentation with this structure as compared with those of an ordinary cross are considerable primarily due to the possibilities for decorating the frame itself together with the sections newly defined inside the area of the frame. Treasure book covers decorated with this type of design exhibit great impact due to the power of the heavily emphasised centrepiece.

The most 'basic' forms of this combination essentially consist of a cross with a disc placed over the centre crossing. This disc was itself either handled as if merely an inflation of the central part of the cross or distinguished by the way it was decorated, as an additional unit placed on top of the cross. Félibien recorded the cover of a Book of Epistles[104] as appearing to be of the former type whereas on the back cover of the Carolingian, Lindau Gospels [105] the centre of the cross is only outlined by a narrow frame of the same width as that around other parts of the cross but nevertheless appears to stand out from the rest of the design. A circular 'frame' is used on the *Soiscél Molaise* book shrine, considered to be 8th century. Great visual impact is achieved in this design by the relative dimensions of the circular frame

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[104] Vadnal J. Félibien plate IV, item AA. http://vrcoll.fa.pitt.edu/medart/image/France/St-denis/felebien/FeleP14/PlateIV-aa.html viewed 03/12/2009.

[105] Matthew D. (1983) *Atlas of Medieval Europe,* Book Club Associates, London. p 57.

as compared to the size of the residual cross within it and the rather ponderous rectangular work of the rest of the design.[106] Similar construction on other Irish Book Shrines achieves emphasis of the centre by the use of a decorated frame around a centrepiece, as on the Stowe Missal Shrine, or even just by the presence of a significant gemstone as the centrepiece which is the case on the Shrine of the Book of Dimma[107]. In this way there is considerable similarity between the design of the Dimma cover and the Lindau Gospel cover mentioned above.

On the cover of the Gospel of St. Gaucelin, attributed to the 9th century,[108] the centre of the cross is emphasised by the addition of a large disc comparable in relative proportion to that of the Molaise central circle but handled as an opaque element. As such it has a number of items of applied ornament based on the 'five-ring' and 'brooch' patterns.

The covers of three books have designs that are combinations of a Latin cross and a rectangular ivory centre panel. Although all have very similar dates of attribution, late 9th century, the techniques employed for the decoration of the frame are very different. On that described only as, *'Der ottonische goldene Buchdeckel'* [109] the centre panel of carved ivory is within its own raised border of ivory, which apart from tiny jewels over the mounting pins, is completely plain whereas the rest of the cross and the outer border are decorated with an arrangement of 'Spaced Jewels'. On the cover of the Echternach Gospels, alledgedly c990, the central ivory plaque is contained within a frame of small enamel tiles alternating with jewelled ones. The rest of the cross and outer border are decorated with tiles of the same size and design style. By contrast on the *Codex Aureus of St. Emmeram,*

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[106] Laing L. and J. (1996) *Art of the Celts,* Thames and Hudson, London fig 188.
[107] http://www.eskimo.com/%7ehmiller/cumdach.html viewed 29/04/2006.
[108] Huyghe R. (1958) *Larousse Encyclopaedia of Byzantine and Medieval Art,* Paul Hamlyn, London.
[109] Grimme E.G. (1994) *Der Dom zu Aachen,* Einhard-Verlag, Aachen pl XI p 131.

attributed to c870,[110] The centre panel is framed with a dense run of gemstones, the residual arms of the cross having larger stones and the entire design surrounded with a wide border of jewels and gemstones, densely packed in a running five-stone arrangement which gives this cover the appearance of extreme richness and overall emphasis. The border of the front cover of the Lindau Gospels, attributed to c870[111] is similarly heavily jewelled in a dense running brooch arrangement.
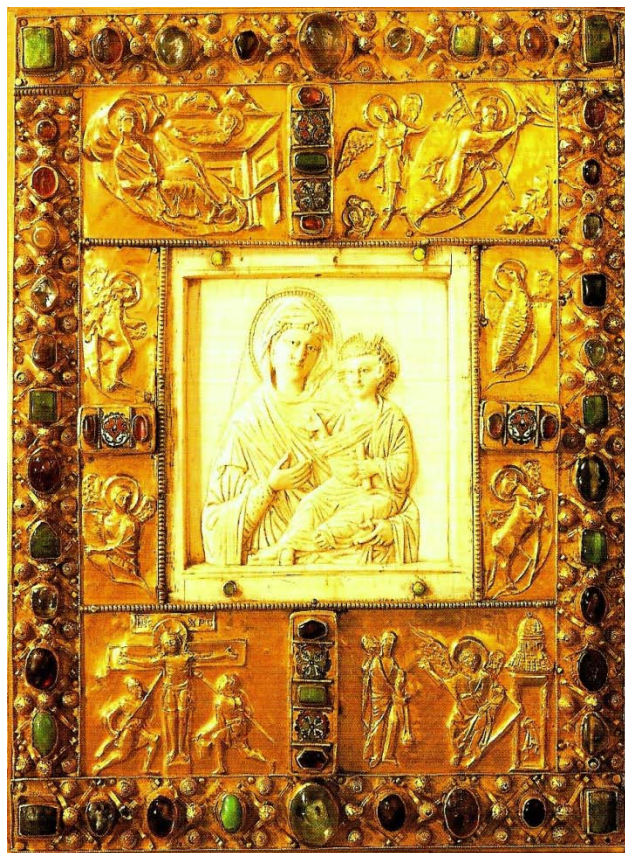
Fig 53: The Ottonian Golden Gospel cover.

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[110] Beckwith J. (1969) *Early Medieval Art,* Thames and Hudson, London fig 43 p 51.
[111] Bullough D. (1965) *The Age of Charlemagne,* Elek Books, London. p 170.

8. Designs based on the Combination of a Latin cross and the Five-Ring Pattern:

It has already been stated in the section on geometrical design that an exceptionally wide range of designs can be generated by this combination because of the variations that are created purely from the choice of ring size and ring position. It is perhaps appropriate to define the main stages in design effect that result from the main size and placement options.

1. Four small roundels within a central disc.

2. Four small roundels tightly placed within the interstices of the cross.

3. Four small roundels centred close to the interstices such as to encroach into the innermost sections of the arms of the cross.

4. The placement of larger roundels further out from the centre of the cross such that the encroachment modifies most of the length of the arms of the cross.

5. Modified forms of the cross that are produced when the four rings are very large.

1. Four Roundels within a Central Disc:

One of the most explicit examples of this design is the cover of the Gospels of St. Gaucelin, Fig 54, attributed to the 9th – 10th century (Kidson 1967). In this the centre of the cross is covered by a large disc which is itself decorated, with a brooch arrangement of a central

champlevé enamelled plaque around which are placed four smaller enamelled discs and four gemstones. The four small enamelled discs are located on the diagonals of the cover and thus this design structure exemplifies the tightest combination of the cross and five-ring pattern.

Fig 54: The cover of the Gospels of St Gauzelin of Toul. Late 10th century.

2.Four very small Roundels or similar tight into the Interstices of the Cross:

Four small roundels set tight into the interstices of a cross are included in the design of the back cover of the Lindau Gospels, believed to be Carolingian of the 8th century and also on the Shrine of the Book of Dimma, that is believed to be 12th century.[112] The decoration of a book, portrayed in the mosaic of Christ Pantocrator attributed to c1100, is based on a large Latin cross with small inward-pointing amygdalas in the interstices.[113]

3.Four small Roundels centred fairly close to the centre:

The effect of this construction on the arms of the cross is clear in the design of the book shrine of the Gospel of St. Molaise, believed to be early 8th century.[114] Similar shaping of the arms of the cross is apparent on the Lough Kinale book shrine attributed to c800.[115]

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[112] http://www.eskimo.com/%7ehmiller/cumdach.html   viewed 29/04/2006.
[113] Durand J. (1999) *Byzantine Art,* Terrail, Paris. P 99.
[114] Laing L. and J. (1996) *Art of the Celts,* Thames and Hudson, London. fig 188 p 181
[115] Richardson S. (1992) Protecting the Past: Eamonn Kelly and the Treasure Hunters. *Apollo June p 387-91.*

Fig 55: The cumdach from the Gospels of Molaise. Early 11th century.

Four Roundels of such Size and Location as to Modify most of the length of the arms of the cross:

Incursion of the roundels into the arms of the cross resulting in a 'necking' effect is apparent on several book covers from Ireland. [116]

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[116] http://medievalwriting.50megs.com/decoration/binding3.htm   viewed 07/12/2009
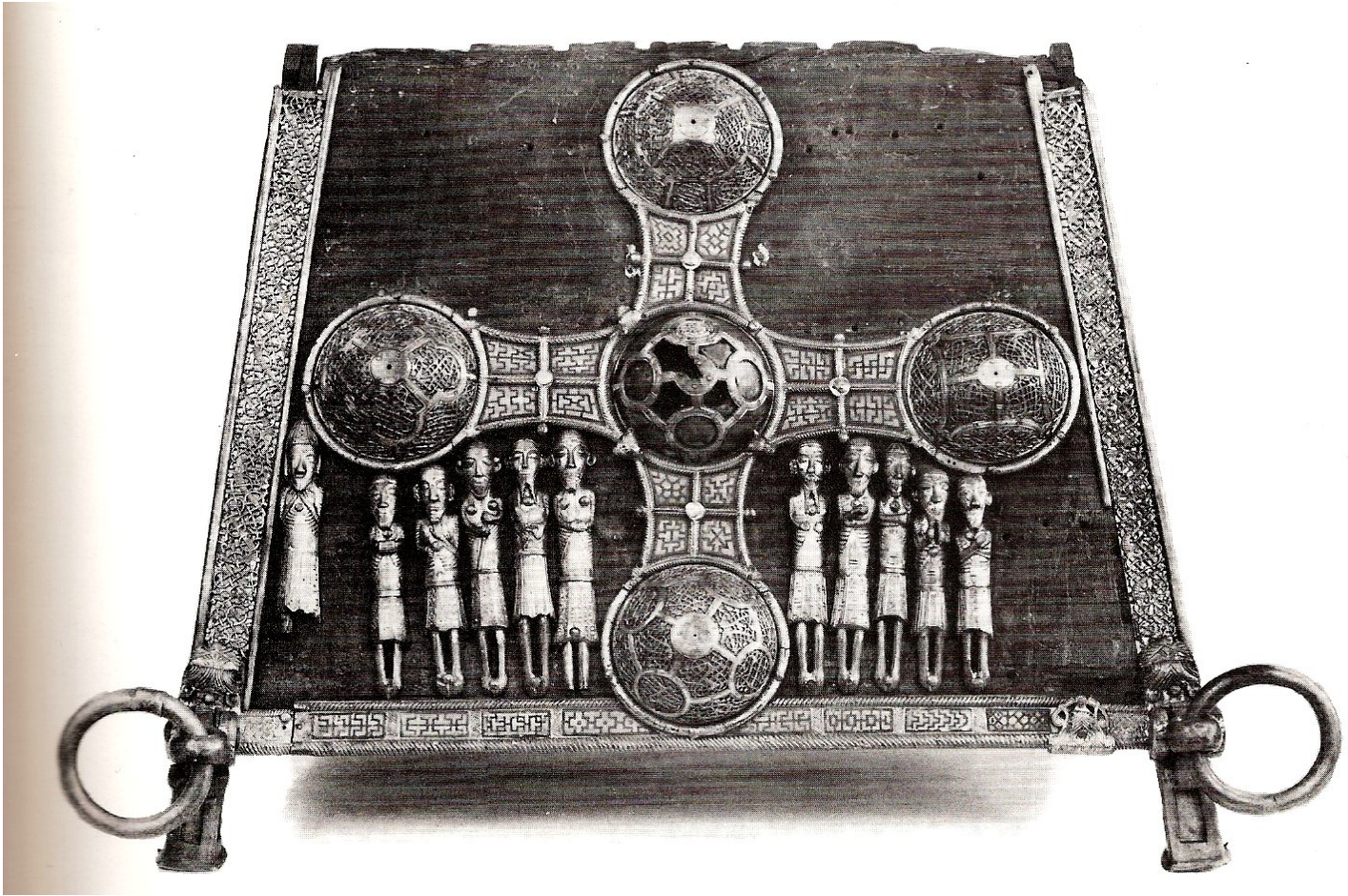
Fig 56: The Lough Kinale Book Shrine.

4. Four Roundels of large size:

The effect of four large roundels whose radii are such that they do not quite make contact, results in reduction of the Latin Cross into an extremely thin Byzantine cross such as that portrayed in a Byzantine ivory panel, shown left.[117] According to Spielvogul, this is the sign, in cuneiform, for a star.(Spielvogul 1994)[118]   When the four rings are sufficiently large that they are in contact, the flared tips of the cross are severed from the centre and in a cover

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[117] Nordenfalk C. (1977) *Celtic and Anglo-Saxon Painting,* Chatto and Windus, London. pl XI.
[118] Spielvogul J.J. (1994) *Western Civilization.*

design on an Ottonian Gospel Book believed to date from the 9th century[119](Donaldson 1981) two sets of four such tips are individually incorporated into the jewelled border.

Fig 57: (Left): Byzantine ivory believed 8th century.

Fig 58:Above Right: Detail of a Gospel binding credited to an Ottonian studio and/or a Byzantine workshop. Believed to be 11th century.

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[119] Donaldson G. (1981) *Books: Their history, art, power, glory, infamy and suffering according to their creator's friends and enemies*

Design, Decoration and the Structures and Function of Frames and Borders:

The employment of lines to divide parts of a design from others on the covers of books is most usually for the creation of strips around the outside of design fields. It is therefore appropriate to contemplate the structure of such strips in conjunction with the usage of the materials employed to decorate them. Of these, the most important are gemstones and jewels and it is the ways in which they were used that gave character to various types of framing.

In the time period under consideration in this thesis, the jewels used were precious and semi-precious stones, including especially, emerald, ruby, sapphire, garnet and topaz all of which were incorporated in cabochon form since the faceting of gemstones was not done at this date. The only way these stones could be secured in the decoration of a book cover was by mounting them in some kind of metal clamp. The shape of these mountings developed with time. In the earliest part of the period the stones were often of irregular shape, neither round nor rectangular. The most effective mounting technique developed for these consisted of a tubular wall to suit the outline of the stone, pinned in position where it was to be located, and the top flange of this pressed down around the edge of the stone. Stones of rectangular form were more easily mounted using a flat metal shape whose edges could be folded up and over the edges of the stone as can be seen on the back cover of the Lindau Gospels. More sophisticated mounting clamps evolved, becoming neater and of increasingly minimal size. The degree of sophistication of the arrangement of jewels and gemstones on the metal panels applied to book covers was dependent upon these mounting techniques. Initially a cover design would be dominated by a small number of large stones often located

at the corners. With neater mounts, smaller stones could be placed more closely together and the opportunities grew from simple sequences of individual stones placed in line along the central axis of a bordering strip to more densely packed structures consisting of significant numbers of such stones. Apart from an occasional design in which a large number of jewels appear to have been 'randomly distributed' over the cover area such as on the Gospel Book of Otto III, reputedly c 1000[120], jewels and gemstones were usually mounted on treasure book covers in some carefully structured pattern:

1. *Individual large stones in corner-pieces and similar.*

Particularly on earlier covers, there are often square corner pieces on which are mounted large round cabochon jewels. This is usually a form of design structure that is of the Centre and Corners style.

2. *Spaced Jewel Borders.*

These consist of a series of individually mounted jewels equally spaced apart along the main axis of a length of border.

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[120] Beckwith J. (1969) *Early Medieval Art,* Thames and Hudson, London. fig 86 p 104-5.
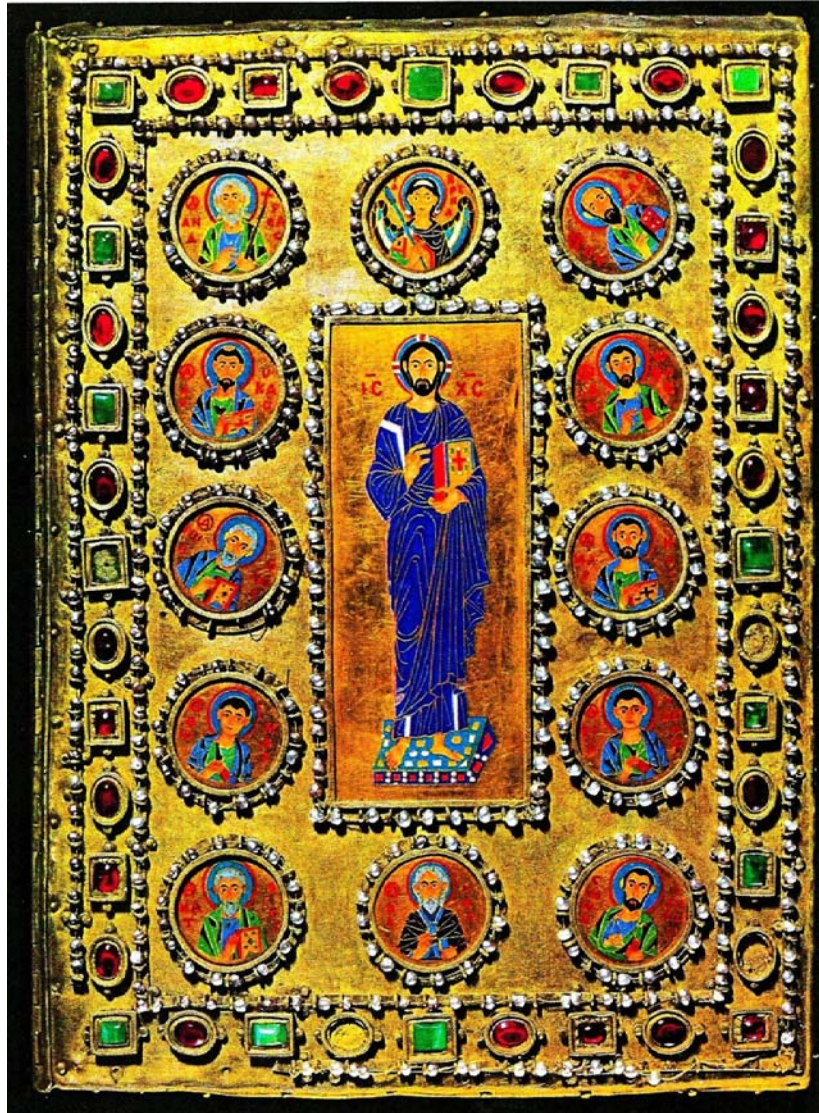
Fig 59: A Byzantine Gospel Book Cover of the mid-10century.

This cover is decorated with a border of 'Spaced Jewels between rows of pearls secured between lugs, on stretched wires. The central 'Coin Portraits' are enamel and also framed with rings of pearls.

3. *Jewelled Outlines.*

Jewels, usually smaller, mounted end to end and virtually in contact and used to outline or act as narrow frames for particular parts of a design.

4. Five-Stone and Brooch Groupings.

Both these two arrangements of jewels or gemstones appear comparatively commonly in the cover designs of treasure book covers. The Five-Stone grouping has exactly the same placement of its elements as in the Centre and Corners design structure. The Brooch arrangement of jewels is an enhanced version of the Five-Stone. It consists of a central stone, seemingly a sapphire was the preferred choice for this position, around which were tightly arranged in alternating positions two sets of four jewels, emeralds and pearls for example.

5. Running Five-Stone and Running Brooch Patterns.

Whereas when used as an individual decorative ornament a Five-Stone or Brooch group would be used alone, close examination of the arrangement of jewels in a densely packed jewelled border usually reveals it to be constructed from a series of one or other of these pattern elements but such that the outer stones are shared between consecutive pattern elements.

6. The use of Pearls.

Pearls by their very nature are normally spherical which makes them ideal for use as beads for necklaces but less so for mounting on the flat metal panels employed to decorate the covers of books. The importance of pearls most probably meant that no book cover could be considered to have been properly decorated without the inclusion of pearls. The appearance of strings of white

bobbles along each edge of portrayed books from even the earliest dates, implies that it was the custom and expectation for important books to have the outer edges of their covers decorated with pearls. The technique employed to mount pearls in this way was effectively to construct a series of rigid necklaces along the edge of the covers. Fine wires were stretched between lugs on the metal plates and the pearls threaded onto these in exactly the same way as would be done for a necklace. The subsequent mounting of individual pearls on book covers was achieved by the use of small rivets which in effect enabled them to be pinned to the cover wherever required.

Fig 60:   Detail from the mosaic in the Cathedral at Cefalu, Sicily, 1148. (Rossi 1970)

The decoration on the five books visible in this mosaic have a variety of different designs indicated all of which incorporate considerable numbers of pearls. Lavagnino has suggested that the Norman kings of Sicily felt themselves to be the inheritors of the Arab Court and brought to their country the oriental luxury of Byzantium. (Lavagnino 1953) Comparable usage of pearls is also seen the 12th century mosaic at Cappella Palatina at Palermo in Sicily and in the early 12th century mosaic of the Last Judgement at Torcello Cathedral near Venice. (Newton and Neil).

7. Mosaic.

Mosaic was a technique of decorative work that was a versatile method for filling comparatively large areas. It is generally considered to be the precursor to cloisonné enamel but contrary to this, which is essentially a surface treatment, mosaic was a three-dimensional construction. It consisted of a matrix of specially shaped compartments bounded by walls of thin gold. Each compartment would then be filled with a tiny block of garnet or glass, which when heated softened sufficiently to be pressed into place where it would remain secured by intimate physical contact. A wide border of this technique is observed on a late 9th-early 10th century book cover.[121] The design of this is a multi-level pattern based on a running square lozenge within each element of which is a Byzantine cross and this cross element is itself further employed linking between the lozenges and simultaneously forming a border. The technique is also apparent on the back cover of the Lindau Gospels in which it is used solely for outlining. Tait writes that paste mosaic jewellery is particularly associated with the Ostrogoths and garnet inlay with the Migration Period particularly from the Kryin area of the Ukraine in the 4th and 5th century CE while glass inlays with filigree wire of around 600 CE being more likely Anglo-Saxon. (Tait 1995)

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[121] For more details of the problem of deducing the most probable date when this cover was made see the Introduction section of this thesis for reference, Davenport (1929).

Fig 61 : Book cover with glass mosaic border based on crosses within a lozenge pattern and having coin portraits and a central cross, all of cloisonné enamel and all outlined with pearl framing.

8. Cameo Jewels.

'By the time the Roman Empire dominated Europe, the art of gem-engraving had reached its

height and engraved gems were not only worn but collected by many of the prominent

personages of the day. Julius Caesar is said to have deposited five chests full of engraved

gems for safekeeping in the Temple of the Vestal Virgins.By the time of the fall of the Roman Empire, the art of gem-carving and engraving had virtually died out but as Christianity developed many Greek and Roman gems were utilized in religious objects including many that bore engravings of and symbols representing the pagan gods. The desire to incorporate these earlier gemstones into Christian artefacts required the adoption of new interpretations of their meaning, Athena became the Virgin Mary, Zeus God the Father and so on'.[122] Cundall mentions a bookcover in which a classical carved gemstone representing St Peter is actually of the Roman Emperor Caraculla.[123] At least four classical carved gemstones appear in significant positions on the cover of the Gospel Book presented to Queen Theodelinda by Pope Gregory and which she in turn presented to the her new cathedral at Monsa.

9. *Gold and Ivory.*

The beauty of a carving on a panel of ivory was something that really could only be appreciated at close range. From a distance, despite the carved and polished surface, a panel of ivory would only appear as a white object which might occasionally flash as it reflected light in a distorted mirror-like way. There is evidence to show that gilding and painting were used to enhance the appearance of the ivory panel but neither treatment could significantly increase the visual impact of a book cover on display to a hall full of people. Gold was infinitely superior. Gold did not corrode. It could easily be worked and

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[122] Cavey C. (1992) *Gems and Jewels: Fact and Fable,* Studio Editions, London. p 122.
[123] Cundall J. (1881) *Bookbindings Ancient and Modern,* G Bell, London.

made into sheets of suitable thickness. Gold could be polished to a mirror finish. The surface

of gold was soft enough to be embellished with all types of decorative technique and pieces

of gold could be soldered together, permanently and without any visible sign of the joint

which was never possible with pieces of ivory. The interior of Christian meeting halls was

rather gloomy until the Emperor Constantine made provision for the use of beeswax

candles. The visibility of a sheet of polished gold in such an environment is reduced to a

occasional flash when its position happens to reflect light from a particular source in the

direction of an observer. The rest of the time it would be scarcely visible at all and even

when reflecting light to an observer, all the observer would see would be the image of the

candle whose light was being reflected and nothing of the polished gold plate itself. The

solution to this problem was finely detailed decoration of the surface of the gold plate such

that instead of acting as a mirror, light was simultaneously scattered in all directions by the

fine structure of the gold surface that had been produced by hammering, engraving, niello

and soldered filigree. Further enhancement with the application of jewels added colour

since light would be reflected back from the mounting of such translucent gemstones and

coloured due to the filtering effect of the material of the stone. Whereas from Lydian times,

it had been the custom to convert all resources of gold into coinage, by around 780 it

appears that gold was no longer in monetary circulation but was regarded more as a raw

material of rather mysterious origin that was considered above all to be used in the service of God.[124](Frossier 1989)

General Aspects of the Design and Usage of Frames:

The earliest use of rectangular panels for the decoration of the covers of books derived from the application of ivory plaques based on the Roman Consular diptychs. Typically several small panels had to be used to cover the area of the book cover and this resulted in arrangements consisting of a central panel with single ones above and below it of the full width of the book and with several smaller and more square ones to fill the space remaining to each side of the central panel. Examples of book covers consisting of five, seven and nine such panels are still in existence. The limitation on the size of the individual panels was due to the material used. Ivory from elephant tusks was appropriate for the making of long narrow panels but obviously imposed a limitation on panel width. Larger tusks had at times been available, from the remains of fossilized mammoths, brought to Byzantium by traders from the northern wastes of Russia, but this supply route was unreliable and the quantities of material scarce. From this point of view therefore, it could well be postulated that it was actually characteristics intrinsic to the material that determined the layout of the cover decoration and effectively imposed the division lines between parts of the design that ultimately became the basis for frames and border structures.

In the section on the geometry of design, the borders or frames produced by just four straight lines was shown to consist of four edging 'strips' linking four corner-pieces. Such

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[124] Frossier R. (1989) ed. *The Cambridge Illustrated History of the Middle Ages, I 350-950.* Cambridge University Press. P 456.

borders are the most common construction on book covers and are seen from very simple ones having only cabochon stones at the corner-pieces to densely jewelled borders with highly detailed enamel corner-pieces. The achievement of producing this complete border construction by the simple expedient of laying down four lines proved a powerfull and effective technique for draughting the design layout on a leather cover using a roll tool since a plain or decorative tool could be run from one edge right up to and over the other to produce the requisite line in a single and quick operation. By using two lines in place of a single one, the space between became a new area inviting its own decoration. Mosaic and beaded metal strips have been used for this effect, as have pearls and gold strips with occasional jewels and also continuous runs of jewels.

The decoration of wider framing sections has usually been done using various arrangements of jewels, spaced jewels, a series of metal tiles having jewels in discreet and very spaceous Five-Stone patterns or jewels in densely packed Five-Stone and Brooch arrangements. Multiple frames, concentric one within another, were characteristic of later cover designs and were usually constructed from three tiers each of which consisted of a contiguous sequence of small rectangular tiles decorated with enamel, jewels and similar artefacts. The same concept was the basis for the extensive range of Spanish 'Mudejar' bindings which were characterised by having such a multiplicity of tiers of repetitive blind tooling that it covered the entire design area.

Cover designs which appear to have been determined by the dimensional format of an ivory panel that forms the centrepiece, are quite common and, as indicated in the section on Geometrical Design, necessitated the inclusion of additional spacer strips above and below

or around the centre panel, in order to convert its format to suit that of the overall cover.

This design procedure was employed to create a border of uniform width right around the

central piece. It is most often discernable on a cover having a central panel of ivory but no

longer necessary when the centre was fabricated from metal repoussé or enamelled since

there was no limitation on dimensions in those cases since the centre panels could be made

of such size to suit the format of the cover. All these various techniques that had had to be

deployed to solve these spatial problems caused by the limitations of materials, were later

re-employed in the decoration of leather bookbindings.
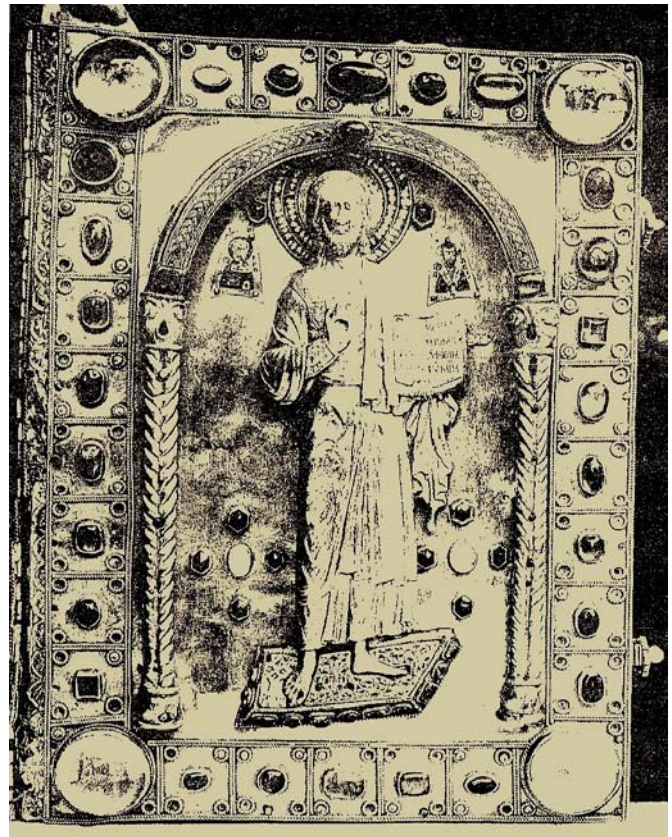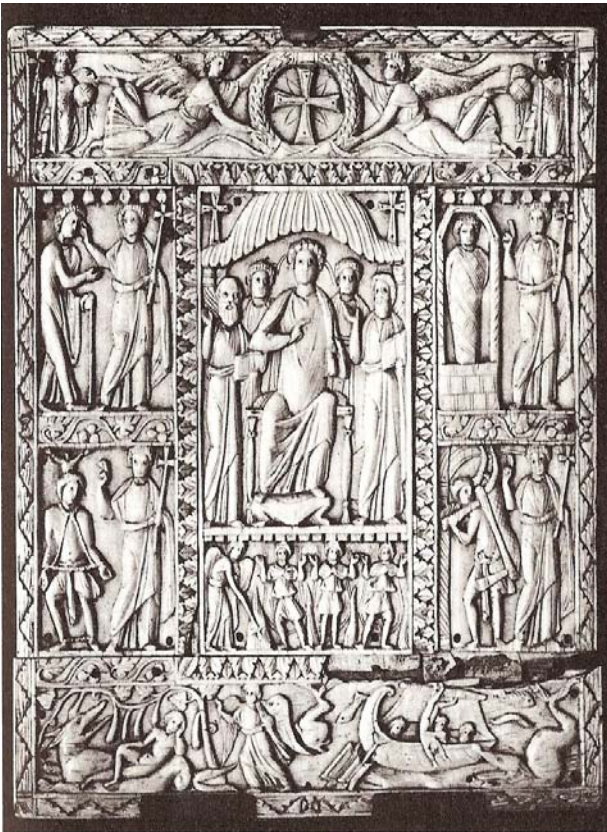
Fig 62: Left: An ivory book cover constructed from five pieces, the central panel, the top and bottom piece defining the full width of the cover and the two side sections required to fill the height of the cover board.

Fig 63: Right: Tramline border from four line construction with cabochon corner pieces and five-stone groupings on a series of individual tiles around the border in very 'open' style, that is minimal surface background decoration.
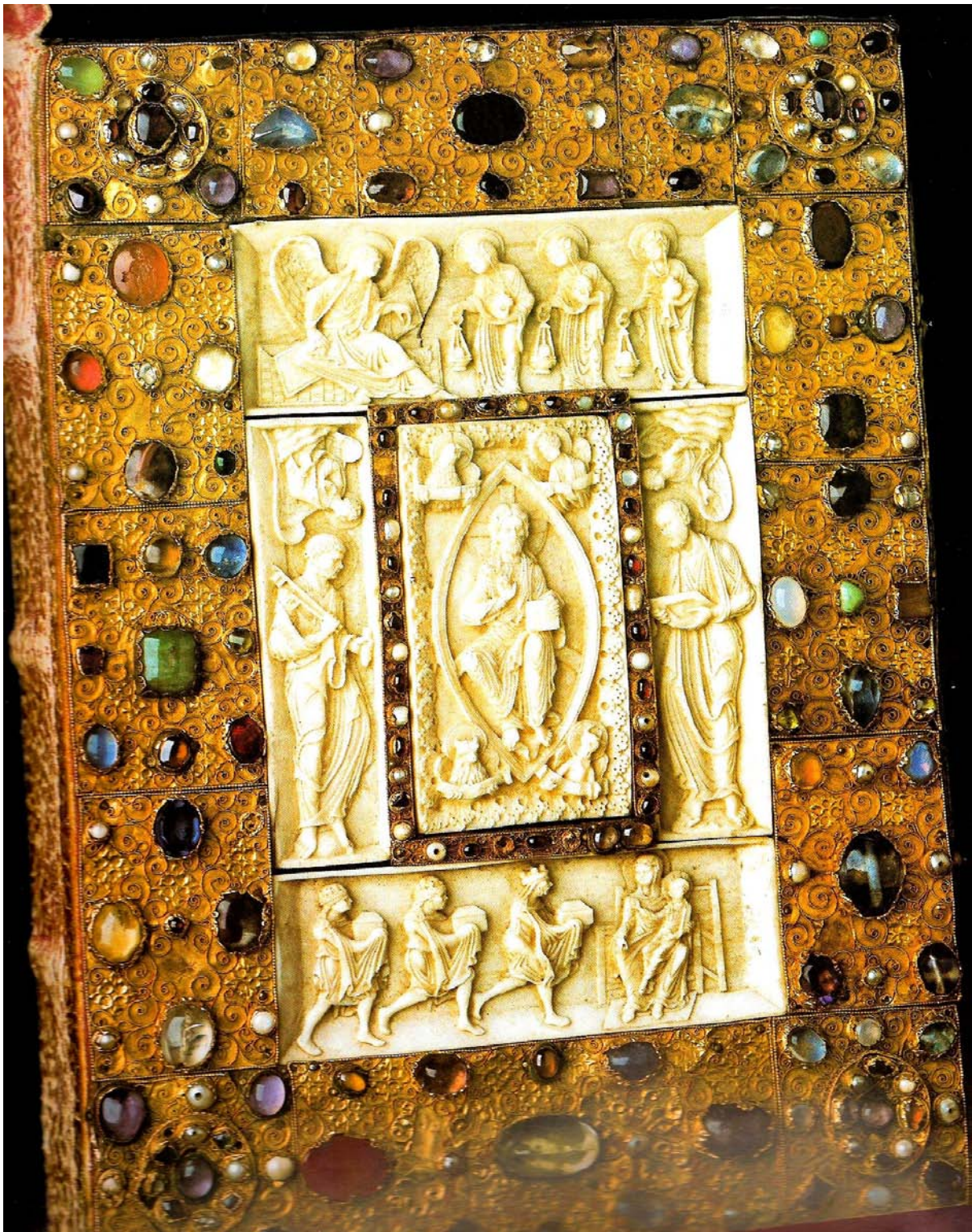
Fig 64: The central ivory panel is surrounded with a jewelled frame, outside of which four additional ivory panels are used to convert the format to that of the covering board to create a border of uniform width. This is decorated with a series of gold panels with brooch pattern, arrangements of jewels, secured in toothed mounts against a background of filigree work.

Fig 65: A cover decorated with a three-tiered jewelled border. This consists of three concentric frames, the middle one being primarily of small, individual enamel tiles secured in very basic edge folded mounts. The inner and outer frames consist of cabochon jewels, individually secured in quite simple claw mounts.

Fig 66: (above) A Gospel cover showing the decoration of a wider border built of larger tiles each having more complex decoration than just a small motif scroll in enamel work.

Fig 67: (right) Cover of the Gospel Book of Poussay showing the arrangement of eight panels, on four of which the figures studies have become of considerable size and realistically achieved. The two sets of four panels used in the border of this cover appear to be virtually identical to the eight used on the cover of the Golden Codex of Berat except that the placement of the middle and corner ones are exchanged.

Virtually the same construction of border decoration is also observed on reliquary covers from Constantinople, attributed to the 12th century.

Cat. 35, plat inférieur.

Fig 68: Cover decoration in which two later forms of border decoration have been used. The inner border is composed from a sequence of individual figure panels in a style that is very similar to that of brass memorial plates, with the figures clothed in long slender gowns. The outer frame is foliate in a form of Roman vine scrolling and with additional leaf and berry corner pieces. This type of decoration is seen more on icons than on book covers.

From the late 10th century, the wider borders were also increasingly utilized as convenient

areas for the 'display' of various forms of portraiture. Round discs, bearing 'head and

shoulders' portraits, such as on the Book of Epistles of Cologne (Scott 1989) and the small,

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'hoop-shaped' panels, as for example on the Book of Pericopes of Henry II (Beckwith 1969 p

fig 89 p 108-9) accommodating waist-length portraits are typical of the elements that were

placed in these positions and usually with jewels or filigree scrollwork filling all the

remaining spaces. In some cases, the option of using larger enamelled panels in the border

resulted in borders of exaggerated width, such as on the Gospel Book of Aribert, the

Hildesheim Bookcover and the Siennese Gospel cover. In the 'extreme' case, such as

Felibien's plate II, item Z, the entire border consisted of a number of enamelled rectangular

panels.

Speculations and

Observations

The process of devising and constructing the Proliferation of Design chart focused attention on the distinguishing characteristics of each sub-group of style and the strata of its enhancement and cross-fertilization. This exercise made it possible to discover some over-riding relationships that could not be detected while attention was concentrated on a single cover or group of covers. Additional insights regarding design relationships resulted from the process of incorporating indications of date to each of the exemplars in the Proliferation Chart.

The most fundamental observations deriving from consideration of the Proliferation Chart are;

1. Regardless of design style and in general terms, the complexity of the design increases with time. Cover designs of the later centuries tend to be more complex than those of the earlier centuries.

2. The process of increasing complexity actually parallels a related concept of increasing richness. Definition of the term, 'richness' in this context means increasing density of valuable materials. Thus the 'most richly decorated' covers,

have groups of jewels packed closely along the borders, many enamel plaques or ivory panels, outlined with strings of jewels and every area of exposed gold background embellished with filigree.

3. Within the full compass of design proliferation, certain stylistic families can be distinguished whose fundamental features are preserved throughout the iterative process of enhancement. These families are:

- **Centre and corners designs**

- **Designs based on a central cross**

- **Designs developed from combining a cross with the centre and corners form**

- **Designs developed from multiple central panels**

- **Designs developed from multiple outer panels**

4. Similarly, styles of ornamentation may be identified which experienced developing usage during the time period of this investigation. These include:

- The inclusion of small portraits in round frames, hereafter referred to by the term, **'Coin Portraits'**

- The inclusion of figures, the progression of which chronologically extends from earlier carvings on ivory panels, which appear later to have been achieved with repoussé work and, later still, the addition of cast figures.

- The use of spiral decoration as an alternative to generalised scrolling filigree. These spirals were always of the linear form, appearing virtually circular, which has been defined elsewhere as **'Round Curls'**

to distinguish the particular form from the logarithmic or 'sea-shell' spiral.

It has already been observed elsewhere in a study of the patterns on oriental rugs, for example, that the chronological development of a particular design style does not necessarily progress along a sequence that would mirror a progression of naturally increasing complexity. This effect is equally apparent when dating information is added to the Proliferation of Designs Chart. What does become more noticeable however is the possible relationship between different design structures that appear to have had some contemporary affinity. Such possible associations include the following.

- The evolution of the basic 5-Stone, centre and corners, design to its enhanced 9-Stone[125] form naturally generates the structure referred to as the **'Brooch'** form.

- Further embellishment of the centre and corners design as additional elements are introduced into the spaces between the corner stones, results in an embryonic form of jewelled border.

- If the relative time indications are credible it would appear that the Irish 'Boss' style is a natural development from the 5-Stone design structure and at least in the case of the Lough Kinale book shrine, the cover has the same design structure as the Brooch format.

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[125] The basic 5-stone arrangement comprises four stones placed at the orthogonal, 'compass points' around a central stone. In the enhanced 9-Stone form an additional set of four stones are introduced, each midway between the original outer four, as if on the diagonals of a rectangular cross.

- The enhancement of covers based on a central panel of carved ivory occurred in two ways, either the central panel was itself increased to become a multi-scene display, usually of two or three sections vertically one above the other, or the panel was surrounded with a border consisting of several small panels. Of greatest significance in this interpretation, is the inclusion of multiple panels, two or three, at each side of the original centre panel. The use of multiple panels as the centre-piece of a design evolved from ivory to repoussé work in gold or silver and ultimately by the sixteenth century it is seen achieved as a decorative panel in stamped leather. The application of the multi-panel surround may be followed through various strata of development that include the 'very formal', jewelled-tile surround of the Bible of Nicephorus, 970 CE, the group of panelled covers portrayed on ivory scenes of the 10th century, the range of cover designs which are based on a set of painted or enamelled tiles spaced around the central design.

- The inclusion of figures in the decorative design can be followed from their appearance in the low-relief scenes carved on early ivory diptych panels through the book-covers of pierced ivory and the Irish ones of bronze to the stage when cast figures were added into the final design assembly.

Another development that might appear to have originated in the 5-Stone design seems to have been a consequence of a central square element having been placed with its edges at 45° to the cover axes. Instead of being just a square, this became a new shape, the lozenge

which could readily be embellished and multiplied to become the basis for lattice designs

and for the design structure known as 'Fanfare'

Discussion & Interpretation

Relevant Background and Historical Perspectives:

The term, 'Treasure Binding' refers to books whose covers were adorned with valuable materials, gold, ivory, pearls and precious stones, items that have traditionally been described by the term, *Treasure* and kept in a *treasury.* The ornaments from which the decoration of these books were constructed were, in essence, pieces of jewellery and in most cases, would have been made by artisans skilled in crafts other than the binding of books. By their nature, these ornamental pieces had to be flat and rigid in order to be compatible with the cover of a book. As a format for written records, the book, or *codex,* structure only replaced the traditional roll between the second and fourth centuries CE and until the invention of paper, many centuries later, the pages of books were of parchment, vellum or papyrus. Parchment and vellum were far superior to papyrus and indeed are considered to be the very best writing surface. These are however, natural products, derived from animal skins and akin to leather but specially treated to produce the thin, smooth near white that was so valued for important records. In practical usage there was a problem, they tended to absorb moisture from the atmosphere and to wrinkle and cockle so that in time, a book sewn with pages of parchment or vellum tended to expand at the fore-edge and *gape* as the effect is now described. The solution to this problem was to make covers for the books out of thick, heavy wooden boards. These cover boards could be up to three centimetres thick and it was therefore necessary to have straps fitted to the covers to secure the book in a closed condition when not in use. The function of these straps, usually two but occasionally up to four, on the fore-edge and one or two on each of the top and

bottom edges, was not only to keep the book closed thereby maintaining pressure on the pages and preventing them from distorting but also, since the spine of the book was only sewn and not rounded, straps helped to keep the book in shape. By the fourth century therefore, books of importance were made with heavy thick covering boards. Coincidentally at this time, Constantine, one of the heirs apparent to the Roman Empire, on the night before the final military confrontation with his rival, believed he had received a sign that the Christian god would give him victory. As the new Emperor, Constantine gave progressive Imperial support to the 'embryo' Christian church. Until that time, the Christian church had been just one of the many sects surviving, by keeping a low profile, amidst the Pagan pantheon of the Roman Empire. Constantine's support of the Christian church resulted in the establishment of fifty new church buildings, extensive new rights and financial privileges as well as the founding of the new capital of the Roman Empire on the Bosphorus. In train with this he decreed that the Pagan temples of Rome be stripped of their treasure to the benefit of the new Christian churches and the production of fifty copies of the Gospels to be adorned with gold and pearls and jewels[1]. By reacting as he did in support of his newly adopted faith, Constantine was merely deploying the types of resources that were available to the Emperor's whim but by endowing the Christian church with copies of its holy books decorated in so rich a fashion, a standard was established against which all future books of the church would be judged. The time period selected for this research study extended from the 6th to the 12th century. No information or actual covers of books are known that are believed to be earlier than the 6th century though Diehl (Diehl 1910 p19 and 1946) states that,

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[1] Foot M. (1998) *The History of Bookbinding as a Mirror of Society,* British Museum Press, London.

'Massive books bound in coloured leather are said to have been carried in public processions of the Byzantine Emperor during the middle of the fifth century and bindings with Byzantine covers of gold, silver and copper gilt, inset with jewels, have been identified with the sixth century.'

The end date is associated with the transfer of the church's focus of adoration from the magnificently decorated Gospels and Bibles to the liturgical objects of the Mass. In this time period therefore, books in what are known as *Treasure Bindings* are books that were of unusual importance to the Christian church. Their production and ornamentation was designed to fulfil the many facets of this role. The exhibiting of books in magnificent covers was an important part of religious ceremonial and the parading of important books through their cities had been used by Emperors such as Constantine as a symbolic means of demonstrating their power. In the services of the Christian church, books of the Gospels and the Bible, in covers of gold and jewels became part of the liturgical paraphernalia and were elevated to places on the altar.

While not dependent upon innovation in the technology of making precious objects, the shape of the cover of a codex defined a new format for decorative design. Indications are that the earliest forms were either based on the traditional ivory panels of Roman Consular diptychs or were the result of placing a number of individual ornamental pieces on the covering board. Indications are that these were mostly likely large gemstones secured in metal flanges and, so far as can be detected, the flanges themselves were often further embellished with additional smaller jewels or gemstones.(Adams 1995) In all cases where information on the appearance of these early covers can be gleaned, five ornamental pieces

were employed and always arranged with one at the centre and another four, one at each corner.

This was the formative period in the development of Western Europe. At its start, the position of Rome as the centre of an empire was in the process of dissolution while Constantinople, *the New Rome,* was endeavouring to replace it as the capital and to continue to the maintain the structures of the old empire. Throughout the entire period covered in this research activity, Constantinople was the centre of most decorative design and technology. Constantinople was not in mainland Europe, but on the sea coast of Anatolia, it was the recipient of the traditions of Persia and the gateway through which the trade routes bringing silks from China and spices and precious stones from India entered mainland Europe through Samarkand and Afghanistan. A thriving trade with Scandinavia and the Rus developed along the river Dnieper, the Caspian and Black Sea through which furs, amber and 'fish teeth', walrus and narwhal tusk ivory entered Europe as well as ivory from the fossilized remains of mammoths scavenged from the northern wastes of Russia. (Hoberman 1979) From the 8th century, through Constantinople, mainland Europe learnt of the exquisite and luxurious products and designs of the Orient.[2] As early as the first century CE, the Silk Road brought silk from the Han capital Chang'an through Burma and India to the eastern Mediterranean and Persia where, as Paludan noted, 'Roman silk imports led to such a drain of gold and silver eastwards that they harmed the Roman economy'[3]. (Paludan 1998) With the demise of the old Roman Empire, mainland Europe was no longer in a peaceful state. In the absence of the defending armies of Rome to prevent them, many of the barbarian tribes that had been migrating westwards through the eastern boundaries of

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[2] Catalogue of the Arts of Islam Exhibition held at the Hayward Gallery Ap-July 1976. Published by The Arts Council of Great Britain p 24..

[3] Paludan A. (1998) *Chronicles of the Chinese Emperors,* Thames and Hudson, London. p56: *The Silk Roads.*

the Empire,(Burns 2003) were able to move into Europe and, as Copplestone observed, their awareness of the empires of Rome and Byzantium had convinced them that finding uses for religious art 'lay at the heart of becoming civilised'. Avars, Burgundians, Celts, Franks, Huns, Lombards and Goths entered Europe to the north of Italy. The Huns in particular, brought knowledge of the artforms of China and southern Russia and since, as Rienaecker (1948) asserts, as early as the T'ang Dynasty 618-907 CE many Middle Eastern craftsmen were working in Ch'angan, it is likely that a significant awareness of Chinese art was known in Byzantium. From the north extensive incursions by the Vikings had significant effects, ravaging right along the northern coasts and penetrating as far inland as to have sacked Paris and many other major northern centres. Re-emerging later as the Normans, they especially harassed the southern fringes of Europe, at one stage colonising the island of Sicily. From the south, Arab invasions resulted in the conquest of Spain and attempts by the Arabs to continue into France was only stemmed with difficulty by military force at a battle to the north of Poitier. Coupled with its loss of military might, though retaining the high esteem of the general populace, as the centre of Christianity, Rome grew as the Christian church spread across Europe, except that in this role it was seen as a threat to the position of the church in Constantinople. Ultimately the conflict between the two resulted in the church splitting to form the Roman Catholic and the Eastern Orthodox churches. Throughout this time period therefore, Europe was being influenced by the artistic traditions of many cultural origins which resulted in widespread enhancements of design style.

Identification of Major Trends:

Regardless of design style, and in general terms, the complexity of the design is seen to increase with time. Cover designs of the later centuries tend to be more complex than those of the earlier ones.[4] Since it has been possible to group cover decoration on the basis of a range of identified design concepts, it has consequently been possible to distinguish a number of stages in the process of development from the originating, seemingly most fundamental, versions.   In this context, the term *Complexity* is used to indicate the difference between a design composed from a small number of pieces and one having a similar arrangement of pieces but signifying that there are either more layers of such pieces or that each piece has been sub-divided.

The process of increasing complexity actually parallels a related concept of increasing richness. Definition of the term, 'richness' in this context means an increasing density of valuable materials. Thus the 'most richly decorated' covers, have groups of jewels packed closely along the borders, many enamel plaques or ivory panels or both, outlined with strings of jewels and every area of exposed gold background embellished with filigree. Calkins has written that the use of large numbers of jewels, and especially when arranged in architectural settings, were thought to provide a miniature vision of the heavenly city of Jerusalem.[5] Enamel in Byzantium was also, according to Cutler, not seen as just a 'surrogate

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[4] Ford wrote that the problem when trying to deduce the history of a design is to determine whether a simple form is a later, debased form of an earlier more refined one or whether the simple one is actually the original from which more complex versions were subsequently developed. Ford P.R.J. ( ) *Oriental Carpet Design,* Thames and Hudson, London. p 82.

[5] Calkins R.G. *Monuments of Medieval Art,* Issue 5970 p 121

for the brilliance of precious and semi-precious jewels but in the work of Byzantine and Georgian craftsmen, became the very emblem of luxury and sanctity.'[6] (Cutler 2003)

Specific Design Structures with Chronological Associations:

Based on comparison of book covers and relying on the dates of attribution offered by the various authors who have included these covers in their writings, the late 8th – 9th century appears to have been a watershed time when the complexity of designs of book covers moved from what might be described as assemblages of discrete ornaments to designs of planned complexity. From the ornamental simplicity of the earliest and most basic five-stone patterns of the 5th - 6th century, as exemplified by numbers 1 and 7 in the Proliferation of Design Chart,[7] additional groups of pearls became added, 6th – 7th century, contributing in ways, subsidiary to the main pattern, leading to enhanced designs such as numbers 14, 18 and 30. In parallel with the trend to subsidiary enhancement, five-stone designs experienced a parallel development that transformed the central round stone into a large elliptical one. While the overall form of this version is exceptionally starkly defined, as in numbers 20 and 33, it is believed that the large elliptical stone and possibly the four others as well, was a polished cabochon of rock crystal beneath which was a small relic. The specially shaped and polished cabochon would have acted as a magnifier enabling greater appreciation of the relic. Similar transformation from round to elliptical is apparent in the

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[6] Cutler in Eastmond A. and James L.eds: (2003) *Icon and Word: the Power of Images in Byzantium.* Ashgate Publishing, Aldershot, Hampshire. p 575 and footnotes 95 & 96.

[7] It is appropriate to add that virtually identical five-ring patterns are visible on Sumerian work c2700 BCE. The article in question is a gaming board covered with inlays of bone, shell, lapis lazuli and coloured stones. It also has an outer border of small white pieces similar to the pearled borders of Early Christian work. Du Ry C.J. (1969) *Art of the Ancient Near and Middle East,* Harry Abrams, New York/London p 57.

ornamental panels of Byzantine ceremonial robes in the 11th and 12th centuries.[8](Kidson 1967)

In the late 8th – 9th century, designs in general were becoming seriously ornamented with jewels but the overall design structure was still essentially comparatively simple. Consider the designs of cover designs numbers, 11, 22, 23, 28 and 38 all of which appear to have been attributed to the 8th – 9th centuries. The structural form on which the jewelled embellishments were laid consists of a basic Latin cross inside a single tiered border.

A rather more sophisticated base for decoration is that exemplified by cover design numbers, 17, 37 and 40 all three attributed to the 9th century, and in which the Latin cross is combined with a central roundel providing significantly more powerful decorative impact.

The 9th into 10th centuries saw the outer jewelled border expanding in width, as is apparent on cover numbers 9, 15, 25, 31. Jewelled borders of the 10th century appear to have been ornamented with small tiles on which the jewels are precisely located in five-stone arrangements, designs, 31, 34 and 41. In these designs also, figures are included in very realistic treatments.

Development beyond these, design numbers, 41, 42, 43, 47, 48, 49 and 50, indicate how the decoration of the outer border has been made more complex. The border is given considerable width and may be tiled with jewelled and enamel plaques alternating with larger gemstones in multi-tiered layers. Other forms of embellishment for the border were arrays of larger plaques of painted or cloisonné enamel[9] or of carved ivory. These plaques

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[8] Kidson P. (1967) *The Medieval World,* Paul Hamlyn, London p 58 St. Michael in Le Puy   Cathedral
[9] Byzantine artists secured flattened gold wire *cloisons* to the base sheet of gold using quince juice and when the entire surface layout had been completed and settled they were soldered in position. (Detroit I of A 1928).

may be of such dimension that a series of them completely fill the entire border space whereas in others, the plaques are distributed across the available border area interspersed with jewels and filigree gold work. In some, the trend for including figures continues with some very realistic figures, often cast and not just two-dimensional, being given prominent position. Small round enamel portraits, in individual frames, described as 'coin portraits' began to appear in the borders in the 8th century and appear to have been more common from the 9th century.

Terminological Limitations for Design Definition:

At the start of this research, indications were that the only style of language resorted to for defining the appearance of the decorative design on a treasure book cover was descriptive and if the cover was old, very often the major pre-occupation of the author was aimed at establishing authenticity by endeavouring to associate the cover with other artefacts whose origin and dating were generally agreed and believed. Writing of his experiences as the author of many catalogues of fine books, Thomas used the phrase, 'a semi-private language' to explain his endeavours to define accurately particular design constructions and admitted that his sometimes verbose descriptions had been likened to *an over-rich fruit-cake.* (Thomas 1975) Since the pieces of decorative material that had been applied to these book covers were similar to items of jewellery, such covers are sometimes included in books on the history of jewellery and similarly they received attention in books on history, the history of art and books about major cities such as Rome, Venice and Constantinople and even in a tourist leaflet for Albania, where a book with such a magnificent cover was valued as a local treasure. In these circumstances, the design has often been described using different forms

of terminology. A significant conclusion from this research has been recognition of the need for appropriate means to describe the commonality of major and minor constructional features of the design of treasure book covers. One of the achievements of this research has been that it has been possible to identify the groups of such structures in the design of treasure bindings that appear to have been in 'common' usage. The identification and therefore, definition of these particular 'principles of design' is an essential stage and it is hoped that it will assist in the process of establishing an appropriate terminology for the precise specification of such cover decoration.

Design structures identified in this research sample of Treasure book covers:

Centre and Corners

Decorated book covers of this type have only been observed from portrayals in mosaics, paintings and manuscript illuminations. The certainty of precise details are therefore somewhat uncertain but indications are that the decoration consisted of five large ornamental items placed, one at the centre and the others, one in the vicinity of each corner. It is assumed that each ornament consists of a large cabochon or slab of polished gemstone, secured to the cover in a metal flanged mount which itself is enhanced with a series of smaller jewels. This interpretation is in agreement with the opinion of Szirmai (2007). As has been found in this research, in the 6th and 7th centuries decorative designs of this style were the most common. It is appropriate to comment that decoration of this sort,

even though normally bounded on the top, bottom and fore-edges with wired strings of pearls, is scarcely the consequence of anything more than an impressive arrangement of ornaments and that similar usage of roundels can be seen at least as early as the Neo-Hittite 'stylistic phase c700 BCE described by Akurgal.[10] The prolonged employment of this decorative structure beyond the time when more sophisticated design structures were being created may perhaps be an indication that the form was used as a visual simile for the Christ in a mandala supported by the four evangelists.

Cross with Centre Frames

According to Beckwith, the cross had become established as a popular Christian symbol, at least in Constantinople, by the mid-6th century[11] and he further observed that the cross was to be the one image that did not arouse the fury of the iconoclasts. Quirke and Spencer however suggest that Christian subjects tend to be rare before the 7th century and not common until the 8th.[12](Quirke & Spencer 1992) On this basis it would seem that the cross as a motif for use in the decorative design of the covers of Gospel books and Bibles, was available from at least that time. In the sample of books available for analysis in this research, the earliest designs structured around a Latin cross were observed with attributions to the 7th-8th century with noticeably more attributed to the 8th and 9th centuries. In general the flared Byzantine style of cross was observed more on covers reputedly dating to before the 9th century whereas the very rectangular style, Latin cross was observed more commonly particularly on covers attributed to the 11th and 12th

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[10] Akurgal E. (1966) *The Birth of Greek Art,* Methuen, London. pl 34 p 141.

[11] Beckwith J. (1979) *Early Christian and Byzantine Art,* Penguin Books, London. p 80 though Jacquiot J. (1958) *Larousse Encyclopaedia of Byzantine and Medieval Art,* ed Huyghe R. Hamlyn, London, p 70 suggests earlier.

[12] Quirke S. and Spencer J. (1992) *Ancient Egypt,* British Museum Press, London. p 191

centuries. The Byzantine cross and amygdala is seen on covers attributed to the 8th and 9th centuries though one version of the 'tips only' form is known with an attribution to the 7th century. This might be considered curiously in contrast to the date attributed to the Solomon's Knot centre piece which was not observed with an attribution earlier than the 11th century.[13] Since these two structures are potentially generated from the same geometric construction and many of the identified intermediate forms are known with attributions to the 8th and 9th centuries. The mismatch in attributed versions of these design forms would appear to be the natural consequence of a limited sample size but also exposes the difficulties of reliable dating.

Patterns of four citrons seem to have been later around the 11th century with the irregular 'streak cross' observed on a cover attributed to the 9th century. Crosses with large domed tips or coin portraits as terminations are noted as from the 8th- 9th centuries and the 10th century respectively.

Cross with Five Ring

It was indicated in the section on Geometric Design that the size and placement of the outer four circles had significant effect on the degree to which the arms of the cross were modified. It was indicated that the construction that characterised the entire 'family' of such designs extended from crosses with enhanced central ornament, 'bite' sections removed from arms to the residual forms of a curvilinear central lozenge and discrete flared tips, all

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[13] Priest asserts that the endless knot, or 'entrails, is a Chinese symbol denoting longevity. Priest A. ( ) *Aspects of Chinese Painting,* Metropolitan Art Museum, New York.

these apparently highly disparate forms being the result of very minor changes in the dimensions used in the drafting process. Covers on which designs in this group are clearly apparent appear to have been attributed mainly to the 8th and 9th centuries and the design concept to be essentially Irish. The application of many variations of this structure can be observed in the design of many of the Irish stone standing crosses.

Lozenge and Lattice designs

When compared with other structures, the lozenge and even more so the saltire, do not appear to have become amongst the primary construction elements 'of choice' for whole-field designs in the treasure bindings category, though their advantages were more widely exploited for the decoration of leather from the earliest Coptic bindings. When reduced in size however, used either as a discrete motif in centre and corners patterns or later, when multiplexed into diaper and latticework structures, it was far more favoured. What is perhaps the most interesting development that might be considered to have developed from the basic lozenge is the strapwork design of the first half of the seventeenth century which is characterised by an array of small lace doily motifs having lozenge shaped outlines. Possibly the most significant development of the lozenge shape was its transformation from linear to curvilinear in which form it acquired ornamental tips. In its 'square format' lozenges are quite commonly seen in portrayals of book covers in mosaics of the 6th – 8th centuries. On a design of the 9th century, a group of five small square lozenges are arranged in the form of a cross and the curvilinear form with embellished tips is seen in designs of the 11th century. An embossed silver-gilt panel from Georgia c1040 is a particularly clearly form of Solomon's knot.[14] The cover of the book carried by St Stephen in a 14th century portrait

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[14] Beridze V. et al (1984) *The Treasures of Georgia,* Century Press, London. p 203.

by Giotto,[15] and that by St Augustine,[16] shows the book cover decorated with a very ornate array of lace doily lozenges which has considerable similarities with the gold-tooled designs of the seventeenth century.(Minor 1950)[17]

On Indications of Chronological Progression in Border decoration:

The problems of uncertainty concerning the relationship between the design of treasure covers and the date when they were made has received attention. The difficulties facing so-called experts when attempting to deduce a date when a decorated cover was most probably made are considerable, with their judgements sometimes disagreeing by more than a century or two. With no tradition of marking the decorative pieces applied to a cover with either a date of manufacture, maker's name or even place of manufacture coupled with the complexities that covering materials could easily be moved from one book cover to another being lost, stolen or strayed in the process the means available for estimation of date reduces really to interpretation of stylistic treatment and symbolic representation[18]. An introduction to aspects of symbollic representation and its relationship to date and usage in the decoration of the covers of early Christian books is included in the Appendix. Rather than having concentrated attention on single book covers and attempted to draw chronological inspiration from each individual example, this research has attempted to study the largest sample that was accessible at the time, and to draw conclusions for these

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[15] St Stephen by Giotto c1335 now in the Museo Horne, Florence.
[16] Drinkwater and Drummond (1993) p 174
[17] Miner D. (1950) The *History of Bookbinding 525 – 1950,* The Walters Art Gallery, Baltimore, Maryland. P 136.
[18] In a paper of *The Bampur Sequence,* the author wrote that, 'Decorative style is a method employed to distinguish the historical periods during archeological analysis...... *and* it is also a tool used to identify cultural influences resulting from trade between different regions' Anon (1967) The Bampur Sequence in the 3rd Millenium BC. *Antiquity,* vol XLI No 161 March p 36-40.

as a representative population. This approach is similar to that of Sepkoski and Benton when seeking to resolve the Signor-Lipps problem of deducing the dates when pre-historic species came into existence and became extinct[19]. (Buchanon 2000) By considering the available information on certain families of species rather than focusing on just a single one, it enable them to investigate the records of a larger sample of remains and thereby deduce the desired chronological time period with rather more confidence than if done for an individual species. By analogy, it is believed that a significant advance has been achieved by this research by investigating the various ways in which particular design styles developed and the relationships between structures of design. There appears to be potential for gaining greater appreciation of date through the analysis of the degree of complexity of particular design structures. It also appears possible that the study of the form of mounting used for jewels and gemstones to the pieces of a treasure binding may also have value as an indicator of date or place of origin. The precise shape of a mounting unit has been observed to develop from comparatively cumbersome in the first part of the time period covered in this study, namely the 6th to the 12th century, through various neater versions to very much finer and effective claw types by the end of the period.

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[19] For a discussion of this problem and the methods employed to resolve it, see Buchannon M. (2000) *Ubiquity,* Weidenfeld and Nicolson, London. p 108-110.
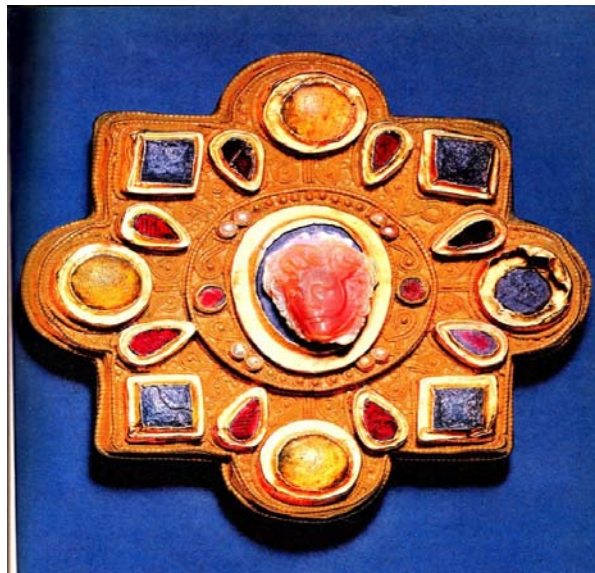
Fig 69: The Molsheim Brooch. Frankish work of the early-mid 8th century.[20] Around the central carved head are two sets of four stones, four blue and four yellow, together with eight small red amygdalas. All of these jewels are secured in the type of mounting that appears to be characteristic of the earlier phase of gemstone mountings.

Fig 70: Section of the Evangelary of St.Chappelle of the fourth quarter of the tenth century. Close examination shows that each jewel was mounted in a separate cup which was pinned to the base.
The tops of the cups were cut to leave triangular teeth that could be rolled over to secure the jewels in place. Also apparent are the heads of the rivets used to hold individual pearls in place.

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[20] Bullough D. (1965) *The Age of Charlemagne,* Elek Books, London p 33.

Fig 71: Also from the Evangelary of St. Chappelle, Durand 2001), this shows the large corner jewel secured in a very simple claw mount. The feature of these mounts is that the number of teeth has been reduced, usually to four and each is usually made to look slender and neat.

Fig 72: Detail of a Byzantine Gospel book believed of the mid-10th century showing the wires and supporting lugs on which the pearls are threaded. (Murano and Grabar 1963)

The transition between the mounting of pearls on wires to rivets may also be a potential criterion in time. Further activity of these are planned. The transition from round central elements on covers to elliptical appears to offer another prospective threshold date as well as evidence for the use of polished cabochons of rock crystal as magnifiers by the 9th century?

Considerations Relating to Aspects of Medieval Design that Continued into Later Centuries:

This particular research programme was proposed and undertaken by the author consequent to previous work on the design of gold-tooled bindings from 1500 – 1800. There was particular interest in the possibility that designs of the so-called treasure bindings of

this period, 6th to 12th century, might prove to have been pre-cursors to those of the 16th century and later. Similarly, it was postulated that several particular motifs in common use in the 16th century could have evolved from those of treasure book covers. This in fact poses two questions,

1. **Are there identifiable design structures in the decoration of treasure book covers that correspond to those recognisable in later gold-tooled work?**

2. **Are pre-cursors of various motifs and features that have been identified in gold-tooled decoration, observed in of treasure bookbindings.**

Several design structures have been identified by this research in the cover decoration of 6th to 12th century treasure books that were later adopted into gold-tooled decorative styles. these include,

Five-Ring Patterns
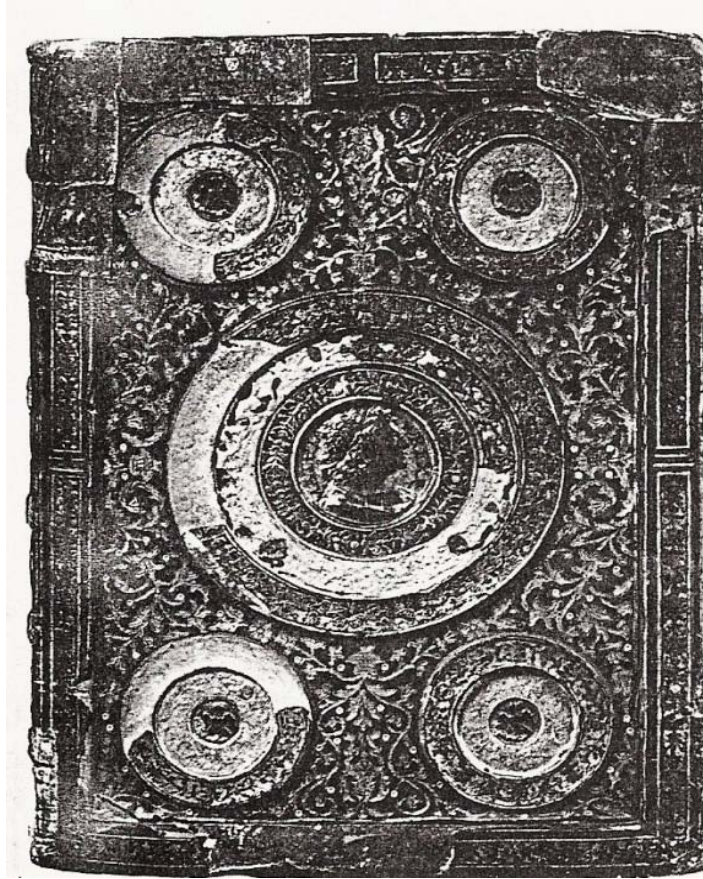
Fig 73. Five-ring decoration on a binding of King Matthias Corvinus.

While the value of the five-stone pattern continued as a versatile design format, a particular example of the re-discovery of a design style is a binding decorated for King Matthias Corvinus sometime after 1485 shown above, fig 73. The decoration consists of five large roundels, the four outer ones being exactly in the 'birdsnest' form of large heavy roundels as has been observed in a number of treasure book covers.

In the late 15th and early 16th centuries, what appears to be a development from the five-ring pattern is observed on many portrayals of book covers. The typical appearance consists of the five small rings set as the centre and corners of a rectangular frame and having opposite corners joined, that is the diagonals. In this, quite simple appearance, book covers may be seen for example in a woodcut by Dűrer, 1501 (Rees-Mogg 1985)[21] and the memorial brasses of Jacob Schelewaerts, 1483, Cardinal Casimir, 1503 and Thomas Goodryke, 1554. (Bouquet 1967)[22]

Concentric Frames

The manner in which the border of a design became divided into a number of narrow tiers, initially in order to be able to fit a central panel to the form of the main covering board and subsequently to develop a series of concentric frames for tiers of decoration, established a precedent that is seen to have been developed particularly in the Spanish Mudejar bindings. These bindings are characterised by the way in which a multitude of concentric frames have been filled by the repetitive use of a small number of individual stamping tools. Again, this style of design was not original since precisely the same treatment of concentric rectangular frames composed of serried repetition of single motifs is found in a marble floor from Nineveh dated to the 7th century BCE.(Du Ry 1969)[23]

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[21] Rees-Mogg W. (1985) *How to Buy Rare Books,* Phaidon-Christies, London. p 125
[22] Bouquet A.C. (1967) *European Brasses,* Batsford, London.
[23] Du Ry C.J. (1969) *Art of the Ancient Near and Middle East,* Harry Abrams New York/London.

Fig 74: Fifteenth century Spanish Mudejar binding showing how the frames were filled with the repeated use of single hand finishing tools.

Tramline frames, Borders decorated from 9th century onwards, Tiles, Foliage/Vine and Scrollwork.

Whether the concept for dividing the space on the covers into sections, particularly the outer parts such as to create straight frames originated from the limitations on the size of ivory panels or whether it was a natural consequence of already established layout practice is not known but it is clear that ivory book covers that have survived are characterised by being composed from a number of smaller rectangular pieces. The lines between them were essentially straight and defined the joins between neighbouring parts. By default therefore, experience in the use of multi-piece, ivory panel cover decoration, would have established the precedent for the creation and exploitation of the outer areas of the bare cover. Frame sections created by the use of straight line tools on leather bookcovers were a normal part of the design of decorated covers from the beginning of the sixteenth century. It was common in the earlier part of the sixteenth century for these lines to run over at the edges of the covering board. At this time these frames were comparatively wide and have been described as a 'noughts and crosses' frame or border in view of the similar construction needed to create the layout.

There appears to be similarity also between the types of decoration added to these frames in the 16th century and those in the 10th to 12th centuries. In both periods frames appear with foliate decoration and also with more abstract scrolling structures though often the precise stylistic appearance of the decoration differs between the two periods. Border decoration of round curls with crockets is a ubiquitous design motif that appears both in the 10th -12th century designs as well as in those of the 16th to 17th century. In the later period the spirals tend to be arranged in opposing pairs and arrangements where their rotational

form is included as part of the design structure whereas in the earlier period it is as if the space has been filled by massed repetition of the motif.
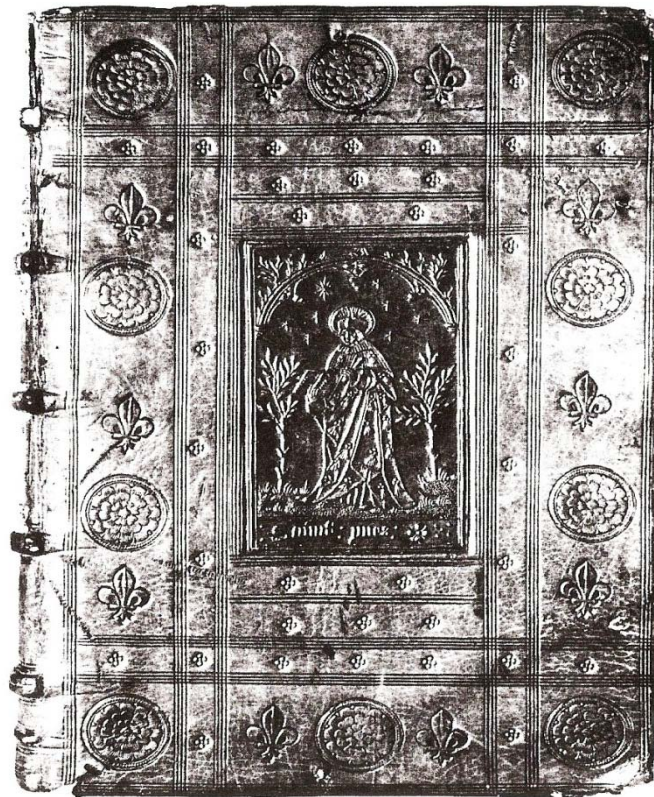
Fig 75: The cover decoration of an Italian book bound in 1493. This shows the wide border created by the edge-to-edge lines with additional strips above and below the central panel, as was done with discrete extra strips of ivory, that effectively converted the shape of the central panel to that of the board thereby enabling construction of a border of uniform width.

Replacement of carved ivory panels with stamped leather decoration but same style.

It as been observed, earlier in this thesis, that there are sufficient similarities between the deployment of panels of carved ivory in treasure book covers and the use of stamped panel decoration on leather bindings of the 15th and early 16th centuries to suggest that the style of design could have been carried across. It is also apparent that there were contemporary similarities between the decoration of Coptic leather bindings of the 7th and 8th centuries

and ivory panels.[24] The stamping technique, which, following examination of the Whittinton *Epigrams*, Nixon has reported[25] was most probably done cold rather than by the use of hot tooling, does produce surface embossing that affords an effective substitute for the bas relief sculpture of ivory. Cundall quoted a suggestion by Libri that impressing figures by blind-tooling into leather most probably pre-dates every other technique by means of engravings either on wood or metal.[26]
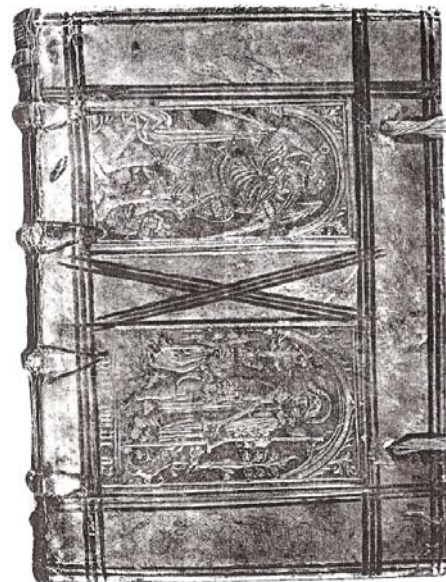
Fig 76: (left) Cover with multi-scene carved ivory centre. Fig 77: (right) Similar in stamped leather.

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[24] Avrin L. (1991) *Scribes, Script and Books*, **American Library Assocn. and British Library,** *London* Pl 268 p 310 also, Petersen T.C. (1954) Early Islamic Bookbindings and their Coptic Relations, *Ars Orientalis vol 1 p 41-64.and* Hobson G.D*. (1944) Blind-stamped Panels in the English Book-Trade c1485-1555.* The Bibliographical Society . H Horne The Craft of Bookbinding.

[25] Nixon H.M. (1952) The Gilt Binding of the Whittinton *Epigrams* MS Bodley 523., *The Library* p 120-121

[26] Cundall (1881) p 18.

Fig 78: (above left) Ivory centre panel with top, bottom and side strips to convert the shape to allow for uniform width border. **Fig 79: (above right)** Similar cover decoration in stamped leather.

The Potential Relationships between Sixteenth century Motifs and their Medieval Forebears.

Amygdalas: Finishing tools of this shape but having an internal feature such as a bird were used quite frequently on blind tooled bindings particularly those of the 15th century. The Winton Domesday is an example of such usage. This tool shape was particularly useful for the construction and decoration of circular designs.

Bats: Bat shaped motifs are particularly noticeable in the cover designs of the mid-sixteenth century period described by the general term, 'Fantasy'. It would appear from discoveries made during the period of this research that the Bat was a traditional motif in Chinese and Tibetan art with symbolic associations with longevity and happiness. Hall writes that five bats are the Japanese symbol for the Five Blessings, longevity, ease, riches, honours and joy.[27]

Vases: *'Vase',* is the name used for a very specific motif observed in the 17th and 18th centuries on gold-tooled book-bindings which consists of a slender elliptical shape having a pair of round handles at one end. In studies of these bindings the shape was commonly observed but there were no indications of precisely what it was intended to indicate. In some designs it was used as a part of a foliate construction whereas in others it appeared purely abstract. In the course of this research precisely the same shape was observed in arrangements of jewels on Roman necklace which indicates that there is some symbolic tradition associated with this shape.

Scales: The decorative use of pyramids of half-circles is a comparatively common feature of later bindings and this device is also seen in many medieval designs, particularly enamels. Possible origins for this device have been considered by Irwin who asserts that it was an important symbol in ancient India. It appears always to be indicative of a sacred hillock that possible represents the primordial hill of earliest Indo-Aryan tradition which fulfils the dual function of separating and uniting heaven and earth.[28]

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[27] Hall J. (1994) *Illustrated Dictionary of Symbols,* p 10.
[28] Irwin J. (1976) 'Aśokan' Pillars: A reassessment of the evidence –IV: Symbollism, *The Burlington Magazine,* vol CXVIII No 884 p 734-53.

The Four-Ring Frame: This name was given to a design structure of the 16th century and later, that consists of a square having semi-circular additions to the centre of each side. Precisely the same design construction is seen in the medieval period with particular symbolic origins. It has been attributed by Hall as a square having four doors, one in the middle of each side, facing the cardinal points, its characteristic form being a visual metaphor for the structure of the universe as it would be perceived during meditation. Hall suggests that the symbol probably originated from early Hindu devotional practice and Buddhism. The symbol is found in India, China, Indonesia and Japan and particularly amongst Lamaist Tibet. (Hall 1994)

Books with very Similar Cover Designs:

In the course of this research two book covers attracted attention on account of the closeness of their apparent similarity. These were the 11th century, Gospel Book of Poussay and the 9th century, Golden Codex of Berat. Both had wide borders around central plaques, the borders consisting of four square repoussé corner panels with another panel between them. The impression obtained is as if the two book covers had been assembled from the same set of eight border panels, on the Poussay one the corner panels have brooch-type motif ornaments with figure panels between them whereas the arrangement is reversed on the Albanian codex. A somewhat similar border treatment is to be seen on a Byzantine Reliquary Cover believed to be of the 12th century on account of the harshness of the

style.[29](Talbot Rice   -   ) Since there are seven figures portrayed on the reliquary cover holding books, if a higher quality photograph were accessible, it might be possible to relate their decoration to the most likely period for its manufacture. Similarly for the others, the limitation for analytical comparison is due to poor quality pictures and in the case of the Albanian Golden Codex all attempts to obtain a better quality photograph met with failure.

The book featured in the drawing of St Benedict handing his book of 'the Rule' to a group of monks (Zarnecki 1985)[30] and the book held by the figure of Christ enthroned between saints with three patrons in a drawing at Cesena dated 1104[31]. Both drawings are attributed to the 12th century and the two books portrayed have several points of similarity though the general character of the two drawings appear very different. Another combination of covers which have close connections in terms of their design are the Book of Dimma, the back cover of the Lindau Gospels and Queen Theodelinda's Gospel Book to which it has been likened.

Conclusions

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[29] Talbot Rice D. (1966?) *Byzantine Repoussé Metal Work,* Apollo fig V   p 209-10.
[30] Zarnecki G The contribution of the Orders, p49 in Evans (1985)
[31] Beckwith J. (1969) *Early Medieval Art,* Thames and Hudson, London. p 189.

The objective for this research investigation was to determine whether any chronological variations could be identified in the design structures of the decoration applied to the covers of books generally described as 'Treasure Bindings'. Several features of the decoration of such book covers have been distinguished which exhibit development with time. In approximately chronological order, these are,

1. Ivory book covers developed from Roman Consular diptychs.
2. Centre and corner patterns as arrangements of ornamental pieces.
3. Designs based on centre and corners patterns combined with either a central frame or a Latin cross.
4. Development of tiered and more complex border constructions.

In contrast to most earlier studies of book covers in this category in which each decorated cover was essentially considered as an individual work of art, the approach taken in this research has been to consider the decorated covers as a group and by detailed analysis of the design of their decoration, to attempt to distinguish characteristics and trends that have potentially more general application. By directing the focus of attention to the detailed construction of designs it has been possible to minimise the difficulty of obtaining reliable information regarding the date of manufacture. This technique also made it appropriate to expand the sample to include both pictures of actual decorated book covers and portrayals of such book covers in other works of art. Particularly valuable in this regard were book covers portrayed in mosaics since there was usually greater confidence in the date of their construction. At the start of this research it had not been expected to be able to relate any specific aspects of decorative design to chronological period but by dealing with the group as a whole, it has been possible to identify several features that have been shown to change with time. These include,

1. The 'Richness' and Complexity of the Decoration applied to a book cover. These two concepts are closely related. Complexity is loosely defined in terms of the number and arrangement of pieces employed in the design and the relative simplicity or otherwise of their shapes and textures. Richness is a measure of the quantity of precious materials needed to achieve a particular design. Complexity is therefore an indication of the skill of the artisan whereas richness is a measure of the materials used.

2. The trend in design that is believed to have the most significant potential for assessing the most probable time period when a cover was made, concerns the nature of the border. From the analyses employed in this research it appears that several stages can be distinguished in the evolution of densely jewelled and ornamented borders and that there appears to be a valid correlation between these stages and date of manufacture.

3. Significant variations were observed in the manner in which jewels and gemstones were employed in the decoration of covers. Three applications in particular were noted that have the potential to be used as guides to dating. These are the use of pearls, the appearance of five-stone groupings and the 'brooch' arrangement of jewels. In all these three cases, it appears that there was a certain point in time, albeit rather approximate, before or after which the specific feature was in fairly common use. Considerably more investigation of these three features is likely to be a productive area due to the importance of the materials, particularly pearls and because there are indications that the arrangement of jewels in the two structures identified, themselves had especial significance.

4. One of the consequences of the close scrutiny applied to every decorated cover, is that it appears that the technology of the means with which individual jewels and gemstones were secured to the cover has the potential for use as an indicator of date or place of manufacture. It is apparent that there are basically three types of mounting that were used to secure jewels and gemstones in place. These are, a compressed tubular housing, a toothed cup and a four-point, claw system. Since these also appear to embody a relationship with time, the combination of this technological indicator used in conjunction with estimates based on interpretation of border design would strengthen any deductions made.

Since the period studied in this research was in many ways the formative time for the development of decorative design techniques for book covers, it was of interest to consider to what degree the designs of this period may have influenced the gold-tooled designs of later centuries. While not arguing that the later usage was entirely due to the medieval designs, there are however several parallels in the way the design space was used and also some examples where a particular style of the medieval period experienced a renaissance through an innovation in technology.

While placement of ornamental motifs at the centre and corners of a design field is the basis of many designs in both time periods, the concept is so ubiquitous and perhaps, obvious, that it can hardly be considered a design style that was transferred. More pertinent would be the use of straight lines to create borders and especially the use of additional decorative strips around a central panel to enable a border of uniform width to be created. This latter feature of layout drafting is seen in blind-tooled leather bindings of the 15th and 16th centuries in particular. The multilayer concentric frame designs on treasure book covers

similarly have parallels in Spanish Mudejar bindings. Considerable similarities can be seen also in the way panels of stamped leather were used on later bindings that were identical to the earlier placement of panels of carved ivory, the stamping of leather resulting in a low relief sculpture comparable to that of an ivory carving. Indications could also be seen in the way fine structure developed in the definition of what were originally simple lozenge and triangular shapes such that it was in effect, possible to observe their transition into the lacy medallions of the later 'Fanfare' designs of the 16th and 17th centuries.

While engaged in the 'due diligence' of this research, it became apparent that several motifs that were known from the decoration on later gold-tooled bindings clearly had antecedents in the medieval period and in some cases well before. Motifs in this category include the almond shapes seen decorating circular patterns in blind-tooled designs of the 14th and 15th centuries, Batwing shapes of the mid-16th century, Scale patterns, the curious 'vase' shape of the 18th century, possibly the evolution of the medieval amygdala through an indented heart-shaped phase into the later 'Arabic Motif'. The origin was also discovered for the structural form that has been observed in numerous gold-tooled designs and denoted there by the description, 'Four-Ring Frame'.

The origin of the highly decorated book covers known as Treasure Bindings was clearly the result of the conversion of the Roman Emperor Constantine in the early fourth century and his establishment of fifty new churches in his new capital and instruction that they be supplied with copies of the Gospel Books, adorned with covers of gold and jewels and pearls. It would appear that some idea of the magnificence of these book covers, decorated as they were to the luxurious standards assumed by the Emperors of Rome, is still to be gleaned from the artworks of the period and that the standard established by these books continued to be emulated for many of the succeeding centuries. During the period 6th to 12th century, the time studied in this research, the calibre of decorative design of these book covers developed from the earliest Roman tradition of precious materials but rather rigid design through to the more complex and densely detailed richness of the 11th – 12th centuries.

As a result of the analytical approach evolved in this research, it has been possible to identify various stages in the process of design development such that it is now believed possible to begin to place a cover design within a chronological framework. There are already applications for this specialised knowledge. An ivory book cover that has been widely attributed as being 6th century workmanship, includes in its decoration a figure holding a book. The design of this portrayed book had not evolved until about three centuries later. It is anticipated that a short note on this diptych will be submitted to a journal in the near future. A second instance is that of the Mondsee Gospel cover. The design of this cover has not fitted comfortably into the general structures established by this research and contact has been made with a member of staff of the Walters Art Museum in Baltimore, who it was discovered, had spoken at the Courtauld Institute in London earlier

this year, on the possibility that the cover may by a more modern creation and not of the twelfth century as has previously been supposed.

Having identified particular features of the decorative design that appear to exhibit time-dependent characteristics, it would be desirable to extend the analysis in order to increase confidence in these conclusions. This requires access to additional material. For the purposes of this research programme, the number of pictures of book covers available for analysis was considered sufficient. The number of book covers was limited by whether a particular cover had been selected by a previous author for inclusion in a book or article. It is believed therefore that there are likely to be a comparable number of unpublished covers preserved in various libraries and museums around the world. To advance this research further, overtures would be made to every organisation where it is considered possible that additional covers might be held in the hope of obtaining photographs for analysis.

The changing style of mounting galleries for the gemstones and jewels that was discovered in this research programme also invites further investigation. Since the nature of the mountings made for use on book covers are significantly different to those appropriate for personal jewellery, this activity is also dependent upon gaining access to additional photographs of book covers.

During the course of this research a technique was developed whereby a 'complete' description of a cover decoration could be recorded using a symbolic notation. The method has been applied to a wide range of centre and corners designs including designs composed of multiply-nested frames and is currently being extended to accommodate designs in which a cross or central frame is combined with the centre and corners structure. In support of future research it is intended that this technique will be developed to enable application, not only to all varieties of treasure cover decoration but to include the designs of all the 'classical' styles of the formative period of gold-tooled decoration.

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List of Codex Covers Analysed in this Research Programme.

6th Century:

Ivory diptych, Flavius Anastasius Probus.	517	Source: Wikipaedia
Ivory Consular diptych of Filoxenus	525	History of Bookbinding (Miner 1957)fig1
Ivory diptych book covers	6thC	Early Medieval Art,(Beckwith 1969) p143
Silver book covers	6-7C	Early Medieval Art, (Beckwith 1969) p65
Ivory covers of Echmiadzin Gospels	6thC	Early Medieval Art,(Beckwith 1969) p140
Ivory diptych of Justinian	521	Heilbrunn Timeline of Art History

7th Century:

Gold cover Gospel of Queen Theodolinda	<625	From Cave Paintings to the Internet
The Morgan Staurothek	7-8C	Apollo Jun-Jul 1978 p 19

8th Century:

Lough Kinale Book Shrine	c8C	(Laing and Laing 1995) p 147
Lough Kinale Book Shrine	800	(Richardson 1992) p 387
Lindau Gospels, back cover	8C	(Matthew 1983) p 57
Ivory diptych Lorsch Gospels	c8C	(Bullough 1965) p 22

9th Century:

Golden Codex of Berat	9C	Albanian Heritage, Onufri Museum
Lindau Gospels, front cover	c870	(Bullough 1965) p
St Gallen Codex 53		e-codices.unifr.ch/en/…/bindingA
EvangeliumLongum Codex 53	895	(de Sager 1975) p 92
Ivory book cover MS Douce 176	c800	Wikipaedia Commons 03/12/2009
Ivory book cover Metz	mid 9C	(Beckwith 1969) p 65
Ivory Book cover	9C	

www.alamo.edu/sac/vat/arthistory/arts1303/Mediev1.htm

Irish bronze book cover decoration   9C   (Harbison et al 1978) p 28

Soiscal Molaise Book Shrine   c9C
www.eskimo.com/%7ehmiller/cumdach.html

Stowe Missal Book Shrine   c9C

www. Eskimo.com/%7ehmiller/cumdach.html

Book of Dimma Shrine   c9C

www.eskimo.com/%7ehmiller/cumdach.html

The Misach   c9C

www.eskimo.com/%7ehmiller/cumdach.html

Treasure of St Denis, Book of Gospels & Epistles c9C
http://vrcoll.fa.pitt.edu/medart/image/France/St-denis/felibien/FelP14/PlateIV-aa.html

Gospel cover of St Gaucelin   9C   (Huyghe 1958)

Der Ottonische Goldene Buchdeckel   9C   (Grimme 1994) p 131

Codex Aureus of St Emmeram   c870   (Beckwith 1969) p 51

Carolingian Ivory Manuscript cover   early 9th C   Burlington Magazine Dec 1977 p xi.

Ivory Bookcover   late 9-10thC   Apollo November 1966 p 358.

Covers of Prayer Book of Charles the Bald c870   (Sutton 1979) p 256

Byzantine Gospel Book cover   9th or 10th C   (Muraro and Grabar 1963) p70

Psalter of Charles the Bald   9thC

http://medievalwriting.50megs.com/decoration/binding.3.htm

Metz Evangelary

http://medievalwriting.50megs.com/decoration/binding.3.htm

Metal bookcover from Ireland, Celtic Cross

http://medievalwriting.50megs.com/decoration/binding.3.htm

10th Century:

The Nicephoras Bible Cover	c970	(Rice 1935) p 207	
Gospel of Poussay	10C	(Matthews 1998) p 141	
Evangelary of Saint Denis	10C?	Felibien	

http://vrcoll.fa.pitt.edu/medart/image/France/St-denis/felibien/FeleP12/Platell-z2.html

Missal of Saint Denis		Felibien (PlateII-z7.html)	
Christ Pantocrator – silver-gilt bookcover	2H10C	(ANON???) p 213	
Archangel Michael (icon)	2H10C	(ANON) p 212	
Ivory cover by Tuotilo at St Gall	c900	(Beckwith 1969) p 77	
Gospel cover with St Miachael	10C	(Fossier 1989) p 384	
Ivory panel from Codex Aureus Epternacensis	983-91	(Beckwith 1969) p 137	
Cover of Byzantine Gospel Book	mid10C	(Muraro and Grabar 1963)	
Book cover –'seated Christ'	4Q10C	(Rice 1935) p 206	
Book Cover, Cross, Busts of Saints etc	4Q10C	(Rice 1935) p 208	
Gospel of St Molaise	c1000	(Laing and Laing 1996) fig 188	
Irish Bronze Bookcover plaque	10C	Fossier 1989)	
Echternach Gospel Cover	c990	(Lassus 1967) fig 62	

11th Century:

Binding for an Ottonian Gospel Book	11C	(Ragghianti 1967) p 69 and also	
		(Donaldson 1981) p 18	
Silver-gilt binding	c1040	University of Maryland/Miner	
Codex of Abbess Uota of Niederműnster	early11C	(Beckwith 1969) p 143	
Gospel cover of Sion	11C	(Graham 1993) p 33	
Pericopes of King Henry II	pre-1012	(Beckwith 1969) p 108	
Evangelistary of Aribert	11C	(Bologna 1982) p 25	
Ivory from Epistles for use of Cologne	11C	(Scott 1989) p 272	

Gospel Book of Otto III   c1000   (Beckwith 1969) p 105

Ivory plaques of David and Solomon   10/11C   (Felibien plate II item Z)

Evangelia binding   early 11C (Rylands Collection JRL030543tr.)

Mondsee Gospel   1030c -1050
            (http://art.thewalters.org/viewwoa.aspx?id=17493 (viewed 20/10/09)

Gold repoussé   1020 – 1040   University of Maryland/Miner

St Michael Gospel Book cover   11C   (Delouche 1992) p 114

Silver-gilt binding for Judith of Flanders   2H11C   (Thomas A. 1975) p 220

12th Century:

Ivory of St Theodore   12C   (Plummer 1959) p 192

Copper-gilt book cover   2H12C   (Rice 1935) p 210

Evangeliarium   1H12C   (Thomas 1939) fig IV.

Jewelled binding with relics at corners   12C   John Rylands Library p86

The Sion Gospels   1180-1200   Victoria and Albert Museum

        http://www.flickr.com/photos.kotomi-jewelry/4179279232/ (viewed 18/12/2009)

The Hildersheim Bookcover.   C1170   Trier Cathedral Treasury

http://www.sacred-destinations.com/germany/trier-treasury-photos/slides/de_067p.php

                                        (viewed 08/07/2009)

Russian Gospel cover, jewels & enamels   12C   http://www.allposters.co.uk/-
sp/Gospel-Cover.Gold-with-Repouss-and-Enamel-Decoration..   (viewed 03/07/2009)

Limoges Enamel Book cover   1180-90   (Metropolitan Museum of Art 1996)

Gospels of Henry the Lion   c1188

Portable icon, St Catherine's Monastery   12C
            http://touregypt.net/featurestories/catherines2-22.htm   (viewed 11/11/2009)

John the Baptist large five ring ivory cover   12C   (Williamson 1982) p 28

Jewelled Binding   (JRL021635tr.)   13C   Rylands Collection

http://enriqueta.man.ac.uk:8180/luna/servlet/detail/Manchester~91~1~1079~100119:Jewelled   (viewed 12/11/2009)

Jewelled cover of Gospel Book   10th – 12th C   John Rylands Library

Christ in Majesty/ Crucifixion p 331a,b   1Q13C   (Metropolitan Museum of Art 1996)

Limoges enamel book cover plaques   1Q13C   (Arminjon et al 1995) p 94

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List of Portrayals of Books in Mosaics, Paintings and Carvings

6th Century:

'Blessing Christ encaustic	6C	(Matthews 1998) p 51
Mosaic, Oratory of St Andrews Ravenna	6C	(Every 1970) p 20
Mosaic	6C	(Drinkwater & Drummond 1993) p 181
A Sainted Bishop, encaustic	6C	Rice 1958) p 213
Two ivory diptychs	6C	Early C & Byz Art ???
Christ and St Menas, tempera	6C	(Matthews 1998) p 48, (du Bourgnet 1971) p 43

7th Century:

Freer Gospels covers, encaustic	7C	

<center>http://www.asia.si.edu/exhibitions/online/ITB/html/F1906.297-8.htm</center>

Mosaic, Salonika, St Demetrius	c634	(Rice 1966) p 65
Painting, vault Coptic Museum, Bawit	7C	(du Bourgnet 1971) p 53
St Demetrius, mosaic	c647	(Beckwith 1969) p 164

8th Century:

Ivory Cover from Lorsch Gospels	8C	(Bullough 1965) p 72
Ivory diptych at Genoels-Elderen	8C	(St Hubyn 1987) p 71
S Maria Antiqua, Rome	8C	(Eastmond and James 2003) p 153
Codex Amiatinus, Ezra	8C	(Nordenfalk 1988) p 37
Godescalc Evangelistary, painting	781-83	(Műtherich F. & Gaehde J. E. 1977) p 1
Codex Aureus	8C	(de Hamel 1994)

9th Century:

Folio 291v Book of Kells	before 807	(Nordenfalk 1977) p 45
Mosaic,Hagia Sophia, Thessaloniki	885	(Matthews 1998) p 8

Mosaic St Ignatius, Hagia Sophia,   late 9th C   (Matthews 1998) p 58

Teca d'Argento case of Paschal I Cross   (Bullough 1965) p 157

Casket for Reliquary of True Cross   9thC

        http://www.christusrex.org/www1/vaticano/S2b-Casket.jpg

Painting, 'The Mass of St Giles'   9thC   (Kidson 1967) fig 11.

First Bible of Charles the Bald   845-6 (Műtherich F. & Gaehde J. E. (1977) p 23

Sacramentary fragment from Metz   c870   (Műtherich and Gaehde 1977) p 33

Bible of San Paolo Fuori Le Mura   c870   (Műtherich and Gaehde 1977) p 45

Ivory book cover from St Gall, Tuotilo?   C900   (Beckwith 1969) p 78

Book of the Four Gospels of Adiši   897   (Beridze et al 1984) p 111

10th Century:

Embossed silver lamina from Sagolašeni   10/11C (Beridze 1984) p 193

Ivory Triptych of Constantine   945-59 (Matthews 1998) p 64

The Harbaville Triptych   late 10C   (Rice 1966) p 77

Ivory Triptych from Nikorcminda   10C   (Beridze 1984) p 212

The Harbaville Triptych, back panels   10C   (Durand 1999) p 141

Ivory Triptych and panels   mid-10thC (Anon 1962) p 4

Ivory triptych   10C   (Eastmond and James 2003) p 204

 Agate Chalice with enamel portraits   10C   (Muraro and Grabar 1963)

Painting by Master of Registrum Gregorii   10C   (de Hamel 1994) ch II

Tempera, St Nicholas, Mount Sinai   10C   (Matthews 1998) p 59

Icon, St Nicholas, Mount Athos   (Rice 1966) p 215

Reliquary of Foot of St Andrews   977-93 (Kidson 1967) pl 42

11th Century:

St Nicholas, Embossed silver plate   1040   (Beridze et al 1984) p 202

St Basil, Embossed silver plate   1040   (Beridze 1984) p 203

Holy Water Bucket c1000 (Kidson 1967) p 28

Mosaic, Christ with book of gospels (Rice 1964) p 195

St Demetrios, gold cloisonné 11C (Fossier 1989) p 174

St Matthew, Bible of St-Martial de Limoges c1050 (Evans 1969) fig 33a

Mosaic c1042 (Rice 1966) p 104

Ivory panels 10-11C (Oakeshott 1959) pl 28

Sacramentary, Mainz or Fulda 2Q11C (Kren et al 1997) fig 5

The Royal Crown of Hungary 11C (Hilsdale 2008) fig 1 also (Durand 1999)

Henry II with Gospel book c1020 (de Hamel 1994)

St Benedict and St Maur 1057-85 (Argan 1969) p 60

Ivory with Maiestas Domini late 11th / early 12th

http://www.christusrex.org/www1/vaticano/SB-Maiestas.jpg

Byzantine Ivory panel 11th or 12th C (Anon 1931) p 546

Gospel Book 2HXIth C (Thomas 1939) and (Metropolitan
Museum of Art 2000-)

Mosaic, West Dome of St Mark's 12thC (Muraro and Grabar 1963)

The Palo d'Oro Altar Central Plaque 12thC (Muraro and Grabar 1963)

Drawing from manuscript 12thC (Evans 1985) p 49

Christ Pantokrator c1100 (Durand 1999) p 99

Gospel Book of Henry the Lion c1129-95 (de Hamel 1994) p 72-3

Manuscript, capital 'P' mid 12thC (de Hamel 1994)

Stone statue, Cathedral of Sens (Evans 1969) fig 96

Enamel Limoges St Peter (Arminjon 1995)

Drawing Christ with saints and patrons 1104 (Beckwith 1969) p 189

Mosaic, S.Maria, Trastavere, Rome 1130-43 (Johnson 1997) p 97

St Peter in Glory enamel 1185-1200 (Metropolitan Museum of Art 1100-)

Reliquary Deacon with Gospel Book?   (Metropolitan Museum of Art 1100-)

Painting Emperor Nicephorus Botiniates   11thC (Rice 1966) fig 112

Enamelled plaques   c1231 (Metropolitan Museum of Art 1996)

Painting in wooden church, Torpo, Norway c1250 (Every 1970b) p 127

Mosaic, San Miniato al Monte   c1297 (Rossi 1970) also (Gettings 1978) p 43

Painting St Francis by Berlinghieri   1235 (Honour and Fleming 1982) p 301

Christ the Saviour, painting   13thC (Bologna 1983)

St Quentin also the Beau Dieu, Amiens   c1230 (Huyghe 1958) fig 852 and 833

Limoges enamel and rock crystal binding   13thC
        (http://www.nb.no/baser/schoyen/5/5.8/ms4613.jpg

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Original Designs on which the Proliferation Chart is Based.

1.   Mosaic Cathedral of Poreč   c550

     Evangelary of Godescalc, Court School of Charlemagne   4 Q 8 C

2.   Silver repoussé   Syrian?   2 H 6 C

3.   Ivory from Aachen Palace School   early 9 C

4.   Ivory diptych   late 8 C

5.   Three examples all of   2 H 11 C

6.   Book of San Paolo Fuori   c870

     Cover of manuscript, Winchester   mid-12 C

7.   Icon, Egypt   5 C

     Freer Gospels, Coptic   7 C

     Mosaic, Ravenna 6th C

8.   Ivory Book Cover 6th C

     Gospel Book of Etchmiadzin 6th C

     Gospel Book   2 H 11th C

9.   Evangelum Longum   895

     Ivory Book Cover   mid-9th C

	Cover style believed	c 1050
10.	Gospel Book of Poussay	10 C ?
	Ivory in this style	6th C
11.	Gospel of Queen Theodelinda	603
12.	Now in St Mark's, Venice	4 Q 10 C
13.	Lough Kinale Book Shrine	c800
14.	Mount Sinai, indications of this style	c 6th C
	Mosaic, Ravenna	6th C
	St Nicholas icon from Mount Sinai	10 C
	Mosaic Hagia Sophia	late 9 C
	Christ with St Menas	6 C also dated as 6 – 7 C
15.	Gospel Book of Otto III	c 1000
16.		
17.	Ivory cover	9th C
18.	Metz, Court School of Charles the Bald	c 870
	Mosaic in S Maria, Rome	1130-45
19.		
20.	Altarpiece, St Denis, Paris	9th C
	Gospel of Henry II, Bamburg	c1020
	Mosaic San Miniato, Florence	c1297
21.		
22.	Gospel of St Emmeram	c870
	Gospels of Echternach	c990

Golden Gospels of Otto

23.   Back cover of the Lindau Gospels   8-9th C

Metal Book cover from Ireland.

24.   Ottonian Gospel Book   c9th C

Coptic Psalter   7-8th C

25.   Byzantine Gospel Book   9-10th C

26.

27.   Georgian Silver Book Cover   1040

St Francis   2 Q 13 C

28.   Soiscal Molaise   c1000

(Calf of Man Cross   8-9th C)

29.   Mosaic, Christ Pantokrator   c1100

30.   Mosaic Bawit   7th C

Manuscript, Life of St Maur, Rome   2 H 11th C

31.   Bible of Nicephoras   970

Gospel Book at Mount Athos

32.

33.   Gospel Book of Mondsee   late 11 C also dated 1030-1050

Book of Dimma   12th C

Stowe Missal Shrine

34.   Gold Repoussé   1 H 11th C

Evangelarium   1 H 12th C

Limoges enamel   13 C

	Limoges enamel	4 Q 12 C
35.		
36.	Mosaic St Mark's, Venice	1100-1112
	Torpo Church, Norway	c1250
37.	Gospel of St Gaucelin	9th C
38.		
39.	Manuscript illumination	early 8 C
	Illustration, Book of Kells	before 807
	Mosaic at Thessalonika	885
	Mosaic in Hagia Sophia	late 9th C
	Gospel Book of Adisi	897
	Cover of Gospel of Henry the Lion	1175-80
	Mosaic in St Mark's	12 C
	Stephaneski altarpiece	c1300 ?
40.	Gospel of St Gaucelin	9th C
41.	Ottonian Gospel Book	c9th C
	Sion Gospels	c 4 Q 12th C
42.	Limoges enamel	1 Q 13th C
	Limoges enamel	4 Q 13th C
43.	Codex of Abbess Uota early 11 C	
44.		
45.	Mosaic at Thessalonika	885
	Mosaic in Hagia Sophia	late 9th C

Mosaic, St Mark's, Venice   1100-1112

Mosaic in Cathedral of Cephalu, Sicily   c1150

46.   St Stephen, Florence   c1350

47.

48.   Gospel Book believed from Mount Sinai

49.   Gospel Book cover   10 – 12 C

Gospel Book of King Henry II   1 Q 11th C

Icon   12-13th C

50.   Psalter of Charles the Bald

Metz Evangelary

Proliferation of Designs Chart I.
Identification of Designs.

Proliferation of Designs Chart II
Attributed Dates.