THE SIGNIFICANCE OF DOT-PATTERNS IN
CAROLINGIAN MANUSCRIPTS

by

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ABSTRACT

The significance of dot patterns in Carolingian manuscripts is the subject of my research.

In my investigation into the sources of these patterns I hope to show some relationship between them and metal working techniques to which could be attributed an overall development of pattern and design during the early Middle Ages.

Since the art of the period reflects so strongly the social and political conditions existent during the reign of Charlemagne I have also included a brief summary of those relevant historical conditions.

The adverse situation prevailing in the Frankish kingdom during the seventh century together with the weakness of its rulers enabled the Carolingian family to obtain power, and when Charlemagne became the sole ruler in 771 he continued to carry out the family policy of uniting the peoples of the West and initiated a revival of Roman culture and learning in his kingdom. This programme also included the establishment of schools, and the illumination of books; also to fit into his ambitious programme every effort was directed by both Church and state to produce a variation in the artistic world from the then available
migration art.

To accomplish this foreign artists and their work were readily drawn to the court of Charlemagne to contribute to the new form of artistic expression; while the Church did its part by adapting foreign and domestic styles in its newer designs and by utilizing the working methods of the monastic workshops.

From my investigation I find that the dot patterns are only used in the manuscripts of some Carolingian schools, notably the School of Tours, which is generally recognised as the oldest school.

Examination of these manuscripts proves there are many variations in the patterns of dots used, the reason for which is sought in the influences and inspirations of the following:

1. Foreign styles, including Insular and Eastern Mediterranean art forms.
2. Applied arts.

Here I find that dottings can be listed according to their origins in metal working techniques.

Finally the origin is sought of the peripheral dottings found particularly in connection with Canon Tables; and references are given to various sources of influence from the Eastern Mediterranean arts together with one example from an Irish church.

I reach the conclusion that the influences governing the dot patterns in Carolingian manuscripts came from
many sources and that the dot patterns were ultimately combined and moulded into new designs through the working procedures developed in the Scriptorium.

In my collation of all the available evidence I establish the fact that these dot patterns are presented in three main groups:

1. Dots derived from constructional details of domestic artifacts.
2. Dots derived from decoration of the above.
3. Dots derived from imported manuscripts, ivories, and so on.

My final suggestion is that the dottings of foreign origin become absorbed very rapidly in the style that borrowed them, while the dottings derived from well known objects seem to disappear entirely for two apparent reasons:

1. The art from which they sprang begins to deteriorate.
2. Society changes; and with the arrival of other values the objects copied are no longer of major importance.
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INTRODUCTION

The dot patterns in Carolingian manuscripts are puzzling in their simplicity, and they could as easily have appeared as a purely decorative element with no significant meaning as they could by deliberate design. However, realizing the Carolingian artist's habit of copying, a search into the origins of these dottings may aid us in an understanding of the development of patterns during the early Middle Ages.

To trace their origin and significance it is necessary to briefly relate the political background of the Empire of Charlemagne because the programme carried out by his regime caused changes in the Frankish society, which were reflected in the arts of the early Carolingian period.

During the seventh century the Frankish kingdom appeared strong in comparison with her neighbours in Western Europe; Anglo-Saxon England was divided into small warring states; Visigothic Spain was continually being torn by internal feuds, and similar conditions weakened the Lombards in Italy. However, it was difficult for the Frankish ruler to maintain power over the outlying areas of his kingdom because of its size, and because of the defiant attitudes of officials and landowners. Gradually the weak and inefficient Merovingian kings began to rely entirely upon the
"Mayor of the Palace," originally a type of stewardship of the king's household, but eventually equal to a "Prime Minister."

This institution enabled the Frankish family—which came to be called Carolingian—to obtain power; its members held the mayorship for generations until Charles Martel, the grandfather of Charlemagne, gained permanent possession of the office in 717. His son Pippin III succeeded him and in 751 sent an embassy to Pope Zacharias for permission to depose the Merovingian puppet king Childeric III; permission was granted. Pippin died in the fullness of his power in 768, leaving the kingdom of the Franks jointly to his sons Carloman II and Charles, who, after Carloman's death in 771, became sole ruler.

Charlemagne carried on the basic family policy of uniting all the peoples of the West into one single kingdom. He called upon the assistance of the Church and encouraged Christian missions and reform movements among the population to facilitate the development of a uniform set of ideals and institutions that could aid the ruler in his ultimate goal, the revival of Roman culture and learning in his kingdom.

But first Charlemagne had to use all his authority to preserve discipline among the existing clergy to ensure that a following generation of clergymen would from environment and conviction accept that form of regimented life in the service of their master. Beginning a campaign to raise the moral as well as the educational standards among the breth-
ren, he went about the development of his schools, which were to become the cultural centres of the Carolingian period.

The palace school at Aachen continued in a tradition which had been initiated under Constantine the Great and had been imitated under the Merovingians at Utrecht. Here it had been customary to maintain a court school for the training of young men not only in letters, but also in the use of arms together with discipline and manners befitting their aristocratic background. Under the new regime of Charlemagne military instruction was replaced with the teachings of the Gospel, and the overall schooling appears to have aimed at a very close personal contact between teacher and pupil. Apparently the student meal hours were not exempt from this contact for Alcuin describes how he himself, while giving pious instruction did not fail to keep his throat clear with beer and wine so as "to be able to teach and sing the better."^1

With the widening of the educational scope new books were needed not only in the schools but also in the missions, and a rapid development took place in manuscript production to keep pace with the revival of learning. At first the main centres of book production were in the old eastern Frankish regions, but later on they shifted to the north of France, to the Court School at Aachen, and the monastic

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school in Tours. Still later book production was expanded to many centres, including Rheims, Metz, Corbie, Lyon, Cologne, Utrecht, Reichenau, Freising, St. Denis, St. Amand--near Tournais--the seat of the Franco-Saxon group of manuscripts, the monasteries of St. Benoit-sur-Loire, Trier and Fulda and Salzburg. 2

When Charlemagne embarked on his enormous scheme of reviving the Roman tradition in his newly found empire, an interruption took place in the development of the Frankish tribal society, following replacement by a political and cultural development of the empire as a whole; this interruption is clearly reflected in the arts of the early Carolingian period. The land of the Franks already had an artistic tradition--the heritage of the Migration period--which included portable objects such as personal ornaments, weapons, and household implements, worked in bone, wood, and bronze, and with mainly abstract ornamentation; and that type of art was ill-suited for propaganda purposes. A new art had to be developed to fit the ambitious program of Charlemagne, and therefore it may be suggested that Carolingian art should be regarded as a product not so much of a continuing artistic and esthetic tradition as of imposed political and religious ideas.

The artistic development of the Carolingian period can be explained by reference to the grand imperial idea of

2See map pl. V for location of these centres.
Charlemagne and to the influence of the Church and Clergy both on the Continent and in Ireland and England. The huge program included the building of abbey churches and monasteries with schools and scriptoriums, under influence from the preceding activities of the Irish missions founded during the early seventh century under the leadership of St. Columban at Bobbio, Luxeuil and St. Gall on the Continent; and the early art of the Carolingian period became subject to the influence not only from migration art, but also from art forms, which although they had been inspired by the arts of the Eastern Mediterranean had been transformed into a unique style. The Insular illuminations reflected the decorative linear approach of the Germanic peoples; the art objects and manuscripts imported by Charlemagne indicated more directly the naturalistic and plastic traditions of the late Antique in Byzantium and Italy.

It seems obvious that Charlemagne saw the usefulness of recreating things from the past, not only because it would assist him in his planned rebirth of a classical civilisation, but also by having the art of the past molded to suit his purpose it could be used as an important aid in

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3 In this connection it may be worth mentioning the general disagreement among scholars concerning a coptic influence reaching the Carolingian manuscripts via Insular art. Diringer: "Highly improbable is Egyptian-Arabic influences brought to Ireland by Egyptian monks." Kitzinger: "When in the seventh and eight centuries contacts with the South were established, Coptic and Syrian works often had greater attraction for the Northern craftsman than the mere classical art of Byzantium." David Diringer, The Illuminated Book, London, 1955; Ernst Kitzinger, Early Medieval Art, London, the British Museum, 1963.
his extensive educational plan. When the ruler drew artists to his court in Aachen both from the North and from the Mediterranean countries, they brought with them many varying styles, some having already influenced the art of the Irish. Thus Carolingian manuscripts may have been influenced from the same source in a direct as well as an indirect way. Furthermore the artists not only brought with them their native styles, but also many different objects of art to serve as models in the Carolingian workshops, including ivory carvings, censers, portable altars, a few reliquaries, manuscripts, and possibly panel paintings.4

Carolingian art was not a conscious renaissance of one definite style of the past, but drawing from the vast repertory of forms which had been developed and passed on from all the preceding centuries in various corners of the world, it strove for the formation of a new artistic form

4Perhaps also casks or coffins, for Vivian, abbot of the monastery of Marmoutier (843-851) and his brother brought the body of St. Gorgonius from Rome to Marmoutier; and already during the period 670-690 relics had been imported to Northumbria from Rome by Benedict Biscop and Wilfred of York.

5How much influence panel paintings had upon the formation of the Carolingian style is open to question for the total number of icons that have come down to our time is too small to permit a conclusive statement. According to Kitzinger the main output of portable paintings or pre-iconoclastic date should be sought in the seventh and eight centuries. The most important example of these icons are four panels from Mount Sinai in Kiev from the time of Pope Stephen II (752-757), and some portable paintings of the provincial Coptic style; one of the paintings from Mount Sinai depicting an enthroned Virgin and Child show a variety of dottings similar to decorations seen on Insular and Carolingian manuscripts. Ernst Kitzinger, "On Some Icons of the Seventh Century," Late Classical and Mediaeval Studies in Honor of Albert Mathias Friend, Princeton, Princeton University Press, 1955, p. 139.
which contained the qualities of the old. In doing so the final outcome did not show a uniform character but rather a series of styles with different characteristics, influenced by the centres where they happened to develop.

At the time powerful colonies of oriental merchants—Syrians as they were then called—settled in Provence and from there spread little by little over the whole of Gaul and as far as England, bringing with them from the Orient, Egypt and Byzantium textiles, jewels, and ivories, objects that might possibly influence an art, which was in the making, i.e., the writing and illumination of books. The Gospel was the foundation of missionary influence and the elaborate, illuminated manuscripts became a necessity. The native styles appeared to remain unchanged but gradually the patronage of the Church brought about the establishment of Mediterranean styles and characteristics in craftsmanship in Northern Europe, although the domestic tradition seemed to remain unchanged in the secular field and carried on for a long time as the main source of inspiration of the new art of manuscript illumination.
CHAPTER I

The Carolingian Schools

According to Koehler it is difficult to define the styles and characteristics of Carolingian manuscripts, because we know nothing about the achievements, organization or working methods of the Carolingian scriptoria; with available evidence it is sometimes difficult to establish even the site of a scriptorium. The location of monastic libraries and schools are known, but whether or not a scriptorium was attached is a point on which we have no knowledge. Very few of the manuscripts now known were originally in possession of the Church or of some other ecclesiastical institution; most of them were made to order—for export—or were given away as gifts. Lacking definite evidence scholars group the manuscripts of the Carolingian period into schools or groups based on similarities of style.

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1 Wilhelm Koehler, Die Karolingischen Miniaturen, Berlin, 1963, Vol. I, p. 2. "... there is no close connection between the 'family members' for we do not know the genetic description according to which they are affiliated; and how does it come about that within a family, generations of these works follow each other in which any important signs of a family character is missing?"

2 Ibid., p. 11.

3 Loc. cit.

4 Ibid. Koehler mentions the "family system" arranged by Janitschek.
The School of Tours

The School of Tours produced the **St. Gall Bible** (St. Gall Library 75);\(^5\) the **Vivian Bible** or **First Bible of Charles the Bald** (Nat. Lib. Paris, lat. 1) written and illuminated c. 846;\(^6\) the **Grandval Bible** (Lond. Brit. Mus. Add. 10546); the **Evangelarium of Emperor Lothair** (Bibl. Nat. Paris, lat. 266); the **Sacramentarium of Marmoutier** (Autun Municipal Library, Cod. 19 bis); the **Alcuin Bible** (Vallicelliana Lib. MS.B. 6);\(^7\) several minor bibles, sacramentaries, lists of monastic regulations, and a book of grammar.

The scriptorium of the School of Tours may have been attached to the St. Gatien Cathedral, to St. Martin's Abbey, to the Monastery of Marmoutier or to the Monastery of Cormery.\(^8\) It was to St. Martin's that Alcuin went to take over the School of Tours about 791, after the death of Abbot Hitherius, the founder of the Cormery Monastery a few miles from Tours.

\(^5\)According to Koehler the oldest manuscript (c. 801) of the Carolingian period.

\(^6\)Koehler states its archetype belongs to the fifth century. If the date 846 is correct that makes this bible approximately twenty years older than its namesake the Second Bible of Charles the Bald a product of the Franco-Saxon School.

\(^7\)Rand connects this MS with the School of Tours; Koehler with the School of Rheims.

\(^8\)Ibid., p. 13. Koehler considers it unlikely that a scriptorium was attached to St. Gatien, as that institution only produced one bishop Amaricus (849-855) who seems to have shown any scholastic abilities, and who at an earlier period had been associated with St. Martin's, which was the oldest establishment.
An almost legendary light illuminates the name of Alcuin of York in crediting him with creating the Carolingian style of illumination. It is beyond the scope of this thesis to deal with the question of Alcuin's activities, although it should be stressed that he was an excellent teacher, and that he sent to York for books, to be used either in educating the pupils—or to be used for copying—which we do not know; perhaps the books established the influence which he may have brought upon the art of the School of Tours.

In 807 Fridugisus became abbot of St. Martin's, and he remained there for twenty-five years; he had been Alcuin's pupil in York, and it was to him that Alcuin sent his request for books; it seems that he arrived on the Continent after 793. Fridugisus was responsible for the establishment of a "Fraternity of Prayer" between the monasteries of St. Martin's and St. Gall, which included not only ex-

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9 Alcuin's importance as scholar, poet and author, and as such his great influence on the work of Charlemagne, is, according to Koehler, out of the question, as the material about him is far too flimsy to be established as sure evidence. One source claims that Alcuin according to his own writings was a weak man because of sickness and old age—he apparently suffered from an eye disease, which left him blind, and that he already in 801 was relieved of his responsibility, but still stayed on in Tours; others maintain that his last three years thus became his greatest, as he was left free to concentrate his energy on cultural activities. Again some sources are of the opinion that he was the only man capable of forming a school, of reviving the Bible-texts, and of controlling the development of the minuscule, which was a result thereof. If this is true then St. Martin's must have been the centre of spiritual life and the most important seat of knowledge during the Carolingian Renaissance.

10 Ibid., p. 19.
11 Ibid., p. 21. "Gebetsverbrüderung."
changes of lists of names of the monks belonging to the Fraternity, but also of manuscripts; this may well prove that the School of Tours came into possession of manuscripts of a strong Insular style from the old Irish mission of St. Gall.

The Monastic Workshop

Although as previously mentioned no written description is available as to the procedure and working methods of a Carolingian scriptorium, at least we do know that most of the artists and scribes were monks, and consequently it does not seem unreasonable to believe that they should have been working under somewhat similar conditions as their colleagues in Ireland of whom information is far more plentiful.

The monastery would provide a special room to be set aside as a workshop for its artists, who copied and bound books, as well as for those making wax tablets, pens, ink horns, vellum, and grinding pigments. With an increased demand for manuscripts a division of labour probably developed. The first operator, the scribe, began his work by running down the sides of each page a wheel armed with teeth at equal intervals, and the small indentations left were then connected with light brown or red lines to guide him in writing the text across the pages, leaving space for initials.

12After several Norman attacks the library of Tours was destroyed and with it all monastic records; this stresses the importance of these lists which were kept intact at St. Gall, and now serve as our only guide in establishing the origin of certain signed documents.
and other colored decorations. The scribe was normally followed by the illuminator of initials, and finally by the miniaturist. Although this may not have been the only procedure followed, some unfinished manuscripts, at least, show this succession of operations.

It is possible that various other kinds of art work were undertaken in the monastic workshop, such as ivory carving, metal work, and enamel work, and thus it seems likely that one art form may have influenced another. The monastic artist or craftsman knew how to produce art work in different media, and it is recorded that the young boy when entering the monastic school was trained in the basic elements of several forms of art.

13 Although from a later date (ca. 1100), The Treatise of Theophilus, on Divers Arts, University of Chicago Press, 1963, supplies us with valuable information concerning the multitude of arts and crafts performed in the monastic workshop.

14 See W. Wattenbach, Das Schriftwesen im Mittelalter, Graz, Akademische Druck und Verlagsanstalt, 1951.
CHAPTER II

Dottings in Carolingian Manuscripts

Before investigating the outside influences upon the dot patterns in Carolingian manuscripts it is of primary importance to establish the connections in which dottings appear, and thereby attempt to categorize them according to their appearance in the individual manuscripts. In doing so it may be established that the dots are used only by certain schools, which should further facilitate the investigation into the influences that produced them.

Examining the oldest manuscript of the School of Tours, the St. Gall Bible (St. Gall Lib. 75) (I.1),* the use of dottings indicating lines or extensions of lines in various flower and leaf motifs (figure 1) or in variations of the cross (figure 2) brings to mind a similar design.

*Bracketed numerals refer to plates in Koehler, die Karolingishen Miniaturen.
found on Roman and Celtic coins (figure 3). A Bible from the University Library in Basel (ANI 3) (I.14) displays peripheral dots in connection with its architectural canon tables (figure 4). This design appears to pass through several evolutionary stages for in another set of canon tables of the same Bible, the peripheral dots are connected physically with the arch through a line (figure 5), and finally the dots which have grown in size are connected with the arch through small triangular shapes (figure 6).\[15\] The initials found in a Bible from the Municipal Library in

\[15\] It may be, as suggested by Dr. Moorehart, that fig. 4 ought to represent stage 7 being a sort of shorthand for the other three. My idea is based upon the chronological arrangement by Koehler of the manuscripts of the School of Tours, which show the earliest manuscripts displaying the simplest dottings. Furthermore, the Bible from the University Library in Basel appears to display the evolutionary stages of these dottings, from the simplest patterns on the first pages of the manuscript to the more complicated on the last.
Zurich (I.15) show torsades with alternating dark dots on light background, and light upon dark (figure 7), a pattern which is repeated along the edges of the arches of the canon tables. These arches connect small dots with large triangular shapes to the main arch. The final development is observed in a Gospel Book from the Library of Stuttgart; here a pattern of light-dark, dark-light dottings are absorbed in the architectural framework embodying the design with a three-dimensional effect. The same type of pattern is found in the stems of initials of another Gospel Book (London, Brit. Mus. Add.11848) (I.27) together with the common type stems obviously of Hiberno-Saxon influence.

A different type of dottings may be found in the design of a small "jewelled" box, perhaps a reliquary portrayed as white dots on a dark background, from a page of the Arnaldus Evangeliarium from the Treasury of the Cathedral of Nancy (I.35), and another page (I.37) depicts the symbol of
the Holy Ghost in a halo designed of dots alone. The Ragnaldus Sacramentary from the Library of Autun (I.63) displays three medallions representing the Nativity, the Baptism of Christ and the Last Supper, all framed by double rows of peripheral dots.

The Vivian Bible (Bibl. Nat. Paris, lat.1) (I.80) displays architectural canon tables with peripheral dots, hanging bowls with dot-patterns, and robes of figures decorated with dots in groups of threes. At this stage the dots occasionally seem to be executed out of habit rather than serving a purpose or pattern and the Lothair Gospels (Bibl. Nat. Paris, lat.266) shows canon tables where peripheral dots have been started but have been left unfinished.

A change and completely sophisticated integration of the dot pattern may be seen in the Prüm Evangeliarium (Berlin State Libr. lat. theol. fol.733) (I.102). Where the "dot-on-a-stick" pattern (figure 5) has developed into a new design (figure 8). The final integration of the dotting into the architectural construction is reached in the Coronation Gospels (Vienna Treasury) (III.2); although from a different school, the connection with the School of Tours can be seen, and also the final result of the development of that particular pattern (figures 9 and 10).
Influences from Foreign Styles

The appearance of dottings seems to indicate a strong Hiberno-Saxon influence upon the School of Tours. In showing the connection between Carolingian and Insular manuscripts, an attempt shall be made to investigate the sources of inspiration which moved the artist-illuminator in Britain to include dottings in his patterns. While it is beyond the scope of this thesis to search for origins of Celtic manuscripts, an examination of the sequence of work already done may possibly indicate the influences these manuscripts were subject to in the development of their patterns and their subsequent effect upon the illumination of Carolingian manuscripts.

In this connection attention should be drawn to the Syrian element affecting Irish—and Carolingian—illumination by referring to the Rabula Gospels of 586 in which dots appear on interlacings of patterns. Françoise Henry after basing her argument on that of Nils Aaberg, places emphasis on the fact that the letters in the Repertory of the Dioskorides of Vienna—a Byzantine manuscript illuminated in the lifetime of Princess Juliana Anicia who died shortly after the advent of Justinian I (527)—were surrounded by dottings.


3 Henry, op. cit., p. 142.
These peripheral dottings represent a deviation from the style of the Byzantine manuscript, and is generally attributed to copying from Coptic models.\textsuperscript{4} The dots are usually painted red, a color used as early as the first century B.C. by the Copts to emphasise certain parts of their manuscripts.\textsuperscript{5} The question is how did the Coptic or Syrian manuscripts, which must have seemed rather foreign to an Irish monk find their way to Ireland? Were they in the possession of those Oriental monks, Egyptian, Byzantine or Armenian, whose deaths are recorded in Irish martyrologies? Judging from all available evidence, the inspiration to illuminate manuscripts in Ireland in the seventh century emanated from the Coptic-Syrian culture region, where manuscripts are found decorated chiefly with the "Irish" ornamentation of interlace filling;\textsuperscript{6} while the new motives which we see rendered in the Book of Durrow were later borrowings from the applied arts of the Anglo-Saxons.

During the sixth century St. Columban had begun his mission to the Picts in Northern Britain by founding his

\textsuperscript{4}In connection with Byzantine art, this seems to be the opinion of most scholars; I shall later return to Coptic art as a source of influence for Irish art.

\textsuperscript{5}Wattenbach, \textit{op. cit.}, p. 244. In the manuscripts from the first century B.C., the first lines are usually given in red, as are any words or sentences of importance.

\textsuperscript{6}I do not wish to emphasise at this stage an inclination to copy, but rather to indicate that at this time--this would point to the period of the Durham fragment--the insular Christian ornament had not yet entered into any connection with the Teutonic art of the pagan goldsmith.
famous monastery on the island of Iona. By the turn of the century the Irish missionaries converted the Northern English to Celtic Christianity while the mission of St. Augustine was preaching the faith of the Roman Church at Canterbury, and in 635 St. Aidan from the Irish settlement of Iona founded the Monastery on the island of Lindisfarne off the coast of Northumbria. Already at the beginning of the seventh century St. Columban had founded monasteries on the Continent, which later may have influenced the schools of Charlemagne, i.e., the settlements at Luxeuil, St. Gall in Switzerland, and at Bobbio south of Milan. Books were needed to preach the Gospel from these missions, and manuscripts were produced by the Irish monks who accompanied St. Columban.

The elements of the ornaments of the seventh century Celtic manuscripts are very simple and consist mainly in torsades on stems of letters, terminal hooks and of dottings. Dots play an important part in the decoration, either as a scattered pattern in threes or as peripheral ornamentation.

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7 At the Synod in Whitby in 664 the Church of Northumbria adopted the Roman instead of the Celtic liturgy and practice, but the monks at Lindisfarne under St. Cuthbert (d. 697) carried on in the Celtic tradition for some time and naturally influenced the English monks in their art.

8 Henry, op. cit., p. 141. It is not at all likely that Italian scribes were taught the Irish script, although according to Lowe the Codex Ambr. C.26. sup. was written by a non-Irish scribe.

9 According to Henry, op. cit., p. 142, dottings are found as follows: Peripheral dottings in the D.23.sup. and in the Codex Usserianus Primus. An overlay of dots—generally red over black—is found in initials (Codex Usserianus
A reference to the appearance of dottings in Coptic art and suggested influence upon later manuscripts in the West has already been mentioned, although no Coptic manuscript can be pointed to for an example as no material from the seventh century is preserved; however, a Coptic carved relief from the seventh century displays peripheral dottings (figure 11).

Figure 11 Christ riding on a donkey between two Angels

Since it seems possible that during the seventh century the scribe, the illuminator, the ivory carver and the goldsmith

Primus, S.45.sup., C.26.sup. and D.23.sup.). Groups of red dots scattered around an initial appear in the D.23.sup. and the S.45.sup.
were the same person the Coptic carving may serve as a valid example for a suggested influence of dottings in early Christian Irish art, and possibly through the Insular art--perhaps directly--upon the Carolingian manuscripts.

An interesting observation can be made with respect to dottings in three early manuscripts presumably written in Ireland, the Cathach (Royal Irish Academy, Dublin, s.n.), the Antiphonary of Bangor (Codex Ambr. C.5.inf.), and the Codex A.II.10, popularly called the Durham Fragment of the Cathedral of Durham. In all three manuscripts dots play an important part in the ornamentation, and are either displayed in groups of threes, as peripheral dots or in the ribboned interlacings. These manuscripts found at Bobbio are unfortunately the only examples from the early seventh century furnished by any of the Irish settlements on the Continent, although the inclination is generally to believe that a similar style must have been found in manuscripts from the other two monasteries.

In 680 when Benedict Biscop brought the Vulgate translation of the Gospels to England he also brought with him original Byzantine manuscripts to Northern England, which are likely to have been bound in prototypes of the book cover illustrated with plate I. On the whole oriental influence in Europe was strong at the time, with imports of

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textiles and carpets, bookbindings, and ivory carvings from Persia, Syria and Sicily to France, Germany and Spain. The seventh century saw the production of the Book of Durrow, an important example of manuscript illumination in so far as it represents the ornamental style of Anglo-Saxon metalwork, although the technique of execution is so perfect that it has been suggested that earlier examples may have been copied.¹¹

The *Book of Durrow* or *Durmachensis* (Lib. Trinity Coll., Dublin), is the earliest existing codex fully illuminated in the style commonly known as Hiberno-Saxon.¹² Whether the book was produced by Irishmen working in England or by Englishmen working under Irish influence is not of ultimate importance to this thesis, nor is it important

¹¹ There is an obvious resemblance between the symbol of St. Matthew of the *Book of Durrow* and the representation of St. Mark and St Luke of the Armenian Gospels of "the Translators," Walters Art Gallery, Baltimore, a manuscript date at 966, but following strictly the Iranian style. See David Diringer, *The Illuminated Book*, London, pp. 27-70.

¹² As to date and origin of the manuscript there exists some disagreement among scholars. Clapham (1934) states that the *Book of Durrow* is Northumbrian in origin; Sir Thomas Kendrick that it is Irish; Masai (1944) and Oakeshott (1949) that the codex is Northumbrian, while Francoise Henry in 1954 does not commit herself into a definite statement but suggests that the *Book of Durrow* shows influence of Irish painters of the seventh century, that the manuscript may have originated in Lindisfarne, illuminated by monks who had been trained in the art of manuscript decoration in Ireland. There is however, now a tendency of accepting its origin as Northumbrian, because the book shows evidence of influence of Anglo-Saxon metalwork.
whether the codex was produced by one or several hands.\(^{13}\) What concerns us here is rather the style of the codex and the red dots frequently used, both for framing colored ornament and for the groundwork of panels on which the letters are set in the first two or three lines. These dots as well as serving a decorative purpose connect the text with the decoration. The reds, greens and yellows, the colors of more or less contemporary enamels, plus the semi-abstract execution of the portrait of the Evangelist Matthew,\(^{14}\) resemble millefioirey work produced at the time.

The decorative style of the Book of Durrow is reflected in the Lindisfarne Gospels, but on a more lavish scale. The manuscript was written and illuminated by Eadfrith—Bishop of Lindisfarne (698-721)—and is now at the British Museum (Cotton. Nero, D.IV). Dots, mostly red in color are one of the leading features of the decorative details. They are often used by themselves to form patterns in extended lines for filling vacant spaces in a large design; and they are frequently seen in double lines for a stronger decor-

\(^{13}\)M. Rickert, Painting in Britain, the Middle Ages, London, Penguin Books, 1954, p. 12. . . . the decoration must have been done by a scribe. Henry, Early Christian Irish Art, Dublin, 1954, p. 31. . . . the disposition of the ornamental pages of the Book of Durrow shows that they were not painted by the scribe himself, but by an artist who filled in the blanks left by the copyist.

tive effect, forming a horizontal band or diagonal diaper and animal patterns behind and between the majuscule; or the dots simply follow the contours as in Durrow; with these dottings the illuminator of The Book of Lindisfarne has attempted to connect text with decoration.

The Book of Kells (Dublin, Trinity Coll. Lib. MS. A.I.6) takes its name from the monastery of Kells, and is dated at the very beginning of the ninth century; it appears that the manuscript was made in Iona from whose scriptorium at an earlier date, the monks of Lindisfarne drew their inspiration. Of all the Gospel from Ireland or Irish centres on the Continent, the Book of Kells is the only book which has architectural canon tables,¹⁵ a common element of continental books of the seventh and the eight centuries.¹⁶

The dottings in the Book of Kells are less frequent than in the Book of Lindisfarne; sometimes they are found in small areas included in the monogram pages, or as peripheral dottings surrounding beast or majuscules; occasionally they are grouped in threes and used as fillers or as


¹⁶Hugh Hencken, "Some Early Irish Illuminated Manuscripts," Gazette des Beaux-Arts, Vol. 43, pp. 135-50; 191-94, May, 1954. "The canon tables of Kells are copied from those in the Carolingian model, but with the ornament appropriately changed from Continental to Irish style ...and ... the Irish scribes and artists also copied numerous mistakes, and it is by these that the Carolingian model can be identified."
decoration on robes and haloes in the portraits of Evangelists; similar groups of dottings appear in the Cathach from Bobbio, and on a portrait of St. Matthew from the eighth century Codex Aureus of Canterbury (A.135, Folio 9 verso, Kungliga Bibliotek, Stockholm). 17

The Canterbury School which supposedly grew up under Italian influence depicts figures in a debased classical style, although the decorative patterns are strongly Hiberno-Saxon. Initials are sprinkled thickly with red dots, and one manuscript (Brit. Mus., Roy. MS.I.E. vi, fol.43) 18 displays architectural canon tables decorated with dotted animal patterns and interlace as in the Lindisfarne Gospels, plus peripheral dottings surrounding the arches containing the canons. Thus the School of Canterbury is gradually taking into its ornamental repertoire the motifs and patterns which seem to have inspired the designs of manuscripts of the Carolingian Renaissance.

On the Continent the Merovingian counterparts of the Book of Durrow, Lindisfarne and Kells were the Missale Gothicum, (Vatican Lib. Reg.Lat.317), the Sacramentarium Gelasianum (Vatican Lib. Reg.Lat.316), and the Gellone

17 Sir Edward Sullivan does not wish to ascribe these triangular dottings to a Byzantine influence because they are not found in the Lindisfarne Gospels, which to his mind is the most Byzantine in character of all the Celtic manuscripts. "So far as I am aware there is no clear instance of its use in manuscripts of the Irish school at home or abroad before the ninth century." Sir Edward Sullivan, The Book of Kells, London, Studio Publications, 1955, p. 45.

Sacramentary (Paris Bibl. Nat., lat.12048). Of these the latter is the most ancient French Sacramentary, and as in the Book of Kells its multitudes of dottings are found as peripheral ornaments, as fillers of ornamental bands in letters, and as purely textural device.

Influences from Applied Arts

Why have these dot-patterns been used? Would not other types of simple motifs such as crosses or short lines have served the same purpose as do the dottings in manuscripts? It has already been mentioned that the arts of the goldsmith or metalworker, and the illuminator were often carried out side by side, sometimes by the same person. A suggestion previously made (page 22 above) concerning the inspiration from applied art upon the patterns of manuscripts finally leads to the possibility for a categorization of such dottings according to their presumed origins in metalwork, bearing in mind that the artists responsible for manuscript illumination were generally artisans as well and—which is of great importance—used to the practice of copying.

The following list suggests categories into which dot-patterns could be placed according to their origin in

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19 The Sacramentarium of Gellone dates from the second half of the eighth century, and as such is a contemporary of some manuscripts by the Canterbury School of which the codex Aureus in Stockholm is considered by Koehler as the most important manuscript as it shows the stylistic connection between Insular and the early Carolingian manuscripts.
metalworking techniques:

1. Copies of constructional details such as mold-registrations or "breathers," and rivets from metal work.

2. Copies of repoussé and chip-carving, which lead to imitation of filigree.

3. Copies of textures from metal work to indicate a variety of design, occasionally substituting dots for line, or to emphasize certain parts.

4. Copies of inlaid stones in cloisonné and champevé work, pearls, and beaded wire in filigree.

5. Copies of niello work.

6. On halos to indicate gold, worked with a metal punch.

Often a design develops by accident, which may have been the case concerning the simplest dot-patterns. In casting metal an allowance is generally made for positioning registration marks on the mold to prevent it from shifting in case of a multiplication of the object, and for "breathers," also in the mould as air-escapes while pouring the metal, which should in turn be closed with clay to prevent the metal from escaping. These marks are common round protrusions, and left upon the surface of the object it is a simple matter to include them in a decorative pattern. Occasionally an extra strengthening edge or rim would have to be fastened to a metal object, or sheetmetal applied to wood or to strips of leather to produce a helmet (pl. II),
or a reliquary; or carved ivory plaques would be applied to wood or metal to decorate a shrine, or a throne; in all these cases, rivets would be employed in the construction. Dots representing these rivets may frequently be found depicted on the thrones or seats of saints in illuminated manuscripts, or in the hanging bowls from Carolingian canon tables. The same rivets are reflected in the North Cross, Ahenny (Tipperary) (pl. 3), and the Carpet Page of the Lindisfarne Gospels, where these "bosses" have become decorated with filler ornaments, while those in the frontispiece to an Irish Psalter (fol. 4v.), depicting two men and two beasts, are centered on each side of the decorated border, which they appear to hold to the surface of the paper.

During the third and fourth centuries a special feature of Germanic art had been the decoration of small objects with silver repoussé. This technique seems to have been particularly popular in Northern Europe, including Denmark, Norway and Sweden, and eventually it resulted in the development of several new styles and techniques especially with the arrival of the method of chip-carving from the south. This technique had long been established in the

20 Holmqvist, Germanic Art, Stockholm, 1955; plates XXXVI and XLVIII.

21 Henry, Early Christian Irish Art; plate 38.

22 Diringer, op. cit., plate III, llc.

23 About this technique see Hawthorne and Smith, The Treatise of Theophilus, on Divers Arts, University of Chicago Press, 1963, pp. 150-52.
Mediterranean countries, where it had been extremely popular in the Roman provinces during the fourth century; Originally used in the carving of hardwoods it was adopted by the Romans to metalwork, and the custom spread of adorning dress fastenings, buckles and other similar objects with scrolls and rosettes executed in chip-carving. One important observation may be made concerning the ribbon-style, which was to influence the dottings in manuscripts, for as the result of chip-carving the seventh century developed a false "chip-carved" effect achieved by pressing gold and silver sheets into a pitch, to produce a similar pattern, and capping the lines raised in relief with beaded wire (pl. IV). This technique in turn developed into the style of the Sutton Hoo Buckle and becomes a very common representation in manuscripts where it is seen in the St. Gall Gospels, and very extensively in the Book of Durrow.

In connection with chip-carving in metal some motives were defined by shallow carving and often speckled all over with the corner of the engraving tool either within the object or in the background surrounding it as seen on the Ardagh Chalice where dots appear as a background panel.

24 Wilson, op. cit., p. 133.

25 The technique is reflected in the decoration of the rosettes on the carpet page of the Lindisfarne Gospels. For examples of chip-carved metal work see Holmqvist, op. cit., plates II, III, and V.

26 Holmqvist, plate X.

for a line of runes, and in the Book of Durrow, where dots are used as fillings in the lion's head, of the symbol of St. Mark, 28 serving as a welcome variation in texture. The beginning of St. Mark's Gospel from the same manuscript shows dottings forming backgrounds for letters as in the Ardagh Chalice; and in the Lindisfarne Gospels the dottings not only become an integral part of the design as they form an almost solid background pattern emphasizing certain lines and letters, but they are also made to form diaper patterns, twisted ribbons and animal forms. To emphasize such stippled patterns the metal worker employed the niello technique, which consisted in filling the small indentations with a mixture of silver and copper, 29 a technique that eventually formulated the so-called Trewhiddle style in England of the ninth century. A common phenomenon seen in manuscripts are the peripheral dottings surrounding letters or animals, a style possibly derived from coins, which often display an object surrounded by a series of dots or points, or they may serve as a "stippled" line (figure 3); again the idea may simply have been arrived at through observation of the "false" chip-carving technique and later of filligree work.

In copying the styles developed from the techniques of the metalworker the copyist would often treat his work as if the actual metal punches had been used, and the result is

28 Henry, Early . . . , plate 16.
29 For this technique see Hawthorne, op. cit., pp. 103-5 and 115-18; for examples: Holmqvist, op. cit., plate XII.
the mark of the circle with the "bull's eye," which seems to have been a rather popular tool for metal stamping; its mark is commonly used on edges of halos, and rims of metal objects such as chalices or hanging bowls as pictured in manuscripts.

The Eusebian canon tables, which appear to be an added feature of the Carolingian manuscripts, although they are indeed pictured in the Gospel Book of the Canterbury School (Royal i.E.VI) display, apart from the usual niello-type dottings, a new type of peripheral dots found in connection with architecture. A portal from a fifth century Syrian church at Koja Kallessi has a square doorway framed in dots, comparable to a similar arrangement from the Church of Aghowle in Ireland of the eighth century and seemingly reflected in architectural canon tables of the ninth century. Some of the more intricate dot patterns from canon tables of the School of Tours suggested in figure 7 may be compared with the pattern found on an ivory diptych probably made in Constantinople during the middle of the sixth century, figure 12, and with the Coptic Tombstone of

30 Architectural canon tables belong to Syrian manuscripts. See C. Nordenfalk, Die Spatantiken Kanontafeln, Goteborg, 1938. However, the difference between the ribbon-fill-ornaments in Nordic and Syrian MSS lies in the application of dots only in the Hiberno-Saxon MSS while the Syrian MSS makes use of lines, zig-zags, twisted lines, and various cross motives.


32 Henry, Early ..., plate 37.

33 Beckwith, op. cit., plate 110.
Jacob (London, Brit. Mus.), figure 13, from the seventh or eighth century, which portrays similar dots to those at Koja Kalessi.

Another feature which may have been inherited from Syria, is the portrayal of bejewelled objects, such as robes, shrines, with inlaid pearls or precious stones; these dots are normally represented as light marks on dark backgrounds.

34 Beckwith, plate 128.
On the basis of the material presented in this paper it seems reasonable to conclude that the influences that governed the representation of dot-patterns in Carolingian manuscripts came from various sources, both domestic and foreign, classical and barbaric, and undergoing the working procedures of the scriptorium the various patterns were ultimately joined and molded into a new style.
Conclusion

In summing up the results of my attempt to solve the problem of the use of dottings in Carolingian manuscripts, it seems evident that these patterns, in most cases, were inspired from Germanic migration art, which was introduced to the art of illumination of the Carolingian period through Hiberno-Saxon manuscripts; in a few isolated cases, however, e.g., in connection with the architectural canon tables, there seems to be a direct influence from the Orient.

It appears that most art forms in Ireland irrespective of the medium employed in their execution were inspired by the Teutonic metalworker's art, the reason being simple artistic excitement over bronze as a medium, and also the fact that it seems to have been the most widely employed material for embellished artifacts and utensils. Bronze was a sign of wealth and prestige, it was strong and yet pliable, and it offered protection and durability; it was a praiseworthy material, known to and appreciated by all. The decorative arts of the early Middle Ages seem mainly to have comprised bronze objects sometimes with added gold and silver, and the carver of wood and stone looked to the metalworker's art for his inspiration; this can be seen from
wood and stone designs of that period.

Many cast or hammered objects of metal work were found to be lavishly decorated in champlevé and cloisonné enamel work, in repoussé and chip-carving, which in turn often developed into a type of coarse filigree work with beaded wire. After making several comparisons of the many and various metal work designs with those found in some manuscripts, one finds ample evidence to suggest that the various techniques of the metalworker's art were reflected in those manuscripts. It appears that the large bosses evident on Irish stone crosses are indications of an imitation of metal work also in other art forms. The reason for this might be sought in the fact that the pagan art of Northern Europe was a migration art consisting mainly in smaller portable and mostly useful metal objects of good construction familiar to most, so that when Christianity demanded new forms of art expression the artist relied on well-known objects for inspiration.

The conclusion may then be drawn that, when large stone crosses imitate the large bosses in relief, recalling studs which in metal work would disguise the rivets joining the two metal mountings on either side of a wooden framework, and as the idea is obviously copied in the carpet page of the Lindisfarne Gospels, it seems likely that other smaller dottings may also have been copied from the constructional details and geometric patterns of metal work.

I have suggested that the Germanic artist copied
extensively of the ornamental as well as the constructional details of objects that to the peoples of a semi-nomadic society would be of great importance. To the artisan or artist the proper placement of a rivet in an object meant the difference between function and non-function, and was as important to him as was the proper placement of a hand upon a marble arm to a Greek sculptor. This may explain the reason for a great number of dottings.

The dot patterns can now be established in three main groups:

1. Dots derived from constructional details from domestic artifacts.
2. Dots derived from the decoration of domestic artifacts.
3. Dots derived from imported manuscripts, ivories, and so forth.

Finally having suggested the foreign and domestic influence on Carolingian dot-patterns, it is realised that those originating in the elaborate styles of Eastern ivory carvings, i.e., dottings connected with architectural canon tables, rather quickly become absorbed by and eventually lost in the style that borrowed them, while the dottings derived from actually well-known objects only seem to disappear for two reasons:

1. The art from which they sprang begins to deteriorate, or

Perhaps it would be more accurate to use the term 'interpret'.
2. Society changes; with the arrival of other values, the objects copied are no longer of major importance.

Finally one must accept the fact that craftsmen of the Middle Ages were fully as competent at the illumination of manuscripts as they were at metal working. This combination of available craftsmanship and artistic ability produced a universal style appreciated by everybody and which formed an important element in the great educational programme of Charlemagne.
PLATE I
PLATE III
BIBLIOGRAPHY


Swartwout, R.E. *The Monastic Craftsman*. Cambridge, W. Heffer and Sons Ltd., 1932.


**Journals**


APPENDIX I

CLASSIFICATION OF DOT-PATTERNS FOUND ON MANUSCRIPTS OF THE SCHOOL OF TOURS

<table>
<thead>
<tr>
<th>Name and Plate of MS.*</th>
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<th>2. From Applied Art</th>
<th>3. Infl. from Imported MSS Etc</th>
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<td>a-b</td>
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<td>&quot; &quot; I,2</td>
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<td>a-c</td>
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<td></td>
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<td>&quot; &quot; I,6</td>
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<td>e</td>
<td>c-d</td>
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<td>Alcuin's Book of Virtues (Troye's Lib. Mun. 1742) I,7</td>
<td></td>
<td>a-b-c-</td>
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<td>Nonius Marcellus (Leiden Univ. Lib. Voss. lat. fol. 73) I,7</td>
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*Plates according to Wilhelm Koehler, Die Karolingischen Miniaturen, Berlin, Bruno Cassirer, 1963; Vol. I-plates, die Schule von Tours. Plates I, 115-I, 124 include MSS or parts of MSS from the second part of the 9th century and are therefore not included in this survey.
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APPENDIX II

Bibliographical sources of the manuscripts and works of art referred to:

Alcuin Bible (Vallicelliana Lib. MS.B.6)

Antiphone of Bangor (Codex Ambr.C.5, inf.)
Françoise Henry, "The Beginnings of Irish Miniature," Gazette des Beaux-Arts, Vol. 37, pp. 139-48, 1950; Fig. 14, p. 144.
Diringer, op. cit., p. 136ff.

Ardagh Chalice.

Book of Durrow (Trinity Col. Lib. Dublin, A.IV 5)
Diringer, op. cit., p. 140, plates III-2, b-c.
Andre Grabar and Carl Nordenfalk, Early Medieval Painting, Skira, 1957; pp. 110, 111.
Henry, "The Beginnings . . .," op. cit., Fig. 17.

Book of Kells (Trinity Col. Lib., Dublin)
Diringer, op. cit., pp. 143-144, Fig. III-4c-d.

The Cathach (Royal Irish Academy, Dublin S.N.)
Diringer, op. cit., pp. 136-137, Fig. III-1.

Church of Aghowle
Henry, Early . . . , plate 37.

Church of Koja Kalessi

Codex Aureus (Stockholm, A.135)
Diringer, op. cit., p. 145, Fig. III-12a.
Grabar, op. cit., pp. 123, 125, 139.
Durham Fragment (Cod.A.II, 10 Durham Cathedral)
   Diringer, op. cit., p. 136ff.

Evangelium of Lothair (Paris Nat. Lib. lat. 266)
   Diringer, op. cit., pp. 159, 166, Fig. III-15a.
   Grabar, op. cit., p. 147.
   Wilhelm Koehler, Die Karolingischen Miniaturen,

Gellone Sacramentary (Paris, lat.12048)

   Diringer, op. cit., p. 149.

Grandval Bible (London, Add.10546)
   Diringer, op. cit., pp. 74, 166.
   Grabar, op. cit., pp. 148, 152.
   Koehler, op. cit., plate I, 43-1, 53.

Lindisfarne Gospels (Brit. Mus. London, Cotton MS Nero IV)
   Diringer, op. cit., p. 142f, Fig. III-5, a-c.
   Henry, Early ... , plates 22, 23.

Missale Gothicum
   Diringer, op. cit., p. 159.

Rabula Gospels (Florence, Laur. Lib.cod.Plut.1)
   Kurt Weitzmann, Illustrations in Roll and Codex,
   Princeton, 1947; p. 116ff, Fig. 104.

Reperitory of the Dioskorides of Vienna
   Henry "The Beginnings ...", op. cit., p. 142.

Sacramentarium Gelasianum (Vatican, Reg.lat.316)
   Diringer, op. cit., p. 159.
   Grabar, op. cit., p. 159.

Sacramentary of Marmoutier (Augun Municipal Lib.Cod.19 bis.)
   Diringer, op. cit., p. 166.

St. Gall Bible (St. Gall Country Lib. 75)
   Diringer, op. cit., plate III-8, a-b; II-9, a.
   Koehler, op. cit., plate I, 1-1, 2.

Sutton Hoo Treasure
   Wilson, op. cit., p. 45ff, plate 1-11.
Vivian Bible (Paris, lat. 9380) or the First Bible of Charles the Bald
Diringer, op. cit., p. 165.
Koehler, op. cit., plate I, 71-I, 89.