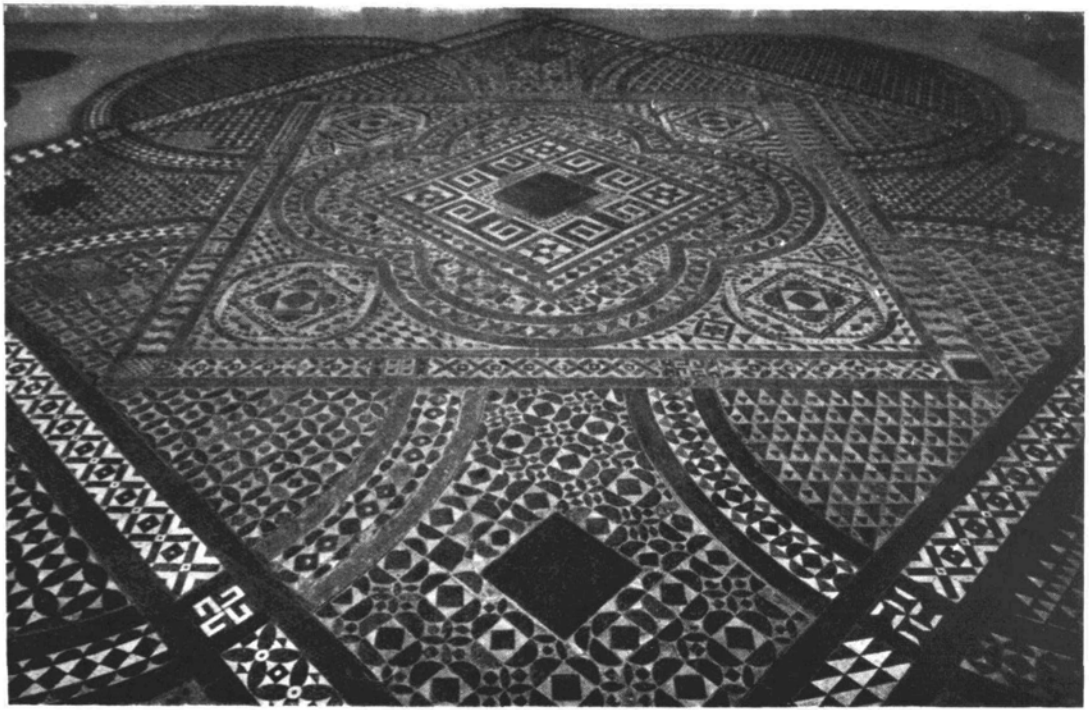


Photo. Charlton, Canterbury.

THE OPUS ALEXANDRINUM

in the Retro-Choir of Canterbury Cathedral. Looking East.

THE OPUS ALEXANDRINUM AND SCULPTURED STONE ROUNDELS IN THE RETRO-CHOIR OF CANTERBURY CATHEDRAL.

BY N. E. TOKE.

I.

On the North and South sides of the "Opus Alexandrinum," or mosaic pavement, in the retro-choir of Canterbury Cathedral are arranged thirty-six circular stones, eighteen on either side, on which are engraved, in relief, the twelve Signs of the Zodiac, the twelve Labours of the Months, Virtues trampling under foot the Deadly Sins, and various fantastic devices. Two stones of similar character, but of different shape, are situated on the East side, and further to the East, in the centre of the Trinity Chapel where once stood the shrine of St. Thomas, six roundels bearing geometrical designs extend in a row from North to South. Finally, behind the Patriarchal Chair in the Corona, there is a similar row of four roundels whose designs, with one exception, have been totally obliterated by the abrasion of centuries.

The accompanying rough diagram shows the present arrangement of the stones of the sides of the "Opus Alexandrium," and forms a convenient mode of reference.

EAST.

	A.	B.	C.	G.	H.	D.	E.	F.	
1.	O	O	O			O	O	O	1.
2.	O	O	O			O	O	O	2.
3.	O	O	O	OPUS ALEXANDRINUM		O	O	O	3.
4.	O	O	O			O	O	O	4.
5.	O	O	O			O	O	O	5.
6.	O	O	O			O	O	O	6.

WEST.

There is a space of 4½ inches between each of the stones in the first two rows, reckoning from North to South, and a space of 17½ inches between rows 1 and 2, and 2 and 3, reckoning from East to West. The other stones almost touch each other.

Visitors to the Cathedral are told by the official guides that the mosaic pavement was brought to Canterbury by the Crusaders, and arranged by Italian workmen at the time of the translation of Becket's remains from the Crypt to his shrine in the Trinity Chapel in 1220. This statement, though unsupported by direct evidence, is not altogether without foundation. The early mosaics were formed of small cubes of coloured marble, and originated in Byzantium, whence they penetrated into Greece during the time of the Roman occupation. From Greece the art made its way into Italy,[1] and many *Christian* mosaics were constructed at Ravenna and Rome between the fourth and tenth centuries.[2] Professor Lethaby, in his *Mediaeval Art* (p. 64), considers all these to be of Greek workmanship and to show the influence of Byzantium which, he says, during the early Middle Ages, was the artistic capital of the world.

Byzantine art, as a whole, decayed after the era of Justinian (527-565), but revived again in the eleventh century, gradually changing its character, and absorbing ideas from Asia Minor and Arabia.

It was to the Benedictines that this later Græco-Byzantine mosaic revival was due, for Desiderius (Didier), Abbot of the Monastery of Monte Cassino (founded by St. Benedict in 529), who had been sent as Papal legate to Constantinople, brought back thence a taste for sumptuous

[1] Pliny says (H.N. XXXVI, 184) that the practice of decorating pavements "after the fashion of painting" was due to the Greeks.

[2] Few of these decorations are now in existence, but numerous allusions to them are made by writers of the 4th and 5th centuries, e.g., Paulinus of Nola, *Ep.* 12 *ad Severum*, says "apsidem, solo et parietibus marmoratam, camera musivo illusa clarificat"; and St. Jerome, *Ep.* 8, "alii aedificent ecclesias, vestient parietes marmorum crustis." *Vide* the article in *Archæologia*, Vol. XL., "On the Churches of Rome earlier than the year 1150," by Alexander Nesbitt, F.S.A.

works of art and, according to the Chronicle of Leone, Bishop of Ostia, founded, in 1066, a school of mosaic work under the direction of Greek masters, and so revived an art "which had been for more than 500 years extinct in Italy."

These mosaics of Monte Cassino have disappeared, but we know from Leone of Ostia that those of the pavement of the Church were made of marble of different colours (cf. Gersprach: *La Mosaïque*, p. 152).

The art of mosaic, thus revived, flourished during the twelfth and thirteenth centuries, gradually losing its Byzantine influence and taking on a Western European, or Gothic character.[1]

These mediaeval mosaics may be divided into four classes:—

(1) Mosaics used for decorating walls and vaults.

(2) Mosaics used for decorating columns, pulpits, altars, etc.

(3) Pavement mosaics made partly of large pieces of marble, and partly of small tesserae, the former being used for the ground work and the latter for the main lines.

(4) Wood mosaics. (These were largely used in Mahometan buildings between the fourteenth and seventeenth centuries.)

Mosaics in which glass, or enamel, was principally employed were known in the thirteenth century as "Cosmati" work from the name (Cosmas) of the family of artists who were its chief exponents. There is work of this kind in Westminster Abbey in the Shrine of Edward the Confessor (1269) which was wrought by "Petrus civis Romanus," who was probably a pupil of the Cosmati. The tomb of Henry III is also a fine specimen of this kind of work.[2] Another Roman artist, named Odericus, decorated the space in front of the high altar with mosaic in the latter half of the thirteenth century.

[1] J. Romilly Allen, *Early Christian Symbolism*.

[2] There is a pavement of this kind in the Baths of Caracalla, Rome. *Vide* the article by Mr. Nesbitt already cited.

The third class of mosaic includes that commonly known as "Opus Alexandrinum," whose invention has been wrongly attributed to the Emperor Severus (A.D. 222-235). Aelius Lampridius in his *Vita Alexandri Severi* says, "Alexandrinum opus marmoris de duobus marmoribus, hoc est porphyretico et Lacedæmonio, primus (i.e. Alexander Severus) instituit." It is clear from this that the pavement of the kind instituted by Alexander Severus was composed exclusively of porphyry and serpentine,[1] whereas the mediaeval mosaics to which this name is applied are composed not only of these two substances, but of precious marbles obtained mostly from the ruins of ancient Greek and Roman columns in Greece, Italy and North Africa. The usual colours are red, dark green, white, black, and, occasionally, creamy yellow.

An early Roman type of pavement was known as "Opus sectile," or "Opus scutulatum," and was composed of large slabs of coloured marble. The finest example of this is at Rome on the floor of the Pantheon, which was begun in A.D. 110. Another variety of pavement, made of square tesserae of stone, marble, or glass to form patterns or pictures was termed "Opus tesselatum" ("vermiculatum").[2]

The "Opus sectile" had a mediaeval development by its combination with other forms, in which small pieces of various coloured marbles were cut to a stock size and arranged in geometrical patterns, and to this combination the name of "Opus Alexandrinum" was given, probably through a misreading of the statement of Aelius Lampridius. It is, however, possible that the appellation may have reference to Alexandria which was the chief School of ivory carving and which exercised great influence in the development of decorative art.[3]

The pavement of the Chapel of S. Zeno at S. Prassede, Rome, which is made of slabs of marble, shows the germ of

[1] W. L. Lethaby, *Mediæval Art*, pp. 115 and 282.

[2] Sir Banister Fletcher, *A History of Architecture on the Comparative Method*, p. 137.

[3] W. L. Lethaby, *Mediæval Art*, p. 35.

the fine pavements of the twelfth and thirteenth centuries, and is probably the earliest example of a pavement of this kind now existing.[1]

Many of the Popes took great interest in mosaics of all kinds, and fostered their construction. The pavement of Sta. Maria in Cosmedin, Ravenna, bears an inscription naming Alphanus, who was Chamberlain to Pope Calixtus II (1119-1124), as the donor. That of Sta. Maria in Trastevere is attributed to Pope Innocent II (1130-1143).[2] Pope Innocent III (1198-1216) replaced the mosaic which decorated the basilica of S. Peter's, and Pope Honorius III (1216-1227) caused the vault and arch of the apse of S. Paul's f.l.m. to be decorated with mosaics by Venetian workmen.[3]

This revival of mosaics, inaugurated by the Abbot of Monte Cassino, was thus in full activity in Rome during the twelfth century, and spread into other countries, probably through the intermediary of the Benedictines.

In front of the altar at St. Martin D'Ainay at Lyons was an early twelfth century mosaic effigy of Archbishop Amblardus, and the mosaic work in the tomb of Frédégonde constructed by Abbot Suger in the Abbey of St. Denis (c. 1150) is well known.

Farther north, in the Museum of Arras, is a fine mosaic, formerly in the Abbey of St. Waast, representing Bishop Frumaldus who died in 1183, and in the Museum of St. Omer are preserved the remains of an equally fine mosaic, with the signs of the Zodaic arranged round a central design, which was found in the ruins of the Abbey of St. Bertin and which belonged to the tomb of William, son of the Count of Flanders, who died in 1109. In this pavement, which was probably executed in the latter half of the twelfth century, engraved stones appear with their hollows filled with coloured cement (*mastic*). This innovation was due, in the opinion

[1] *Archæologia*, Vol. XL, article by A. Nesbitt, F.S.A.

[2] *Ibid.*

[3] *Wanderings through Ancient Roman Churches* by Rodolpho Lanciani, p. 153. An excellent detailed account of the mosaics in the Churches of Italy is given by Lord Lindsay in his *History of Christian Art*, Vol. I.

of M. Hermand (*Mémoires de la Société de la Morinie*, p. 81), to the increasing rarity of porphyry and precious marble, and led, in the thirteenth century, to the manufacture, in the North of France, of pavements entirely composed of stones (*dalles*) of hard lias, partly engraved and partly filled in with cement of various colours.

The ancient Cathedral of Notre Dame at St. Omer still contains some 200 of these engraved "dalles,"[1] which I viewed on a recent visit to St. Omer, and which, I am convinced, are almost identical in material and workmanship with the roundels of Canterbury. The same comparison was made by Dr. Bromet in *Archæologia*, Vol. XXX, p. 359, and by Mr. James Fowler in his elaborate article on "Mediaeval Representations of the Months and Seasons" in *Archæologia*, Vol. XLIV, p. 167.

Most of them were constructed in the thirteenth century, but the earlier ones date from the end of the twelfth century when the original Cathedral was completed.[2] Through the kindness of a friend, M. Pierre Turpin of Lille, I was enabled to make a careful inspection of these stones, and to take rubbings both in the Cathedral and in the town museum where many of the stones are now preserved along with some from the destroyed Church of Thérouanne, and fragments of the mosaics from the Abbey of St. Bertin. They are composed of yellow oolite, which came, most probably, from the marble quarries in the Boulonnais, and from a now disused quarry at Marquise (Pas de Calais). The undercut parts were originally filled with cement of various colours, principally dark grey and red, to form a background for the engraving, and to render the surface even and smooth under foot. This background has largely worn away, leaving the yellow stone in relief.[3]

[1] They are placed partly in the Choir, and partly near the entrance. The latter group of stones came originally from the Cathedral of Thérouanne, which was destroyed by the Flemings in 1553, and were executed at the expense of Bishop Henri des Murs between 1270 and 1285.

[2] Wallet, *Description du Pavé de l'ancienne Cathédrale de St. Omer*, p. 12.

[3] Wallet, *Op. cit.*, p. 7.

The roundels of Canterbury are also composed of yellow oolite, according to the authorities of the Museum of Practical Geology in Jermyn Street, London, to whom Dr. Charles Cotton of Canterbury sent a small portion of a broken roundel for analysis. The stone is identical in appearance with that of the "dalles" of St. Omer, the undercut portions being partially filled with dark grey cement. But a close inspection reveals, in a number of the stones, fragments of a red cement similar to that principally used in the "dalles" of the French Cathedral. As the cement was more friable than the stone, it was necessary to disseminate in it ornamental designs of stone in order to keep it in position, and to prevent it from being worn away too quickly. The ornaments used for this purpose at St. Omer consist of fleurs-de-lis, bezants, peculiar round-lobed quatrefoils, crescents, etc., and it is important to notice that ornaments of the same kind are used, in precisely the same way, in the stones at Canterbury. The devices on the stones differ considerably in the two Cathedrals, but, like that of Canterbury, the pavement of St. Omer contained also a Zodaic with the corresponding Labours of the Months. Unfortunately most of these have been destroyed, and there now remain only five of the Signs of the Zodiac, and seven of the Labours of the Months, all of which are greatly worn. They are beautifully illustrated, and fully described, in M. Emmanuel Wallet's exhaustive monograph, *Description du Pavé de l'ancienne Cathédrale de St. Omer*, published in 1847. They are described also by Mr. James Fowler (*Op. cit.*, pp. 137-189).

It must be borne in mind that the connection between the Benedictine Monastery of Christ Church at Canterbury and the Benedictine Abbey of St. Bertin at St. Omer was a close one. Both Archbishops Theobald and Becket had taken refuge with the monks of St. Bertin during their periods of exile from England, and the former had even carried on the work of his diocese from St. Omer.[1] In April, 1188, we find the Convent of Canterbury sending a letter to thank the

[1] Gervase, I., 135.

Convent of St. Bertin for its friendship and liberality,[1] and some twelve years later the Abbot of St. Bertin wrote to the Prior of Canterbury a letter which formed a prelude to a solemn compact by which the two Convents bound themselves to the performance of acts of mutual charity.[2]

This connection became closer subsequently, for Archbishop Hubert Walter had died in 1205, and the Pope, setting aside King John's nominee, John de Grey, caused the monks of Canterbury to elect Stephen Langton to the vacant see (1206), and consecrated him Archbishop in 1207. John, in a fury, retaliated by confiscating the possessions of the Archbishop and the monks, and expelling the latter from England as traitors. On July 15th, 1207, they crossed over to St. Omer where, as Gervase says (II.100) "a conventu Sancti Bertini honorifice suscepti sunt." It was in vain that John wrote to the Abbot to induce him to expel them; the Prior and sixteen of the monks remained at St. Bertin, and the rest in the religious houses in the neighbourhood, until June 15th, 1213, when John's submission to the Pope and the restoration of their possessions enabled them to return to Canterbury.

Taking the resemblance of the stones at St. Omer and at Canterbury into consideration, and remembering that for six years the Prior and many of the exiled monks of Canterbury must have had frequently before their eyes the mosaics of St. Bertin, or the engraved stones of the Cathedral which would have appeared to them a striking novelty, is it not probable that on their return home they desired to reproduce in their own Cathedral what they had seen in France, and that they sent to St. Omer for craftsmen and materials?

Professor Lethaby in his *Westminster Abbey Re-examined*, p. 85, states that, in 1249, King Henry III ordered "Master John of St. Omer," then painting the King's wardrobe, to

[1] Chronicles and Memorials of the Reign of Richard I., Vol. II. (*Epistolæ Cantuarienses*), p. 85. Ed. by Dr. Stubbs.

[2] Hist. MSS. belonging to the Dean and Chapter of Canterbury. B. 390 (*cir.* 1200).

make a great lectern for the " New Chapter " of Westminster. It seems, therefore, that St. Omer was a well-known centre of artistic craftsmen in the thirteenth century, and it is not improbable that the " Master Omer " who gave his name to the mediaeval house called " Meister Homers " in the precincts of Canterbury Cathedral, and who was an important official of the Monastery in the middle of this century,[1] also came originally from this town in French Flanders.

The size of the stones appears also to point to their foreign workmanship. The roundels in Canterbury Cathedral are almost exactly 23.25 inches in diameter. This seems a peculiar measure if the English foot were taken as a unit, for one would expect a round number to have been selected, and not a fractional one. According to an article on " Weights and Measures " in the fourteenth edition of the *Encyclopædia Britannica*, the usual building foot in England in mediaeval times was the Flemish one of 13.22 inches. In France, the old foot = 12.7879 inches, and the foot used later as a basis for architecture = 13.04 inches. None of these units gives an integer when divided into 23.25. The ancient Roman foot of 11.66 inches gives a nearer approximation to an integer, but the later Roman foot of about 11.61 inches seems to me to have been the unit employed, for $23.25 \div 11.61 = 2$ Roman feet almost exactly.

The same Roman foot of 11.61 inches (0.295 metres) divided into the edge, or diameter, of the three chief sizes of engraved " dalles " at St. Omer gives 1, 3, and 5 feet almost precisely. But neither the old town foot of St. Omer (0.27 metres) mentioned by M. Wallet in his description of the pavement of the Cathedral, nor the old French foot, (0.324 metres), gives integral quotients when divided into the dimensions of the stones.[2]

[1] *Archæologia Cantiana*, Vol. XIII., pp. 116-121.

[2] On the other hand the old town foot of St. Omer gives integral quotients when divided into the dimensions of some sixty engraved " dalles " in the Church of Blaringhem, which is about 12 km. from St. Omer. These stones probably came from the destroyed Church of Thérouanne, and are very like those of St. Omer, though the designs and ornamentation are different. The same town foot gives integral results also when applied to a number of glazed mediæval tiles found in the ruined Abbey of St. Bertin.

This series of coincidences can scarcely be fortuitous, and would seem to indicate that the craftsmen who fabricated the engraved pavement stones of St. Omer and Canterbury, if they were not actually Italian, did at any rate employ the Roman foot, and were therefore, in all probability, influenced by Italian models.

From all these considerations the following inferences may be drawn: (1) That the roundels at Canterbury were executed by craftsmen who came from St. Omer, and who, as they used the Roman unit of length, were possibly of Italian origin like the two artists who wrought the mosaics in Westminster Abbey.

(2) That the "Opus Alexandrinum" was constructed between the years 1213, when the monks returned from St. Omer, and 1220, when the "Great Pardon," or translation of the remains of St. Thomas from the crypt to the Trinity Chapel, was celebrated with unprecedented pomp and circumstance.

The roundels were most likely constructed at the same time as the mosaic, but they may be a little later in date.

II.

It remains to describe the designs on the roundels, and to offer some suggestions as to their original position, for they have been shifted several times, and are now arranged without reference to the subjects represented.

For the purpose of description they may be grouped under the following headings:

(a) Signs of the Zodiac, and Labours of the Months.

(b) Virtues and Vices.

(c) Symbolical and fantastic figures.

(d) Geometrical designs ("Eternity" roundels).

(a) Signs of the Zodiac and Labours of the Months.

Starting at the N.E. angle of the mosaic we find the month of January indicated by the two stones, A.1, A.2

(see diagram on p. 189), representing respectively *Janus* and *Aquarius*. I propose, therefore, to begin with this month, and to take the rest in their natural order, assigning, as far as possible, appropriate stones to each, irrespective of their present positions.

JANUARY.

A.1. (*Plate* I.)—This stone bears the figure of *Janus*, who has two faces, and is standing between two doors, of which he is closing one and opening the other, to symbolise the close of the old year and the beginning of the new.

On the S.W. portal of the West front of the Abbey of St. Denis (cir. 1140), January is also represented by Janus opening one door and closing another, as at Canterbury. In the twelfth century mosaic pavement in the Choir of the Cathedral of Aosta Janus is represented with towers instead of doors.

On the twelfth century font at Brookland, Kent, and on the thirteenth century West front of Amiens Cathedral, Janus is feasting. On one of the stones of St. Omer he is drinking from two cups, and he is also represented drinking on the twelfth century font at Burnham Deepdale, Norfolk.

A.2. (*Plate* I.)—Here we find *Aquarius*, the Zodiacal sign corresponding to the month of January. This sign originated in Euphratea where the eleventh month of the solar year is very wet, the deluge being supposed to have occurred in it. It was represented by the god Ramman wearing a tiara and pouring water from a vase.

The figure is charming in its grace and movement, and seems to me to be of later date than the rest of the series. This roundel may, perhaps, have replaced a stone which had been broken. As its border of vineleaves differs from that of looped trefoils which characterises all the other Zodiacal signs the design was, almost certainly, the work of a different artist.

FEBRUARY.

B.1. (*Plate* I.)—This stone is very worn, but it is not difficult to distinguish the figure of a man seated before a fire warming his hands. This is a frequent symbol for February, and indicates this month on the fonts at Brookland, Kent, and Burnham

Deepdale, Norfolk ; on the twelfth century porch of St. Margaret's Walmgate, York; and also at Amiens, Bourges, Chartres, Sens in France; and in St. Mark's at Venice, Aosta, and Modena in Italy. At Lucca, February is represented by a man fishing—probably in preparation for Lent.

B.2. (*Plate* I.)—*Pisces*. The Zodiacal sign for February is very worn in the upper portion (see p. 219). The fishes are seen swimming in water, which is indicated by the wavy lines.

According to Sayce, the doubling of the sign of *Pisces* recalls the arrangement of the Babylonian Calendar, in which a year of 360 days was supplemented once in six years by a thirteenth month [*Encycl. Brit.* "Zodiac"].

MARCH.

C.1. (*Plate* I.) Represents a man digging, though the spade is difficult to distinguish. Still, the position of the hands, and of the raised left foot, leaves little doubt as to what is intended.

This is a very usual symbol for March, and is found indicating this month at Amiens, St. Denis, Burnham Deepdale, and other places. At St. Omer, and Cremona, it is assigned to February, and at St. Mark's, Venice, to October.

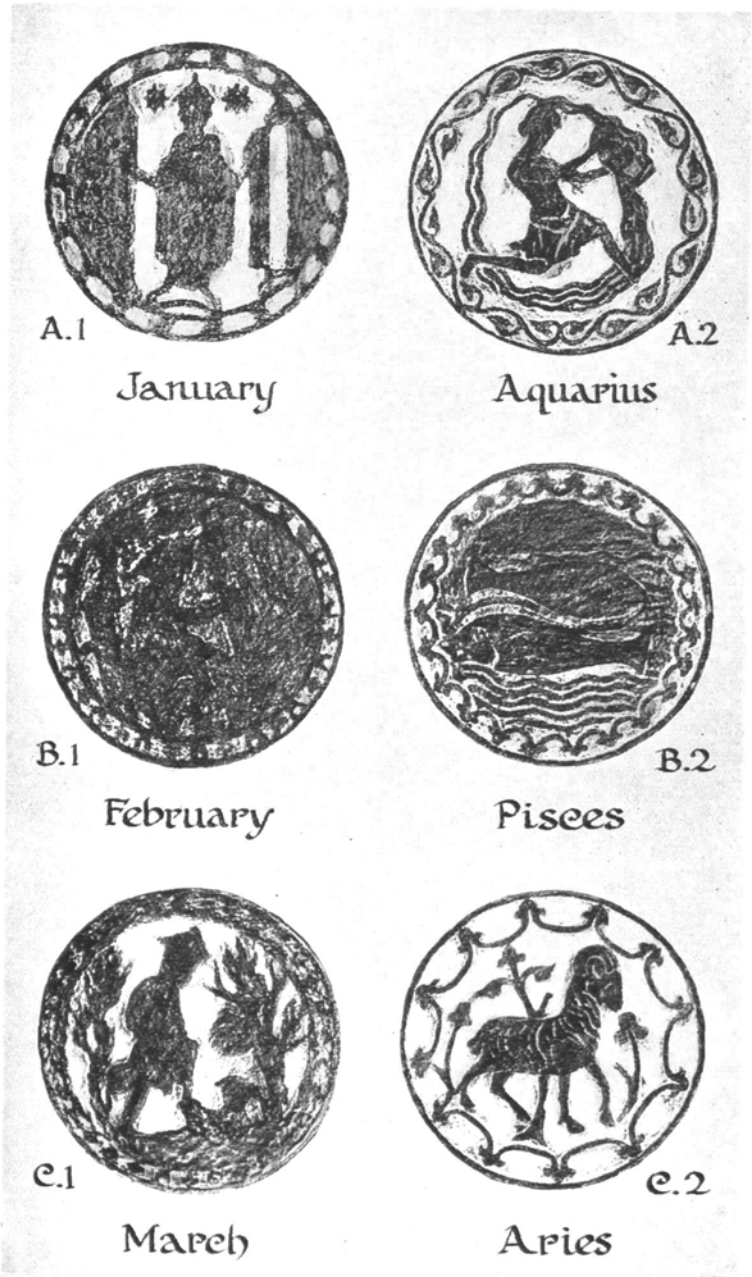
C.2. (*Plate* I.)—*Aries*. The position of this stone, immediately under C.1, goes to confirm the attribution of the latter to March.

Both of the above roundels are engraved in a plate in Shaw's *Specimens of Tile Pavements*, 1850.

APRIL.

B.6. (*Plate* II.)—Shows a man pruning a tree. This Labour probably indicates April as it does at Burnham Deepdale, Rheims, St. Denis, Modena, and Parma. Several illuminated MSS. of the thirteenth and fourteecnth enturies also give pruning as the occupation for April. At Brookland, St. Margaret's Walmgate at York, Chartres, St. Omer, Sens, and Lucca, pruning is the Labour for March ; at Amiens it is assigned to May.

This is one of the roundels which, at one time, were in Henry IV's Chantry Chapel, and it was placed in its present position only in 1929.



THE CANTERBURY ROUNDELS. PLATE I.

From Photographs of Rubbings by the Author.

B.4. (*Plate* II.)—*Taurus*. Prior to circa B.C. 1800, Taurus had the first position in the Zodiac, and the lines of Virgil, Geor. I, 217,

> " Candidus auratis aperit cum cornibus annum
> Taurus "

perpetrate the tradition handed down by Mithraic legends. The first Babylonian month—Nisan—was that of sacrifice, hence the Ram. When the year began with Taurus the idea was that the Bull entered the great furrow of the heaven and ploughed his way through the stars (see *Encyclopædia Britannica*, 11th Ed., " Zodiac.")

MAY.

E.6. (*Plate* II.)—A man standing with a hawk on his wrist.

Hawking may represent the month of April, as it does at Amiens and Lucca, or October, as in the Old English Calendar (Cotton, MS. Jul. A., VI.). Here, I think, it indicates May, as it does at Brookland, Chartres, St. Denis, Sens, Aosta, Modena, and Padua.

This stone also came from Henry IV's Chapel.

F.6. (*Plate* II.)—*Gemini*. Two brethren embracing between two trees.

In the Egyptian Zodiac the Twins were replaced by two sprouting plants, and the trees shown may be due to Alexandrian influence.

JUNE.

D.5. (*Plate* II.)—A man mowing.

This Labour is meant either for June, or for July—probably the former. June is represented by a mower at Brookland, Amiens, Chartres, St. Ursin at Bourges, Sens, Aosta, Modena, St. Mark's at Venice. At St. Omer June is symbolised by a man with a rake, and at Burnham Deepdale by a man weeding.

A.6. (*Plate* II.)—*Cancer*. This is an interesting roundel for it shows a trace of Alexandrian influence, the "Crab," which has twelve legs, having the body of a Scarabaeus which was the Egyptian symbol for the fourth month of the year.

In the Babylonian Zodiac a tortoise was the equivalent of the " Crab," both animals symbolising the retrograde slow retreat of the sun after the summer solstice. The French translate

" Cancer " by " Ecrevisse " (crayfish), and a lobster-like animal often replaces the " Crab " in continental Zodiacs.

There is a good illustration of this roundel in Dean Stanley's *Memorials of Canterbury* (10th Ed.). It was probably taken from the plate in Shaw's *Specimens of Tile Pavements*. It is also well illustrated in Parkers' *Concise Glossary of Architecture*, 9th Ed., p. 283.

JULY.

C.3. (*Plate* III.)—At first sight this appears to be a man holding the handles of a plough ; but it would be impossible to push a plough in this way, except very superficially in light sandy soil, and I have not come across any mediaeval representation of ploughing without oxen and horses. I think, therefore, that the figure is engaged in weeding, a Labour which symbolises June at Burnham Deepdale, and July at St. Margaret's Walmgate, York.

The man holds in his left hand a " crotch," and in the right a " wede-hook." These implements consisted of a staff, ending in a small fork, with which to gather together and hold the weeds, and another staff of equal length ending in a small sickle-shaped hook (*falcastrum*) with which to cut them off close to the ground.[1] The instruments are depicted on misericordes in the Choirs of Worcester Cathedral and of Malvern, and are also being used by two women weeding corn in an illustration taken from the Luttrell Psalter (cir. 1320) in Traill's *Social England*, Vol. II, p. 141.

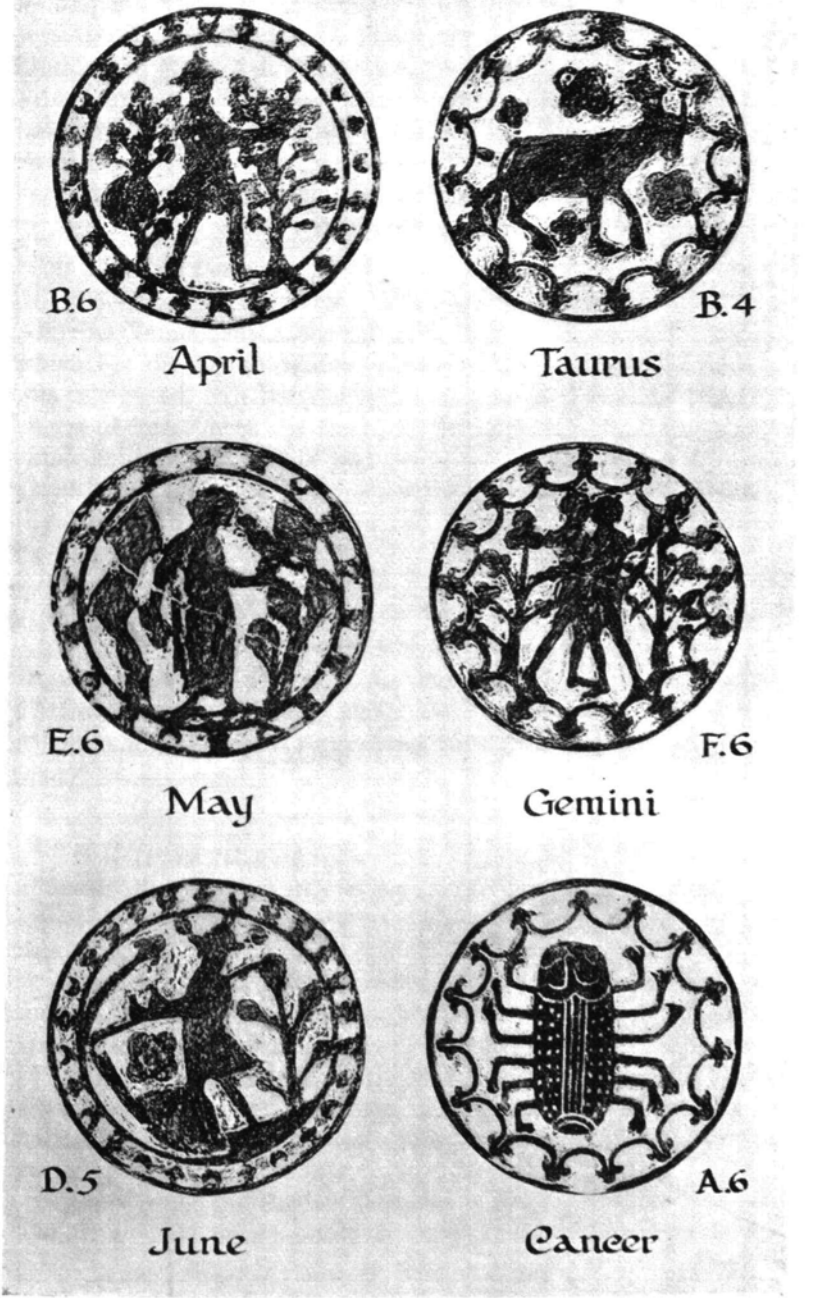
At Brookland, and at Modena, July is represented by a man with a rake.

D.6. (*Plate* II.)—*Leo*. This is one of the stones which was removed recently from Henry IV's Chapel.

AUGUST.

E.5. (*Plate* III.)—This stone is rather worn, but it appears to represent a man reaping, or binding, corn. The outline of the sickle, or band, is faintly discernible on the standing corn-stalks, or sheaf, on the right, and the action of the figure is compatible with that of reaping, or binding. I have therefore assigned it

[1] A XV. Cent. stained glass medallion (C. 124) in the V. & A. Museum gives a splendid illustration of a man cutting thistles with a crotch and weed-hook. *Vide* also *Archæologia*, Vol. XLIV., p. 201, and *Burlington Magazine*, Vol. XLIII., p. 167.



THE CANTERBURY ROUNDELS. PLATE II.

From Photographs of Rubbings by the Author.

to August, which is represented by a man reaping at Rheims, Brookland, St. Margaret's Walmgate, at York, and in four illuminated MSS. of the thirteenth and fourteenth centuries.[1] At Pritz near Laval, Sens, and S. Zenone at Verona, reaping corn is the Labour for July. At Amiens, Chartres, St. Denis, St. Ursin, and Souvigny, the Labour for August is threshing corn. But the harvest is naturally earlier in France than in England.

At Lucca, reaping corn indicates June, and threshing corn, July.

C.6. (*Plate* III.)—*Virgo*. This sign is held to represent the Assyrian Venus, Ishtar, the ruling divinity of the sixth month, in which her descent to Hades in search of her husband, Tammus, was celebrated. In Babylonia the Virgin was represented holding an ear of corn; here she holds, in either hand, a fleur-de-lis, the emblem of purity. This was probably because the mediaeval artist had in mind the Virgin Mary whose special emblem was the lily. Spenser in the *Faerie Queene*, VII, 37 represents August as leading

> "A lovely mayd
> Forth by the lilly hand the which was crouned
> With eares of corne, and full her hand was found."

In the library at Douai is an MS. entitled *Psalterium Breve Chronicon regum Angliae et rerum Anglicarum* in which there is a calendar where Virgo is represented by a girl playing on a lute.

SEPTEMBER.

D.4. (*Plate* III.)—A man riding, who seems to be armed with a spear directed towards a somewhat shapeless mass on the ground, which I take to be a boar, though it may be meant for a dog.

As a rule, boar-hunting seems to have been carried out by men on foot, armed with spears, but in *The Manners and Customs of the Middle Ages* by Paul Lacroix, there is a facsimile illustration (Fig. 160) of a miniature in the MS. of the *Livre du Roy Modus* (fourteenth century) in which a huntsman on horseback is galloping after a boar whose hindquarters he is piercing with a sword.

Since in the Old English Calendar (*vide* Traill, *Social England*, Vol. I, p. 181) boar-hunting is assigned as the occupation for

[1] Ruskin, *Stones of Venice*, II., 254. (Ed. Dent.)

September, I have assigned this stone to that month as there seems to be no place for it elsewhere.

A.3. (*Plate* III.)—*Libra.* This sign was chosen to denote the season when the days and nights are equal. It is first mentioned as the sign of the Autumnal equinox by Geminus, an astronomer of Rhodes (cir. B.C. 77). Ptolemy says that it is of Chaldean origin, but no sign of Libra has been found on any Euphratean monument. The Egyptian sign for Libra was "The Mountain of the Sun," which has been supposed to be an allusion to the Tower of Babel.

It is worth noting that an old Chinese law regularised weights and measures at the *Spring* equinox.

An illustration of this stone is given by Shaw (*Op. cit.*).

It is also illustrated in Parker's *Concise Glossary of Architecture*, 9th Ed., p. 283.

OCTOBER.

D.1. (*Plate* IV.)—A man treading grapes in a vat.

This symbol for October is found at Brookland, Burnham Deepdale, Amiens, Pritz, St. Ursin and other places. At Chartres, St. Denis, St. Omer, Souvigny, and S. Zenone at Verona it is replaced by a man gathering acorns for swine. The ornaments of fleur-de-lis and roundlobed quatrefoils in this roundel are unusually numerous and are very reminiscent of the stones at St. Omer.

D.2. (*Plate* IV.)—*Scorpio.* This is the most striking of the Zodiacal signs at Canterbury. The animal represented bears a strong resemblance to one of the numerous species of genet, to which family the Egyptian ichneumon and Indian mongoose belong. It is a curious coincidence that it was immediately recognised as a "fossa," or Madagascan genet, by the keeper of the cat-house at the Zoological Gardens in Regent's Park, to whom the photograph was shown by a friend.

Scorpio has been represented under many quaint forms by mediaeval artists[1]—at Brookland it resembles a tailed frog,—but neither at the British, nor at the South Kensington Museum is anything like the Canterbury "Scorpion" known to the authorities, nor has my friend, M. Turpin, who has an extensive knowledge of mediaeval art, seen anything like it on the continent.

[1] In the Ancren Riwle (13th. cent.), p. 207, we are told that a scorpion is a kind of serpent that has a face somewhat like that of a woman, and puts on a pleasant countenance.

C.3

July

D.6

Leo

E.5

August

C.6

Virgo

D.4

September

A.3

Libra

THE CANTERBURY ROUNDELS. PLATE III.

From Photographs of Rubbings by the Author.

The mosaic *Scorpio* at St. Bertin bears no resemblance to this beast, which appears to be unique. If it were not for its ears, it might be taken for a salamander, or some species of saurian.

The Greeks called the Scorpion Χηλαί (claws), and the sign was often doubled to include Libra which was not of Greek invention. From the doubling of the Scorpion came the two signs of the Scorpion and "Claws."

In Egypt the corresponding sign was a serpent.

The Scorpion, being the symbol of darkness, showed the decline of the sun's power after the autumnal equinox.

NOVEMBER.

E.1.—I have assigned this stone to November for reasons given later. It is so worn that it is almost impossible to make out what the figure is doing. Almost everywhere the usual occupation of this month is killing a pig, but at Brookland it is beating down acorns,[1] and at Amiens and Modena it is sowing. At Rheims, Sens, and Aosta, a woodman represents this month, and at Lucca a man ploughing.

E.2.—*Sagittarius.* This stone is also very worn, but the figure of the centaur-archer is clearly discernible, holding in his left hand the bow from which the arrow has just been loosed.

Philippe de Thaün in his *Livre des Créatures* (cir. 1121), in which he gives the pseudo-scientific meanings and origins of the names of the months and of the signs of the Zodiac, says that the Egyptians gave the name of Sagittarius to the ninth sign (November), because it symbolises the hail which shoots down at this period!

DECEMBER.

F.1.—The reason for assigning this stone to December is given later when the question of the original positions of the stones is discussed. The design is almost totally obliterated, but it may represent killing a pig, an occupation which frequently denotes this month.

F.2.—*Capricornus.* The fish-tailed goat of the Babylonian Zodiac presents a curious analogy with the Mexican Calendar sign, Cipactli, a kind of narwhal (*Encycl. Brit.* "Zodiac"). In mediaeval Zodiacs Capricornus was represented as a goat with

[1] In the 13th Century Stone Calendar in the choir of the Church at *Tour-en-Bessin*, in Normandy, November is represented by a man, armed with a sling, knocking down acorns for two boars.

the tail of a serpent, or dragon, nowed. Philippe de Thaün (*Op. cit.* trans. by Thos. Wright and G. C. Druce, F.S.A.) says :

" And of Capricornus see now the meaning.
Two great things they showed who painted this sign,
The head of a goat before, tail of a great serpent,
And in the middle they paint a knot, wherefore many do sign themselves."

and he explains that the goat because " it mounts high to feed " indicates the return to heaven of the incarnate God, and the serpent's tail means the punishment which the Creator will inflict on sinners, the knot showing the sins in which they are bound.

In addition to the places already mentioned, signs of the Zodiac are to be seen round the arches of Norman doorways at Iffley, Oxon, and Brinsop, Herefordshire. (Allen, *Christian Symbolism*, p. 323.) At Merton College, Oxford, Libra is represented by a judge in his robes, and Pisces by the dolphin of Fitzjames, Warden, 1482-1509.

In France, Zodiacal signs are found also on the porches of Autun, Vezelay, Bourg-Argental (Loire), Argenton-le-Château, Melle (Deux-Sèvres), and Mauriac (Cantal). At Saint-Maurice de Vienne a magnificent Zodiac is carved on the North portal. At Issoire (Puy de Dôme) the signs of the Zodiac are given in medallions on the outside of the apse. (Bréhier, *L'Art Chrétien*, p. 219.)

The leaden font at St. Evroult-de-Montford (Orne) has a series like that at Brookland and is illustrated in de Lasteyrie's *l'Architecture religieuse en France à l'époque romane.*

(b) Virtues and Vices.

There are seven roundels on which can be recognised the Virtues in the form of crowned female figures, seated, and trampling on the Vices which are represented by prostrate human forms. Six of these are among the stones round the " Opus Alexandrinum," the seventh being behind the Patriarchal Chair in the Corona, where there are three other stones whose designs are totally obliterated, but which

THE CANTERBURY ROUNDELS. PLATE IV.

From Photographs of Rubbings by the Author.

may have belonged to this series, for the number of Virtues and Vices was not limited to seven, almost every mediaeval artist having his own system. On the West front of Amiens Cathedral is a series of twelve Virtues and twelve Vices, and on a twelfth century font at Stanton Fitzwarren, Wiltshire, there are eight crowned figures holding shields and sceptres, to symbolise the Virtues trampling on the Vices prostrate beneath them, viz. :

Largitas on Avaritia.
Humilitas on Superbia.
Pietas on Discordia.
Misericordia on Invidia.
Modestia on Ebrietas.
Temperantia on Luxuria.
Paciencia on Ira.
Pudicitia on Libido.[1]

The porch of Malmesbury Abbey, cir. 1180, has also eight Virtues trampling on Vices, and so has the North Porch of Chartres Cathedral. But the usual number was seven. The Greeks knew only four fundamental Virtues, viz. Wisdom, Courage, Temperance and Justice ; and Plato tries to show that these Virtues are primary and cardinal. To these primary Virtues the Church added the Pauline Virtues of Faith, Hope, and Charity (Love), the first four being called " natural," and the last three " supernatural," or " theological " Virtues.[2]

Langland in his *Piers the Plowman*, cir. 1377 (ed. Skeat, Prologue 102) says that St. Peter deputed the power of the keys to the four cardinal Virtues, Prudence, Temperance, Fortitude, and Justice. The Old English names for these were Sleight, Temperance, Strength and Doom (vide *Ayenbite of Inwyt*, cir. 1340, ed. Morris, p. 124 and 159).

To these Virtues were opposed seven Deadly Sins, which, from the time of Gregory the Great onwards, were practically fixed, viz., *Superbia, Avaritia, Luxuria, Invidia, Gula, Ira, Acedia.*

[1] J. Romilly Allen, *Christian Symbolism*, p. 227.

[2] *Vide* Ruskin, *Stones of Venice* (ed. Dent), Vol. II., pp. xlix.-lxiv.

It will be noted that, at Stanton Fitzwarren, *Gula* is replaced by *Ebrietas*, and *Acedia* (Sloth) by *Libido*.

From mediaeval MSS. we get the following opposition of Virtues and Vices which differs slightly from that at Stanton Fitzwarren :

Virtues.	Vices.
Liberalitas.	Avaritia.
Humilitas.	Superbia.
Mansuetudo (Patientia).	Ira.
Caritas (Amor).	Invidia.
Temperantia.	Gula.
Diligentia (Fortitudo).	Segnitia (Acedia).
Pudicitia (Continentia).	Luxuria (Libido).

The Virtues were rarely personified before the twelfth century, but were represented by figures performing appropriate actions, or by persons made illustrious by their practice. But soon the custom was introduced of representing the Virtues by women struggling victoriously over the Vices represented by monsters. The introduction of this theme into Christian iconography is due to a poem which had an immense vogue in the Middle Ages—the *Psychomachia* of Prudentius who, in the fifth century, sang of the epic combats of Faith against Idolatry, Modesty against Debauchery, Patience against Wrath, etc.[1]

Examples of warlike Virtues contending with Vices are found in many churches in France—Aubray, Fenioux (Charente Inf.), etc.[2] In the twelfth century Church of Blazimont (Bazas), the Virtues, clothed in long robes, are trampling under foot and hurling down the Vices, which are in the form of hideous monsters. The Virtues are armed with lances and swords and some have shields.

The Canterbury roundels show crowned female figures, sitting on thrones, who transfix with spears the Vices who are represented by human forms prostrate beneath them. Each stone has a broad border which originally bore the names of the Virtue and Vice represented, but in only one

[1] Cloquet, *Eléments d'Iconographie Chrétienne*, p. 244.

[2] Bréchier, *L'Art Chrétien*.

case—A.5, (*Plate* IV.) SOBRIETAS, LUXURIA—are these legible.

Luxuria, represented by a half-naked female form with long hair and a canine face, is lying on her back at the feet of *Sobrietas* who is seated on a solid bench and is threatening her opponent with some curious oval-headed object (? a distaff) which she holds in her right hand. The lettering round the margin leaves no doubt as to the particular Virtue and Vice intended.

Another roundel—D.3—represents a Virtue seated on a long seat with a vertical post, terminating in a knob, at each end. She holds in her left hand what appears to be a shield with a large boss, and in the right hand some kind of weapon. The Vice lies at her feet, but is indistinguishable. In the cement which forms the background are worked a large fleur-de-lis and two bezants. The letter U, on the left hand side, which is all that remains of the marginal inscription, shows that the Virtue was probably *Humilitas* subduing *Superbia*, or *Mansuetudo* subduing *Ira*. I think the former more probable, because on another roundel—C.5 (*Plate* IV.) —the letter I is plainly apparent after a full stop on the right. The Vice here is therefore either *Ira* or *Invidia*. Four fragmentary letters at the top appear to me to be E N T I, and to stand for *Patientia*, which is the Virtue usually opposed to *Ira*.

The Virtue is, like the others, crowned, and is seated on a chair with open-work sides. In her hands she holds a spear with which she is piercing her naked enemy in the back of the head, and with her feet spurning her on to her knees. In the background are placed a round-leaved quatrefoil, a crescent with bezant, and a fleur-de-lis.

In B.3 the prostrate Vice appears to have a serpent entwined round it. If so, it is probably meant for *Invidia*, the malicious Vice, which Spenser depicts as

> "All in a kirtle of discoloured say
> He clothed was, y-painted full of eies,
> And in his bosome secretly there lay
> A hatefull snake, the which his taile uptyes
> In many folds, and mortall sting implyes."

The opposing Virtue in this case would be *Caritas* (*Amor*).

F.3 is very worn, and the marginal lettering is completely obliterated. The Virtue, holding a spear in her uplifted right hand, seems to be thrusting it into the mouth of her prostrate foe which, from this circumstance, I think must be intended for *Gula*. The corresponding Virtue is *Temperantia*. The background is ornamented with a crescent holding a bezant, a quatrefoil, and three bezants.

F.5 may possibly represent *Fortitudo*, or *Diligentia*, subduing *Desidia* (Sloth). The marginal inscription has disappeared, and it is impossible to tell which Virtue and Vice the figures represent. The background is unusually full of ornamentation, for it contains two fleurs-de-lis, two quatrefoils, and three crescents.

Another roundel belonging to this series is the southernmost one of the row of four which lie in the Corona behind the Patriarchal Chair. The stone is so worn that it is almost impossible to distinguish its figures, which appear to differ in design from the others. On the margin, however, the letters C I A are clearly visible followed by a full-stop and what I take to be L I B. It is therefore not improbable that the roundel represents *Pudicitia* (*Pudicicia*)—*Libido*, as at Stanton Fitzwarren.

The remaining three stones are absolutely illegible, but one of them must have been *Largitas* (*Liberalitas*)—*Avaritia*, which are included in practically every system; and the other two may have represented *Pietas* (*Concordia*)—*Discordia* and *Idolatria*—*Fides*, as at Aulnay de Saintonge (twelfth century).

The Seven Deadly Sins were a favourite subject with old authors. They are discussed at length in Chaucer's *Persones Tale*, and Spenser's fine description of them is well known (*Faerie Queene*, Bk. I, Canto V, 8-35).

In Langland's *Piers the Plowman* (Passus V) is an interesting and picturesque description of the Sins, only one of which, *Superbia*, he represents as a female.

They are also described in William Dunbar's *Dance of the Seven Deadly Sins* (early sixteenth century) in which Pride leads the other deadly sins in a terrible dance before Mahoun— i.e. Mohammed, representing the Devil.

(c) Fantastic and Symbolical Devices.

It is very probable that the fantastic animal symbolism of the Middle Ages originated in the idea of metempsychosis which was so prevalent in the religions of the East, and which was expressed in material shape in the form of weird beings, half human, half animal, e.g. centaurs, sphinxes, sirens, satyrs, etc. A great impetus was given to this animal symbolism by a work composed by an Alexandrian Greek—the *Physiologus*—which was a sort of epitome of natural history combined with mythology and hermeneutics. It became immensely popular, and was translated into a great number of languages. A Latin version appeared in the fifth century, and became the source of the Bestiaries, one of the oldest of which is the *Livre des Créatures* written by Philippe de Thaün about 1121. These gave allegorical and mystical interpretations of the appearance and habits of animals, from a Christian point of view, and found expression in churches in those fantastic and grotesque forms of artistic decoration whose exaggeration evoked the wrath of St. Bernard of Clairvaux in his well-known letter (c. 1125) to William, Abbot of St. Thierry. In this he says, "Of what use is it to studious friars in the courts of cloisters to have before their eyes these ridiculous monstrosities? What mean those filthy apes, fierce lions, monstrous centaurs, those half-men, those spotted tigers, those fighting soldiers and horn-blowing huntsmen? You may see several bodies under one head, or several heads on one body. Here a quadruped with a serpent's tail; there a fish with a quadruped's head; here a beast which is a horse in front and a goat behind; there a horned animal with a horse's hindquarters. In short, on all sides there can be seen an astonishing variety of shapes that serve only to distract

attention. If you are not ashamed of these puerilities, at least dread the expense which they cause you."

If St. Bernard, in the thirteenth century, professed ignorance of the meaning of these grotesque ornaments, it is not surprising that, after the lapse of seven centuries, their significance should be still more obscure.

Many of these fantastic symbolisms are lucidly explained in Mr. E. P. Evans' *Animal Symbolism in Ecclesiastic Architecture* (1896), from which I have derived much of the foregoing information. Two most interesting articles by Mr. G. C. Druce, F.S.A., should also be consulted—viz., "Some abnormal and composite human forms in English Church Architecture," and "The Amphisbaena and its connections in Ecclesiastical Art and Architecture" (*Archæological Journal*, December, 1910, and June, 1915).

There are a great number of these fantastic ornaments among the stones of St. Omer, and those on the capitals of the pillars in the Crypt of Canterbury are well known to visitors to the Cathedral; but there are only eight of the roundels with ornaments of this sort—viz.,—

A.4.—This stone came from Henry IV's Chapel, and is very worn. The margin has the same ornamental designs of crescents and quatrefoils as the series representing the Labours of the Months. The central portion is difficult to determine, but it appears to be an escarbuncle of eight rays, floretty. If so, it may represent the arms of William Mandeville, Earl of Essex, who bore: *Quarterly, or and gu., an escarbuncle of eight rays, sa*[1]*:* He died in 1189, giving grants of land to the Church. His son, Geoffrey, married Isobel (daughter of William, Earl of Gloucester), the divorced wife of King John, and was one of the great barons who opposed the monarch, and who guaranteed, by a deed still in the possession of the Dean and Chapter of Canterbury (C.245, A.D. 1213), that John should be compelled to adhere to the pact by which he had undertaken to restore the ancient privileges of the Church. His death occurred in the

[1] The effigy of Geoffrey de Magnaville, Earl of Essex, in the Temple Church, London, bears, on the shield: *Pretty, an escarbuncle of* 8 *rays.*

same year as that of John (1216), and the stone may have been placed in the Cathedral in commemoration of one or other of these nobles.

At St. Omer it appears to have been the custom to increase, from time to time, the decoration of the pavement of the Cathedral by the presentation of additional stones engraved with the arms and names of the donors, and somewhat the same plan may have been followed at Canterbury in this instance.

One of the "Eternity" roundels (E.5) also bears an escarbuncle, but it differs from this in not being floretty.

B.5.—This represents a winged dragon with a long snake-like tail curling over its back. It has a curious lozenge-shaped head, due probably to the abrasion of the stone, and holds in one paw a sword with a straight quillon. It is surrounded by a border nebulé.

C.4. (*Plate* IV.)—A lion rampant contending against a dragon. The latter has a bird's body which ends in a long snaky tail with a loop in it. Its head resembles that of a pterodactyl with powerful jaws armed with formidable teeth. The border is composed of crescents and quatrefoils.

F.4.—This also represents a lion fighting with a snaky-tailed dragon.

These two roundels, C.4 and F.4, probably symbolise the opposing forces of Good and Evil, the dragon being a common symbol for the latter, while the lion frequently represents the former—e.g. the Lion of the Tribe of Judah, the Lion of St. Mark, etc.

The border is nebulé.

E.3. (*Plate* IV.)—It is not impossible that this may be meant for a "Tetramorph," representing the four Evangelists. It has the head of a calf (St. Luke), the hindquarters of a lion (St. Mark), and the legs and talons of an eagle (St. John). The symbol for St. Matthew is not apparent, but it may have been represented by a man's face displayed on the particularly broad chest of the figure, and have been obliterated by wear and tear. But the design may, of

course, have no symbolical meaning, and be due merely to the capricious imagination of the artist.

E.4.—A rabbit, or hare, playing on a harp. Behind it is a tree.

I have not seen elsewhere a rabbit represented playing on this instrument, though an ass playing on a harp is not uncommon in mediaeval designs ; there is one at St. Omer and another at Bocherville. At Chartres an ass is figured playing on a *vielle*, or hurdy-gurdy. These latter grotesque figures are probably due to the fancy of the sculptor whose sense of humour was tickled at the idea of making an ass, renowned for his powerful but unpleasing voice, accompany himself on a musical instrument. But it is difficult to assign a reason for replacing the ass by a rabbit.[1] It is not unlikely that satire was at the bottom of the symbolism, if any symbolism were intended, and that the designs were not due merely to the love of the grotesque so characteristic of the period.

The border differs from all the others, being composed of a broad band with a pattern of crescents.

G.—This is the northernmost of the two stones on the East side of the mosaic pavement. It consists of a square, placed lozengewise East and West, and is divided into four compartments. In two of these is a circle enclosing the figure of a lion ; the Western one contains a winged dragon ; the Eastern one is traversed by the long furrow made by the feet of the pilgrims as they worshipped at the Altar of St. Thomas, and is completely obliterated.

H.—This is the South stone on the East of the mosaic. Like " G " it is square in shape but differs from it by containing a large circle within which is what appears to be an animal springing, with extended fore paws, on to the back of another which turns to avoid the onslaught. The design is almost obliterated, as this stone also lies in the furrow mentioned above.

[1] At Barfreston a bear is represented playing on the harp.

(d) "ETERNITY" ROUNDELS.

These consist of geometrical patterns of various kinds arranged within circles. They are made of the same yellow oolite as the others, but, with one exception, the undercut portions, which were orginally composed of *mastic*, have been recently filled up with pieces of marble of various colours. This is a regrettable error, for the one stone, that at the North end of the row, which has been left in its pristine condition, shows a background of grey *mastic* on which fragments of dark red are clearly visible. It is therefore certain that the background never contained marble, but was made of red mastic.

I obtained a very clear rubbing of the untouched stone, but the others, owing to the filling up of their hollows, gave indistinct results.

The stone at the South end of the row bears an escarbuncle of eight rays which is an ornament found also at St. Mark's, Venice.[1]

III

POSITION OF THE ROUNDELS.

Dean Stanley, in his *Historic Memorials of Canterbury*, says that Becket's shrine stood in the centre of the Trinity Chapel, and "at its Western extremity, separating it from the Patriarchal Chair which stood where the Communion Table is now placed, extended the broad pavement of mosaic with its border of circular stones ornamented with fantastic devices, chiefly of signs of the Zodiac, similar to that which surrounds the contemporary tombs of Edward the Confessor and Henry III at Westminster. Immediately in front of the mosaic was placed the "Altar of St. Thomas" at the head of the shrine, and before this the pilgrims knelt where the long furrow in the purple pavement still marks the exact limit to which they advanced."

[1] Ruskin, *Stones of Venice*, Vol. II., Plate VI.

The "long furrow," mentioned by Dean Stanley, traverses the Eastern portion of the stones "G" and "H" (see plan), obliterating that part of their designs. It is, therefore, most probable that these two stones have not been moved from the positions they originally occupied; many of the others, on the contrary, have obviously been shifted, for much worn stones adjoin others which are comparatively intact—a condition of affairs which would be impossible if the stones were in their original places.

In N. Battely's edition of Somner's *History of Canterbury Cathedral*, published in 1703, there is a plan of the Cathedral showing eight roundels in a row from North to South, at the East end of the "Feretry" (shrine); nine more, in a similar row, in the Corona; and the rest, grouped in two large and two small squares, at the four corners of the mosaic pavement, the larger squares being on its West side.

Dart, in his *History and Antiquities of Canterbury Cathedral*, published in 1726, gives a plan, engraved by J. Cole and based on one given by Somner, in which this arrangement is followed; but in a large engraving of the Trinity Chapel, in the same volume, the thirty-six roundels, and the two stones "G" and "H" are shown in their present position.

No mention is made by either Somner or Dart of the five stones (A.4, B.6, C.6, D.6, E.6) which were removed in October, 1929, from the floor of Henry IV's Chantry Chapel, and placed, under the auspices of Dean Bell (now Bishop of Chichester) and Dr. Charles Cotton, O.B.E., in the positions they now occupy.

In an engraving of this part of the Cathedral by W. Woolnoth (*Graphical Illustrations of the Metropolitan Cathedral Church of Canterbury*, 1816), nine of the roundels are shown, in a row from North to South, in the East end of the Trinity Chapel, and twenty-four others, arranged irregularly, round the mosaic pavement—ten on the North side, eleven on the South, and three on the West.

An engraving of the Chapel of the Holy Trinity made for John Bowles in Gostling's *Walk in and about Canterbury*,

(tenth edition, 1825), shows the roundels arranged as follows :

E.

OOO		OOO
OOO		OOO
OO	Opus Alexandrinum.	OOO
OOO		OOO
OOO		OOO
OOOO		OOOO

W.

This arrangement is the same as the present one, except that the two stones (G and H on my plan) are apparently in the bottom (West) rows of four stones, and that, owing probably to an oversight on the part of the engraver, a stone is missing in one of the rows on the North side.

In 1836, J. Britton, F.S.A. (*Canterbury Antiquities*, Pl. X), in an engraving of the East end of the Cathedral, shows fourteen stones only, arranged on two sides of the mosaic, thus :

E.

O		OO
OO	Opus Alexandrinum.	OO
OOO		OO
O		O

W.

If, therefore, we can rely on the accuracy of these engravings, it is clear that the roundels were placed in their present order somewhere between 1703 and 1726, and were shifted several times before 1929, when the addition of the stones from the Chantry Chapel gave once more to those round the mosaic the form shown by Dart in his engraving.

Judging by the fact that the Zodiacal signs, and most of the Labours of the Months, are in a good, or fairly good, state of preservation, whereas, with one exception, all those representing Virtues and Vices are greatly worn, I think it probable that the latter were not arranged originally round

the mosaic, but were placed somewhere in the " Chapel of St. Thomas," or in the Corona, where they were exposed to the the friction of the pilgrims' feet. As one of the four worn out roundels behind the Patriarchal Chair is just recognisable as a Virtue and Vice, it is not unlikely that the rest of this series may have occupied a similar position.

According to Messrs. Woodruff and Danks (*Memorials of Canterbury Cathedral*, pp. 79-80), the pilgrims, after visiting the scene of the martyrdom and the sarcophagus in the crypt, came back to the South transept, and going up the steps to the South Choir Aisle, were led beyond the shrine to the " Caput Beati Thomae " (" St. Thomas Hed "), in the round Chapel at the extreme East end of the Church. Thence they went to the Chapel of St. Thomas (Trinity Chapel), knelt at the altar at the West end of the shrine, and returned by the way by which they had come. It is therefore apparent that the roundels most exposed to friction were those at the East end of the mosaic, and, more especially, those at its S.E. corner, which would probably be crossed by the pilgrims leaving the altar.

If we suppose that the six roundels representing Virtues and Vices, and the six with miscellaneous devices, did not form part of the original design round the mosaic, we are left with the twenty-four stones representing the signs of the Zodiac and the Labours.

If this supposition is correct, the series would naturally commence at one of the corners of the pavement either with the sign *Aries*, indicating March, when the ancient astronomical year began, or with the Labour representing the month of January. The rest of the months, with their corresponding Zodiacal signs and Labours, would then follow in their natural order.

Now, the three Easternmost stones (A.1, B.1, C.1) on the North side of the pavement represent, respectively, Janus (January), a man warming himself (February), and a man digging (March). Beneath these are their corresponding signs of the Zodiac, viz., *Aquarius* (A.2), *Pisces* (B.2), *Aries* (C.2).

At the East end of the South side of the mosaic we find, in the same way, a man treading grapes, D.1 (October); and two almost obliterated signs (E.1 and F.1) which appear to have represented men doing something to animals—one seems to be the slaughter of a pig—(November and December). Beneath these are their corresponding Zodiacal signs: *Scorpio* (D.2), *Sagittarius* (E.2), and *Capricornus* (F.2). The two latter are very worn, though less so than the Labours above them.

As these six Labours and six Zodiacal signs are all in correct order, we might infer that they still occupy their original positions were it not that the two stones (B.1, B.2) on the North side, are much worn, whereas those adjoining them are in very good condition.

It is possible, of course, that the worn stones were shifted at some time to a place where they were exposed to great friction, and were subsequently replaced in their present positions; but I am inclined to think that the original arrangement was not three, but two, rows of six stones on either side of the mosaic, according to the scheme below.

NORTH SIDE.		SOUTH SIDE.	
JANUARY.	FEBRUARY.	NOVEMBER.	DECEMBER.
Janus.	Man before fire.	?	Killing pig ?
Aquarius.	*Pisces.*	*Sagittarius.*	*Capricornus.*
MARCH.	APRIL.	SEPTEMBER.	OCTOBER.
Man digging.	Man pruning. Opus Alexandrinum.	? Boar-hunting.	Treading grapes.
Aries.	*Taurus.*	*Libra.*	*Scorpio.*
MAY.	JUNE.	JULY.	AUGUST.
Man hawking.	Man mowing.	Man weeding.	Man reaping.
Gemini.	*Cancer.*	*Leo.*	*Virgo.*

This arrangement makes the roundels representing the Labours for January, February, November and December occupy the easternmost positions, where they would be most exposed to damage by the pilgrims worshipping at the altar

of St. Thomas, and would account for their worn condition. It also accounts for the particularly damaged Labours for November and December, since, as previously mentioned, these would be the most likely to be injured by the pilgrims on their return from the altar.

The original positions of the other stones is harder to determine. The series of Virtues subduing Vices would be placed appropriately in the Corona where they would serve to inculcate the moral lesson of the triumph of Good over Evil, with perhaps an *arriere-pensée* of the recent victory of the Church over a King of whom it was sarcastically said by an anonymous epigrammatist quoted by Matthew Paris (II.669):

> "Anglia sicut adhuc sordet foetore Johannis
> sordida foedatur foedante Johanne Gehenna."

The extremely worn condition of these stones shows that they were exposed to great friction, and this would be the case in the position indicated. Dr. Charles Cotton, O.B.E., who has taken great interest in the elucidation of these problems, thinks that the six so-called "Eternity" roundels, which are now arranged in a row in the centre of the Trinity Chapel, were originally placed at the East end of Becket's shrine, and I agree with him that this was a very probable position for them.

The stones with fantastic devices may have been arranged in some position in the Trinity Chapel, or may have been placed on the West side of the mosaic in front of the former position of the Patriarchal Chair.

The "Opus Alexandrinum" is almost certainly in its original position. All the various engravings and plans of this part of the Cathedral by their coincidence show this to be the case. But it has been greatly injured at various times, and it is not always easy to determine which of the pieces of marble composing it are originals or restorations. Gostling in his *Walk in and about Canterbury* (1774) says, "The pavement in the Chapel where the Shrine once stood has many circular stones laid in it, with figures very rudely

designed and executed of the signs of the Zodiac and other fancies of the workmen, and besides them, a curious and beautiful mosaic, which having suffered much from the superstition of some and the destructive curiosity of others, were some years since repaired."

This statement is copied verbatim by Hasted in his *History of Kent* (ed. 1800), and seems to be the only reference to the condition of the mosaic which Somner in his *History and Antiquities of Canterbury* (1640) mentions casually, but without reference to its appearance. Nor is any mention made of the mosaic in the detailed account, drawn up in 1662 by the Dean and Chapter of Canterbury, of the ruined condition of the Cathedral at the Restoration of the Monarchy after the Civil War.

The "Opus Alexandrinum" is now in an excellent state of repair, and as both it and the roundels on either side are roped off to prevent encroachment by visitors, they are safe from further abrasion. The six "Eternity" roundels in the Chapel of St. Thomas are, however, still exposed to injury from people's feet, and it would be well to protect them in the same way as those next the mosaic and those in the Corona, and so preserve them for posterity.

In conclusion, I have to express my thanks to Mr. G. C. Druce, F.S.A., for the loan of photographs of Zodiacal signs, etc., in French and English Churches, and for helpful criticism and advice; to M. Pierre Turpin of Lille for much valuable information on French mediaeval art; and to Dr. Charles Cotton, O.B.E., and Canon J. M. C. Crum, of Canterbury, for kind assistance.