Scoto-Celtic Architecture: — Its Place among the Styles

with Notes on Celtic Decorative Art and Gaelic Glossary of Architectural and Building terms.

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· CONTENTS ·

INTRODUCTION

Within the scope of this treatise, the term Scoto-Celtic architecture is taken to imply the architecture or manner of building which was practised in Ireland from about the 6th. century down to the 12th century A.D.

As regards the analogous architecture of Scotland, reference will be made to certain examples as occasion requires; but as the work carried out in Ireland is peculiarly representative in itself of the particular style connoted here by the term Scoto-Celtic, I shall not consider it necessary to deal in detail with the Scottish phase of the style.

Moreover, while its antecedents of the more remote centuries must obviously be taken into consideration, I limit the inquiry chiefly to the ecclesiastical architecture of this (early Christian) period, for the reason that this phase of development is that which most clearly expresses a formulated national type.

It is true that many authoritative works have been produced on the subject of Irish architecture, its history and its character;[I] yet it cannot be asserted that, in the standard works on architecture in general, a definite place has been given to Celtic Christian architecture in its relation to the main stream of development of the European styles in their sequence.

Proceeding from what may be regarded as the

I. Petrie, Geo: " The Ecclesiastical Architecture of Ireland ". 2nd edit. Dublin: 1845.
Dunraven, E.R.W, Quin, 3rd Earl of - "Notes on Irish Architecture". Lon. 1875-77.
Stokes, Margaret, "Early Christian Architecture in Ireland". Lon. 1878.
"Early Christian Art in Ireland" Part II.
Champneys, A.C. "Irish Ecclesiastical Architecture". Dublin, 1910.

basic architectural styles of ancient Egypt, Greece and Assyria, the usual plan traces the subsequent development of architecture through the Roman style of the classic period, to the two great divisions of early Christian architecture; the Romanesque of the West and the Byzantine of the East.

Following upon this, the mediaeval architecture of England, Scotland and Ireland, along with the contemporary analogous architecture of the Continent, is set into place, as an extension of the Romanesque of Western Christendom, cognisance being taken of certain national characteristics influencing the respective styles.

Such a chain of development, however, is not capable of including in its links, the architecture of the Celtic Church of Britain and Ireland: an architecture which was developed on a different concatenation. Consequently, this architecture is usually relegated to a detached or parenthetical chapter in those handbooks which deal with the architectural styles of Europe.

Some of these writers, it is true, appear to feel that some sort of contact or affinity with the main trend of architectural development in Europe, ought to pertain for this Celtic style, but it is evident that a certain difficulty is encountered in bridging over awkward gaps in such a relationship.

An illustration of this attitude is to be

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found in Fergusson's History of Architecture.

In dealing with Irish architecture, Fergusson states:- "The history of architecture in Ireland forms as distinct a contrast to that of Scotland as is possible to conceive. At a very early period, the Irish showed themselves not only capable of inventing a style for themselves, but perfectly competent to carry it to a successful issue, had an opportunity ever been afforded them..... Ireland possesses what may properly be called a Celtic style of Architecture, which is as interesting in itself as any of the minor local styles of any part of the world, and, so far as is known, is quite peculiar to the island..... Their chief interest[I] lies in their singularly local character, and in their age, which probably extends from the 5th or 6th centuries to the time of the English conquest of 1176. They consist principally of churches and round towers, together with crosses ..... No Irish church of that period now remaining, is perhaps even 60 feet in length, and generally they are very much smaller, the most common dimensions being from 20 to 40 feet long. Increase of magnificence was sought to be attained more by extending the number of churches, than by augmenting their size.

The favourite number for a complete ecclesiastical establishment was 7, as in Greece and Asia Minor, this number being identical with that of the

I. i.e. that of the buildings.

7 Apocalyptic churches of Asia.....and generally, two or three at least, are found grouped together. As in Greece, too, the smallness of the churches is remarkable. In fact, no church is known to have existed in Ireland before the Norman conquest, that can be called a basilica, none of them being divided into aisles either by stone or wooden pillars, or possessing an apse; and no circular church has been found there, Nothing in short, that would lead us to believe that Ireland obtained her architecture direct from Rome, while everything, on the contrary, tends to confirm the belief of an intimate connection with the farther East.....we must not look for the origin of her architectural styles either in England or in France, but in some remote locality, whose antiquities have not yet been so investigated as to enable us to point it out as the source whence they were derived." I.

In his "History of Architecture," Prof. Bannister Fletcher confines his exposition of Irish architecture to less than a page, in course of which he states that, in regard to the monasteries, "Prof. Stokes, in his investigations, refers to a group of seven small churches found at Inchleraun, similar in number to those in Asia Minor and at other places."

Rosengarten, in his "Architectural styles," makes no reference to Celtic architecture, nor does

I. James Fergusson; History of Architecture. Vol. 2. p.104 et seq.

Roger Smith, in his work on "Architecture: Classic and Early Christian."

Recognizing then that there is evidence in the works of such authorities, that the subject of Celtic Architecture has been handled with a certain hesitancy and dubiety in the matter of its relations, the question forces itself upon us as to whether any new knowledge has emerged, which may serve to place this architecture in its true position in regard to origin and type.

It is my opinion that this knowledge has emerged; and it is to Syria and Coptic Egypt that we must look for an all-important link in the chain of its development.

Considerable light has been shed on this aspect of the subject by recent archaeological researches in these countries; which, taken together with the beginnings of the Christian church and its movements westwards, lead us on to direct contact with the Celtic church of Britain and Ireland.

To omit or disregard the influence of the East upon the Celtic church of these islands, is tantamount to casting its ark adrift upon an uncharted sea; and it is largely by reason of failure to recognise this influence that Celtic architecture has secured but an ambiguous place among the architectural styles of Europe.

In asserting the fact of this relationship, I do not go so far as to maintain that Celtic architecture is to be regarded as being of Eastern origin, in the sense of its being of the nature of an exotic product imported into Britain and Ireland. Such a theory would be untenable in point of fact; and in any event, all architecture must obviously be influenced by native tradition, climate, materials and other factors incident to its locus.

Nevertheless, it can be shown that Eastern influences derived from the source, were potent to mould the character of the native architecture to the extent of effecting a very real architectural affinity and relationship; and this same Eastern connection is that which accounts for the course of development of Celtic church architecture being divergent from the main stream in which the Christian architecture of Western Christendom on the Continent flowed.

It was not until the advent of the 12th century A.D., that the two streams met in the Romanesque architecture of Ireland.

It is my object now to attempt to place Celtic architecture, within the limits which I have assigned to it, in its proper relationship to the established architectural styles developed in Europe.

Such a project I propose to meet by constructing something of the nature of a genealogical tree of European architecture; cognisance being taken

of all the essential phases of architectural development which form roots, stem and branches of the structure

In considering these elements of the composition, I shall deal briefly and in a synoptical and merely descriptive manner, with the features of the well known types of building which form the subject matter of the Standard works in architecture, short historical notes being introduced to show chronological relationship. Such descriptions, while necessary to present the physical characters of these architectural phases, which form the elements of the chain, serve also to provide an architectural field comprising a range of structural and decorative features which evoke questions of comparison and relationship, and wherein may be detected the germ, in various stages of growth, of that which, in diverse forms, ultimately became the plan of the church edifice.

Commencing with the archaic, basic types of building associated with the Minoan, Mycenaean, ancient Egyptian and West Asiatic civilizations, which may well be regarded as the roots from which the main stem of Greek and Roman architecture were produced, and whose cultural drifts or affinities extended as far to the West as Ireland, descriptions of Greek and Roman architecture-the stem of the structure-will thereafter be given.

This will bring us down to the Christian era;

to the period of the early phases of Christian architecture, when the main bifurcation of the classic stem took place, which culminated in the evolution of the two great branches of that architecture - both under Roman regime - the Byzantine of the East, and the style known as Romanesque; a style which became the pattern, for the church architecture first of the greater part, and ultimately of all Western Christendom.

Here also we are brought into touch with what may be described as another nerve-centre of development of Christian architecture, an architecture which is neither a direct product or extension of the former nor of the latter style, but rather a phase distinct in itself, having fundamentally, a profound functional relationship with the Christian religion, and while not immune from Roman influences, having a marked physical relationship with Greek tradition.

This architecture finds expression in the architecture of Syria and Coptic Egypt and is a phase of development which, in regard to the subject of this inquiry is noteworthy in respect of the influence which chiefly in its more primitive manifestations, it exerted upon the architecture of the early Celtic church.

On that account, - reverting to the con-

ception of the architectural tree - it is to this point of the stem that the branch which bears Celtic Christian architecture may justifiably be attached.

A description of the salient character of these types of architecture taken from named authorities, is given; together with references to certain features of Celtic architecture which find affinity with Eastern examples. Furthermore, the circumstances which brought about these relationships, and the nature of these influences are briefly reviewed.

Some notes on Celtic decorative art and its relations conclude the treatise.

An appendix contains a few extracts from old Gaelic records which pertain to the subject of Irish architecture, and a glossary of Gaelic architectural and building terms.

THE BASIC OR ROOT STYLES: I. [I]
Minoan Crete, Troy and Pre-Mycenaean Greece.

The excavations carried out by Heinrich Schliemann in the latter half of the 19th century, were the means of bringing to the notice of the world, that culture and civilization to which the term Mycenaean has been given.

While the Argolid and Boeotia were regarded as its original home, it has now with more certainty been determined that it is to Crete that we must look for the chief source of this culture.

In Crete, and particularly at Cnossus, there is evidence of its development from neolithic times, the influence of Egypt and Asia not obscuring an essential originality.

Whether or not the Cretans were Greeks has probably not been determined, but there is no doubt as to their influence upon the origins of Greek Culture.

In presenting a brief survey of the architectural remains associated with this remote age, the following table in terms of dates, Egyptian dynasties, Evan's Minoan periods, and Wace and Blegen's Helladic periods, will serve as an approximate indication of its chronology.

Dates B.C.	Egyptian dynasties	Minoan periods	Helladic periods.
3200	1st	Early M. I	Early H. I
2800	4th	" M.II	-
2400	7th-10th	" M.III	Early H.II
2200	11th	Middle M.I	" H.III
2000	12th	" M.II	Middle H.
1800	13th-17th (Hyksos)	" M.III	-
1600	18th	Late M.I	Late H.I
1500	-	-	" H.II
1400	-	Late M.III (At Cnossus preceded by L.M.II)	" H.III
1100	21st	Approximate end of Mycenaean civilization. Dorian invasions.	

I. The substance of this section is from "Greek & Roman Architecture", D. S. Robertson M.A. 1929. pp. 6–26.

Regarding the character of the Cretan houses of the neolithic age - some of which lie beneath the palace of Cnossus - their plan shows straight sides and square corners. In fact there is but little curvilinear building in Crete except in certain tombs and other wholly or partially subterranean structures - although rounded corners are found in the isolated blocks which formed the earlier stages of the Palace of Cnossus, itself rectangular in general plan.

A noteworthy exception to rectangular usage is found in a large, oval house at Chamaezi, in the Siteia province, assigned to the middle Minoan I period. This house shows indications of having been subdivided in an elaborate manner.

Cretan architecture is dominated by that great structure known as the Palace of Cnossus.

In view of the fact that its character in all essentials may now readily be ascertained from the published works of Sir Arthur Evans, it is not necessary for me to attempt a detailed description of this complex edifice here.

The buildings are dated as belonging to an era extending from the Middle Minoan I until somewhat later than the Middle Minoan III period.

In passing, it is to be noted that the South Propylaeum of the palace, is a remarkable fore-runner of the classical Greek type of propylaeum.

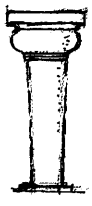
There are other palaces in Crete of which that at Phaestus and that of Hagia Triada may be

mentioned. A feature of the palaces, is the presence of peristyles or cloister courts of which examples are found in both buildings.

It has been ascertained that the Phaestus palace possessed a very fine portico, approached by a flight of broad steps.

The external appearance of these palaces can be but indefinitely determined, but certain features of detail are possible of elucidation from such sources as the Cretan frescoes and from the facades associated with the bee-hive tombs of Mycenae.

The peculiar formation of the columns is to be observed; these being fashioned in the manner of table legs, being wider at the top than at the foot. The capitals of the columns are crowned with a square block like that of the Doric abacus, having concave and convex mouldings beneath.



A further apparent relationship to the Doric column is made manifest in the treatment of their shafts; in the employment of fluting, sometimes convex, but also sometimes concave as in the classical types. In the "Tomb of Clytemnestra", semi-columns, having thirteen concave flutes, flank the entrance; while a miniature ivory column from Mycenae, has twenty four. This is the usual number of flutes in the classical Ionic column, and occurs also in Doric. Of the Egyptian type of column, there is but little to be found in Crete.

Several fragments of stone cornices of a

form which seems to have been typical, have been found; these are of a stepped formation, of a design somewhat resembling the Ionic architrave.

The roofs appear to have been of the flat terrace type, but the evidence of certain tombs and also gems suggests that the gabled roof was not unknown.

Considerable variety is shown in the plans of Cretan houses, and there is but little direct evidence as to the character of their external architecture. An interesting relic, however, found at Cnossus, in the form of a number of small porcelain plaques originally set in a wooden frame, gives a very fair idea as to the nature of such exteriors.

In this relic, houses are depicted, having horizontal bands, and with doors and windows clearly shown, the latter having band-margins around them; and the employment of colour is also evident. The date attributed to the object is Middle Minoan I.

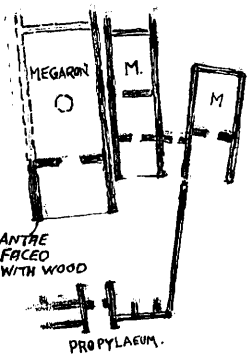
While the pre-historic architecture of the other islands may be said to resemble that of Crete, influences from the mainland made themselves felt at an early phase - probably as early as Middle Minoan - as, for example, at Melos, where the fully developed megaron hall appears at the end of that period. It is a matter of doubt as to whether this architectural form ever obtained a definite place in Crete.

Before proceeding to Greece proper, reference will be made to Troy, which stood on the hill of

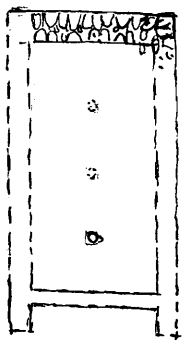
Hissarlik, south east of the Mediterranean end of the Hellespont. The hill of Troy contains the ruins of nine superimposed settlements, ranging from the beginning of the Bronze age, to the Ilium of Augustus.

Of these settlements, the second and the sixth will be noted, the former containing the oldest surviving examples of the megaron hall. Regarding the second settlement, it seems to have been destroyed about the beginning of the Middle Minoan II period; the sixth is assigned to Late Minoan III.

The megara of the second city, especially the largest, resemble closely similar features of the Mycenaean palaces of the Argolid.



Briefly stated, they are of the form of rectangular halls, entered by a single door, through an open porch. They contain a central hearth. The porches have those pilaster features known as "antae" - the wooden prototypes of the classical "antae" - features which recur at Tiryns, Mycenae and in the early Doric Heraeum of Olympia. The type of defensive gate or propylaeum is another feature common to the second city of Troy, Tiryns and classical Greece.



Regarding the sixth city - the Troy of Homer - the most important of the surviving buildings, is an edifice of the megaron type, having a shallow porch; and from the evidence of a stone column base found in position within the hall, it would appear that three columns were disposed along its central axis.

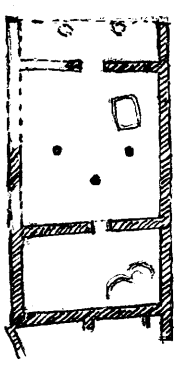
Turning to Greece proper, a series of pre-

historic architectural types is found, which differ from those of Crete, whose influence did not appear to reach the mainland in any great degree until the Middle Helladic period; nor did it culminate until the late Helladic or Mycenaean age.

The neolithic stratum at Orchomenus in Boeotia contained circular houses constructed of stone below, roofed over with converging corbel domes of sun-dried brick. In addition to several other round houses of neolithic age, a circular building, nearly ninety feet in diameter, elaborate in construction, of late pre-Mycenaean times, was built on the summit of the Acropolis of Tiryns.

In many parts of Greece, including Olympia and the Acropolis of Tiryns, examples are found of houses of a curvilinear plan, of short horse-shoe form, having one straight end. Others have straight sides with a curved apsidal end; a type which persisted through later ages.

Of rectilinear houses, a type found chiefly in Thessaly, is a variety of the Megaron. These differ



from those of Troy in having the addition of an inner chamber cut off from the main hall. The hearths, too, are often not in the centre. It would appear that posts or columns of timber were sometimes employed in the porches and in the interior; not set upon stone bases, as in Minoan and Mycenaean examples, but fixed into the ground.

The developed megaron plan was known in the

Baltic region as early as the close of the Bronze age, and it is difficult to determine the seat of its origin. It may be said with some degree of certainty, that the megaron type came to Greece and Troy from the north and maintained itself at Tiryns and Mycenae, against the southern traditions of Crete.

While it is considered by some authorities that it is to Central and Northern Asia Minor that we must look for its beginnings, the early Trojan examples would fit either hypothesis, as Asia Minor itself had much contact with northern Europe, particularly by way of Thrace and the Hellespont.

Mycenaean.[I]

The beginning of the Mycenaean or Late Helladic Age may be taken to synchronise with the Late Minoan I Period of Crete, viz. 1600 B.C. By this time, it would appear that powerful dynasties had arisen in various cities of the Argolid and Boeotia, whose influence must have extended over a considerable portion of central and southern Greece; and whose culture was very similar to that of Crete. Some scholars, indeed, consider that Cretan conquest and colonization may account for this resemblance.

Regarding the citadel of Mycenae itself - a royal residence with administrative offices attached - the later palace occupied the crown of the hill, in a series of concentric terraces. The domestic quarter, at the top, has been almost destroyed. Somewhat lower, lay a court, nearly square, from which opened several rooms, including the great megaron. This

I. These architectural descriptions are summarised from "Greek & Roman Architecture." D.S. Robertson. (1929)

court was approached by a fine staircase, in two flights; while the palace itself contained such features as entrance porches with single, central columns and rectangular pillars in the basements - features which are markedly Cretan.

The extensive fortifications which encircle the hill, and the strongly protected Lion Gate with its relieving triangle and carved slab over the lintel, were contemporary with this palace.

At this stage, it may be observed that three types of masonry are found in the structures of the Mycenaean age; the "Cyclopean" - large masses of rock roughly quarried and piled on each other, built with clay mortar, the interstices being filled with smaller blocks; the Rectangular - consisting of hewn rectangular blocks arranged in regular courses, and the Polygonal - many sided blocks accurately fitted together.

At Tiryns, also a royal citadel, the two great gates and Inner Propylon are of the classical type; having two open porches each containing two columns, projecting outwards and inwards from the wall which contains the actual gate - a type foreshadowed at Troy and in the South Propylaeum at Cnossus.

Two examples of the megaron are found here; these, with that of Mycenae, being regarded as striking specimens of their type. The larger megaron at Tiryns, and also that at Mycenae, have an ante-room between the porch and the main hall. In the former, this ante-room

was cut off from the porch[1] by pillars of wood, providing three openings, each of which perhaps contained a door, while a single doorway, closed possibly by a curtain, connected the ante-room with the principal room or hall. In the centre of this hall, the hearth is found.

From the size of the column-bases, particularly in the case of the megaron at Mycenae, it has been inferred that the porch was of two stories,[2] the upper part forming a gallery; but as regards the formation of the roofs of those megara, the method cannot yet fully be determined.

A further point of interest pertaining to Mycenaean influence upon classical types, is revealed in the presence of a series of blocks of alabaster inlaid with blue glass paste, carried along one side of the porch of the large megaron at Tiryns, the resemblance of which to the triglyphs and metopes of the Greek Doric order, being very striking.[3] While there is at present no evidence to prove that the Doric frieze was derived from this ancient scheme, it is not impossible that the two forms had some real, historical connection.

We come now to consider what may be regarded as among the most impressive remains of prehistoric Greece, namely, the circular, "bee-hive" or tholos tombs.

Reverting to Crete, it may be said that large, communal village tombs, found chiefly in the Mesara plain, near Phaestus, bear a certain resemblance

1. The ends of the side-walls of the porches, were faced with wood, as in the Second City of Troy.
2. A very doubtful inference.
3. A similar scheme is shown in a Fresco from Chossus.

to these tholos tombs in plan and shape. They were not subterranean in the real sense, but had earth heaped round the lower courses, and their doorways, framed by three stones, were reached through an ante-chamber formed in the earth. The date assigned to these structures is Early Minoan, or very early Middle Minoan, and it is doubtful whether they had any connection with the tholoi of the mainland.

The royal tomb at Isopata in Crete, dating from the Middle Minoan III period, is rectangular in plan, with the long walls converging like the sides of a Gothic arch, though without the true arch principle.

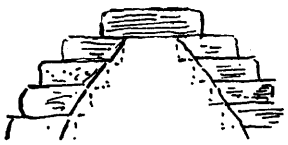
The Mycenaean examples, of which many have been brought to light in recent years, probably belong to the Late Helladic II or III period.

The most famous is that known as the Treasury of Atreus, and another interesting example is that at Orchomenus in Boeotia. At Mycenae those of the earliest group are constructed of rubble limestone together with elements of harder conglomerate, which are not, however, cut with the saw; in this group, relieving triangles over the lintels first appear.

The structures of the later group including the Treasury of Atreus, are built of conglomerate ashlar shaped with the saw, and blocks of huge size were employed.

In all cases, the back of the tomb was

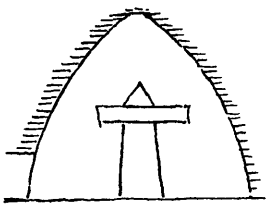
excavated in a hill-side, the original slope being about level with the door lintels.

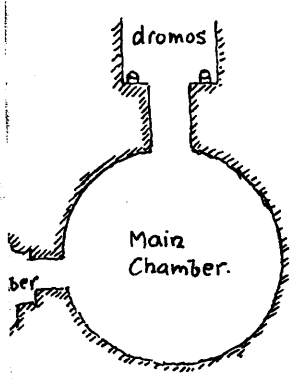


The construction of the domes or vaults is of particular interest. These vaults were built of horizontal courses, in such a manner that each course projects beyond the course below it, corbel fashion, till the opening at the crown becomes sufficiently narrow to permit of its being closed by a single slab.

Internally, the faces of the stones were cut to the required curve.

The Treasury of Atreus[I] consists of a passage or dromos, about 115 feet long by about 20 feet broad, leading into a main chamber, circular in plan, and about 48 feet in diameter. This chamber, which is about 43 feet in height, is vaulted in the manner just described. A small, square tomb-chamber adjoins this main chamber - a feature which is not common. The doorway of the Treasury of Atreus was flanked by half, or "engaged" columns of green marble, the upper parts being veneered with red slabs of the same material, carved with a variety of ornaments, including rosettes, representations of beam-ends, and the "triglyph-metope" scheme. The relieving triangle over the lintel was filled with a light, carved slab, like that of the Lion Gate at Mycenae, in this case of red marble, but the remains of the facade as a whole, are too scanty for any general reconstruction.



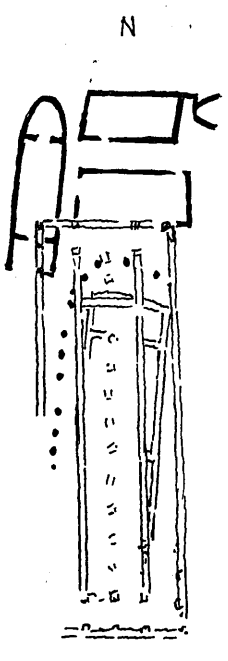


I. Period LH II & III according to Wace; but EVANS assigns it to the close of the M.M period. (Annual of British School at Athens, XXV 1921/1923. "The Palace of Minos", II. p. 697)
D.S. Robertson: Greek & Roman Architecture, p 33.

The Period between Mycenaean and Classical Greek; with reference chiefly to archaic temples. I.

It is in Greece itself, that the most important, post Mycenaean buildings, as far as is known, of a period earlier than the 7th century B.C. are to be found.

In the Aetolian sanctuary of Thermum, a continuous series of structures, the earliest being the remains of primitive circular huts, ranging from Helladic to late Hellenistic times, are in evidence.



• BLACK DOTS SHOW PERIPTERAL SCHEME.

Included in the series, is a group of Middle or Late Helladic buildings, some rectilinear and others of the "hair-pin" type. All were constructed of small stones in their lower parts, carrying walls of wood and clay, and probably thatched with reeds. Of the "hair-pin" type, the chief building is of the megaron class, having a porch and two inner chambers. Another megaron, of date perhaps the 10th century B.C., has strong technical affinities with its predecessors and its successors. Its latest excavator, Rhomaios, is of the opinion that its architect saw the megaron just described, and that the architects of the archaic temples saw this megaron.

It is practically rectilinear and rectangular, and is divided by cross walls into three chambers. Like the first megaron, its main axis is roughly north and south; close inspection reveals a curve in the short, north wall, and a slight curve in the last wall.

Summarised from
I. D.S. Robertson: "Greek & Roman Architecture".

Around the building, lie eighteen thin slabs of stone, which are obviously associated with the structure; and there is little doubt that these carried wooden posts, this constituting the earliest known Greek example of the peripteral scheme which is characteristic of classical architecture.

This megaron may have been a house, or it may have been a temple, and on its ruins, with a slightly different orientation, that archaic temple, known as the Temple of Apollo was built.

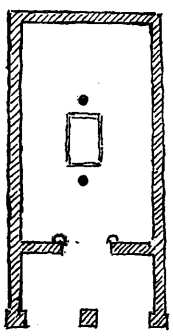
Less impressive, but scarcely less important than the latter, are the remains of the oldest temple of the goddess Orthia, (later identified with Artemis) at Sparta, assigned by Dawkins to the end of the 9th century B.C., a building which is an indisputable temple.

There is evidence that a single line of wooden posts were carried down the inside of the building, and that the cross beams supporting the roof rested upon these; having their ends fixed to vertical timbers in the side walls. A dais of earth faced with slabs, occupied the west end.

The single, central row of pillars is a feature known to the Bronze Age in Thessaly and at Troy and Tiryns; and is not uncommon in archaic work both Doric and Ionic, the nearest certain parallel in Minoan work being the single-column porch.

Regarding Crete, the oldest examples of the

early temple, are probably two rectangular structures found by Pernier,[1] which may be assigned to the 7th century B.C.



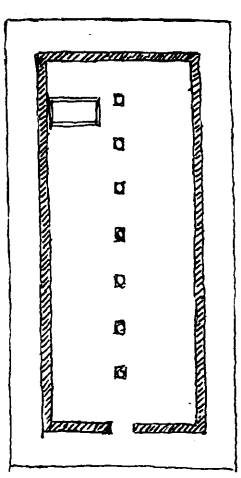
Of these buildings, one is more regularly planned than the other, and measured about 50 feet by 25 feet externally. It was entered from the east, through a pronaos, which was probably open, with one square central column.

A single doorway led from porch to cella, and semi-circular discs for the support of timber half-columns are placed near the jambs of the doorway inside.

A well-constructed sacrificial pit was found in the centre of the main chamber, between two stone bases which probably supported wooden columns.

Turning to Asia Minor, we find ourselves definitely on the border line of the classical types.

The most important remains are those which have been found in Aeolis, the north-west corner of the country, and what may be regarded as the most famous of the buildings is the temple at Neandria excavated by Koldewey in 1889, of which internal evidence suggests the 7th century B.C. as its probable date.



This temple was a simple rectangular structure, about 69 feet by 30 feet, constructed of local lime-stone, standing upon a sort of raised base or podium, without steps, and having a gabled roof.

A single doorway is placed in the north-west end.

1. near the village of Prinia.

Down the centre of the building, stood a row of seven stone columns, having no specialized bases, and having tapered unfluted shafts.

The capitals of the columns, consisted of three main elements; which, according to Koldewey, comprised a ring of leaves at the bottom, then a convex moulding also decorated with leaves, and at the top, a double volute, designed, like the classical Ionic, to be viewed chiefly from front and back - in this case only from the front, for the backs are roughly executed.

Capitals of a very similar type have been found in the neighbouring island of Lesbos, particularly in the remains of a church at Kolumdado; but the only capitals of this character yet found which equal and even surpass those of Neandria in extent of elaboration, are those of Larissa, also in north-west Asia Minor.

It is a matter of doubt whether this capital - conveniently designated Aeolic - gave rise to the classical Ionic, but its own origin may probably be found in Asiatic and Egyptian types - evolved from the well-known "palmette" motif, which the Minoan Cretans appear to have borrowed from Egypt, and which the Greeks of the 7th and 6th centuries B.C. obtained afresh from oriental sources.

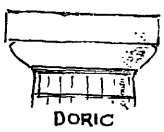
The Ionic, it may be added, is found in full development in Asia Minor in the 6th Century B.C.

Having introduced the terms "Ionic" here, it may be well to interpolate at this point, a brief note as to what such a term connotes in the architectural

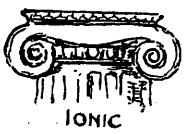
sense.

We find in the mature architecture of Greece, three distinct manners or styles of treatment in its design, these manners being distinguished very largely by the form of column employed. These styles are commonly described as "orders", and are characteristically designated Doric, Ionic and Corinthian.

While the main forms of the buildings are similar in all, each of them presents a different series of proportions, mouldings, features and ornaments; but as the column and its superstructure, the entablature, are the most prominent features in such buildings, they - and chiefly the column, and more especially its crowning feature or capital - have come to be regarded as a convenient index of the "order".


DORIC

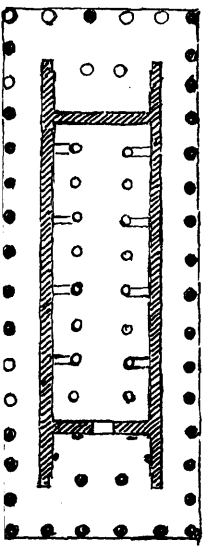
The Doric column has a capital consisting of a square block or abacus, with a convex moulding beneath.


IONIC

The Ionic capital has spiral features called volutes, and the Corinthian capital has added ornamentation in the form of leaf-work.


CORINTHIAN

As a final example of the architecture bordering upon the matured, classical Greek, reference may now appropriately be made to that ancient temple of the Doric type, at Olympia, known as the Heraeum or Temple of Hera. Recent renewed excavations by Dörpfield and Buschor show that, while the existing building is not much earlier than 700 B.C. it is but one, the latest, of a series of structures.



This temple has a peripteral colonnade; a pronaos, cella and the oldest known opisthodomus; and each porch has two columns between antae i.e. distyle in antis.

The walls, to the height of about three feet, are constructed of stone masonry, the remainder being of sun-dried brick.

As at Troy and Tiryns, the antae were faced with wood, and the original columns were also formed of this material.

Internally, a series of short walls projected outwards from the side walls, forming recesses or chapels - features which were removed at a later date.

These short walls corresponded in position to alternate pteron columns - an arrangement perhaps associated with timber and brick construction.

It is possible that the outer ends of the short walls terminated in pillars, and there was perhaps a free column between each pair of short walls, aligned with the other pteron columns.

Regarding architrave, frieze and cornice, nothing is definitely known: but the columns spacing seems to support the view that there was a triglyph and metope frieze.

That the roof was of the gabled type, may be inferred from the evidence of terra-cotta tiles and acroteria of primitive pattern, and the inner projecting short walls, seem, like the pteron, to be legacies

from the immediate predecessor of the existing temple.

In regard to the timber features which we find in the Heraeum, these may be copies of stone models, but it is more likely that this building is really a descendant of the megaron of Thermum, to which reference has been made, and, moreover, an essential link in the chain of Doric development.

It is difficult to doubt that the typical Doric features - columns and triglyph frieze - were derived from wooden prototypes; a subject around which much controversy has waged.

It is true that the Doric column resembles a somewhat rare Egyptian type, of which the best known is that shown in the rock-cut tombs at Beni-Hâsan; and though this type was not employed in Egypt after the 16th century B.C., specimens of it were doubtless visible in the 7th century B.C. as they are at the present day.

On the other hand, the Doric column resembles Mycenaean and Minoan forms also - the capitals of some archaic columns of Doric type from central Italy closely resemble those of the "Treasury of Atreus" (R. Delbruck; Rom.Mitt.XVIII, 1907, p.160, Fig.7) - and it is questionable whether the Egyptian - an exotic form - should have spread so fast, with no essential variation, through the whole of the western Greek world.[1]

The classical Doric column is certainly of

1. D. S. Robertson: Greek & Roman Architecture : p.64.

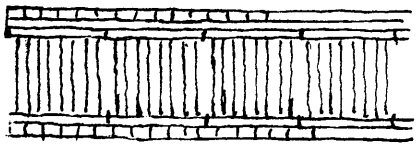
thick and heavy proportions, but it had been ascertained that some of the archaic examples are extremely slender, with widely spreading capitals - a type depicted in Athenian vase-paintings, and which suggest wooden construction - but more strikingly displayed in the remains of twelve columns from the sanctuary of Athena Pronaia, at Delphi, which have been assigned to a lost 7th century temple. These are perhaps the oldest definitely Doric members known, and their height has been computed as about six and a half times their lower diameter.

As to the triglyph and metope, we have seen that such a motif is suggested in certain Minoan and Mycenaean artifacts, but there is no evidence to show that the Doric frieze was derived from such schemes. The forms, per se, connote a timber origin; the triglyphs may represent the facings applied to the "end-wood" of timber beams;[1] the metopes, the infilling between the beam-ends, while the guttae were no doubt a conventional treatment of the pins employed in timber construction.

It is possible, of course, that the whole scheme was conventionalized prior to its adoption in stone construction.

The peripteral scheme of the Doric and other orders, may have been evolved from that same tradition which found expression in the construction of the Thermum megaron; over the remains of which, the temple

1. This theory seems to be too modern to be tenable : It seems to me that the frieze-motif displayed upon an Etruscan Urn (4th cent. B.C) now in the R. MUSEO ARCHAEOLOGICO at Florence, indicates that the triglyph is derived from a series of vertical structural, supporting members.



of Apollo Thermaios was erected, a building which, like that of the Olympian Heraeum, stands close to timber tradition, as do other Doric temples found at Thessaly and Calydon in Aetolia.

It may be mentioned, that a composite wood and stone scheme is exemplified in the occasional use of timber architraves with stone columns, in later Greek architecture, as in the early temples of Latium and Etruria; moreover, the roof and ceiling of the cella were at all periods constructed of wood, and in certain instances, such as in the Doric, west of the Adriatic, were the ceilings of the peripteral colonnade likewise formed of wood.

Allusions in Homer having a bearing upon the architecture of the period.

Poetical descriptions of works of architecture in virtue of their nature, are but of little practical value from the "specificational" point of view; nevertheless, supplementary to information acquired from material examples, such references as are to be found in poetry, may often assist to a more complete comprehension of the subject of investigation.

The poetry of Homer, while by no means free from ambiguity in respect of its architectural allusions, conveys to the reader a fairly definite idea as to the general type of edifice portrayed.

The palace of Odysseus was approached through a courtyard, αὐλή, having a single entrance

gateway, in the form of a porch; inside the αὐλή , were open sheds, αἰθουσαι ; an altar of Zeus Herkeios stood in the centre. Opposite the entrance lay the μέγαρον , which no doubt was a megaron like those of Tiryns and Mycenae, although it is held by some that it was a second court surrounded by cloisters.

If the former assumption is correct, it would appear that this hall was entered from the courtyard; a corridor, λαύρη , apparently lay along one side of the hall, connecting certain inner chambers, directly or indirectly, with the courtyard.

Odysseus' bedroom appears to have been an isolated structure, presumably circular, built of stone around an olive tree, and a definitely circular tholos, θόλος , is recorded, whose function is not made evident.

Regarding the palace generally, it appears to conform to the type associated with the Late Helladic period.

Priam's palace seems to have been an ornate structure, built of dressed stone, and designed to accommodate his fifty sons and his twelve sons-in-law.

Achilles' quarters at Troy were constructed of timber, on the model of the usual palace, the courtyard here being fenced with stakes.[1]

A lavish use of the precious metals is a feature of the description of the house of Alcinous; (in this, as in other respects, resembling the character

D. S. Robertson. Greek & Roman Architecture : p. 35.

of the Irish poetic descriptions.) The walls of the palace were plated with brass; blue metals crowned the cornice; plates of gold encased the folding doors; pillars of silver stood on bases of brass.

These few references may suffice as illustrations of the nature of the architecture presented by Homer; and if but little practical information is to be gleaned from them, they at least imbue these ancient structures with the life and colour that once belonged to them.

A few observations on the character of Mycenaean decorative art may appropriately conclude this section.

Geometrical patterns are represented, but do not extend in scope much beyond such figures as striae and chevrons. Cretan art comprises a considerable range of such patterns, often set out in superimposed layers or zones; but Mycenaean art is more partial to scrolls, meanders and other curvilinear forms. Spirals are highly developed, as is shown, for example, in the Egyptian-like design of the ceiling of the side-chamber of the tomb at Orchomenus. Other motifs include rosettes, roundels, comb or rake pattern, palmettes and strings of vertical strokes giving the effect of a series of dentils. Sculptured figure subjects are also found.

We have already noticed the scheme of decoration deduced for the semi-pillars which flank the doorway to the Treasury of Atreus. In regard to

the interior of the tomb, the presence of pin-sockets profusely covering the domical ceiling of the main chamber, would lead to the conclusion that bronze ornaments, such as have been found elsewhere, were attached to the stonework - in fact, Mycenaean architectural decoration was by no means confined to stone carving, but was expressed through the media of paint and metal also. In this respect, it would appear that those Homeric descriptions to which allusion has been made, were not merely poetic imaginings, but were founded in a large measure, upon architectural realities.

Western development as represented by the primitive stone architecture of Ireland. [1]

In introducing the subject of the primitive stone architecture of Ireland at this stage and place, I do so because of its physical relationship to certain elements in the architecture just described.

As to whether these physical affinities were the result of direct contact between the races of the East and West, is a question for the historian and ethnologist, and it will be agreed that the question is not a simple one. Perhaps the monuments themselves provide the most authentic records. I believe it to be the case, however, that Ireland, in common with other parts of Europe, was a sharer in that culture which produced the early stone architecture of that type which crystallises around and within the term Mycenaean in the generic sense. In fact, the Irish examples may be regarded as outliers of the Mycenaean

1. Architectural descriptions chiefly from A.C. Champneys: "Irish Ecclesiastical Architecture." pp. 2. 3 — et seq.

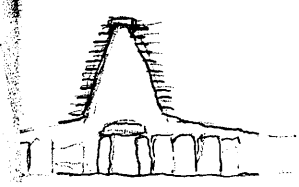
group.

After all, it is not necessary to postulate that direct contact is the only condition which could bring about such affinities. There is that other kind of contact which may be described as "hand to hand"; where manners and customs may be passed on, by local intercommunication, through territories more or less contiguous, to places far remote from their seat of origin.

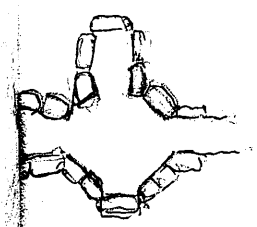
It is true that the Scoto-Celts seem to have had a penchant for ascribing Eastern origins to their races and institutions. We have only to turn to the legendary tales of Ireland, wherein we find accounts of the colonization of the country by the sons of Partholón and Nemed, the Fir Bolg, the Tuatha Dé Danaan and the Milesians, for all of whom Eastern descent is claimed.

Legends are the evidence of contemporary judgments upon events of the past; and it is not inconceivable that they may contain a grain of truth. In any event, it is in accordance with popular belief that races and their influences are more likely to have moved from East to West than from West to East. It may be added, that, on the question of such influences the activities of the Phoenicians, those great commercial travellers of antiquity, cannot well be overlooked; but I leave this aspect of the subject in the hands of the competent authorities.

Proceeding now to consider the architectural forms of this phase in Ireland, I shall not consider it necessary to discuss such structures as pillar-stones and dolmens, of which it may be remarked, Ireland possessed a large share. In the tombs, however, we are within the province of architecture proper; and in that at Newgrange, near Drogheda, we have a remarkably fine example. It will be seen that the resemblance of this tomb to the Treasury of Atreus is striking.



A passage, about 62 feet long, of height varying from over 4 feet to nearly 8 feet, constructed of upright blocks covered by large slabs in the manner of the dolmen or cromlech, leads into a main chamber, appearing internally as an irregular hexagon, formed of great upright slabs.



Three recesses are formed within; the dimensions of the chamber including these recesses, are 18 feet by 21 feet, and the height from floor to crown nearly 20 feet.

The chamber is vaulted in the "corbel" manner already described; the roofing rising from a circular wall, behind the hexagonal lining of slabs, and is constructed of large stones packed with smaller ones, the courses gradually converging to an aperture about 2 feet square, which is closed by a single slab. I.

Many of the stones forming the dome are incised with devices of various patterns, including

I. This method of construction seems to be that implied in the lines "The top of the house of the groaning hostages, One stone closed." (Book of Lecan). Quoted by O'Curry: "Manners & Customs". Vol. III. p. 9.

spirals, losenges and chevrons. On the roof-slab of one of the recesses, there is a pattern composed of a combination of circles and a central losenge; another device is that of spirals and losenges, an arrangement displayed upon a stone outside the entrance; while a "gate" or X pattern is carved in relief on the edge of a flat stone above the lintel. An upright stone placed near the junction of the passage-way and chamber, presents the outline of a series of overhanging steps or corbels. The "fern" or "leaf" pattern, of which examples are found on bronze celts discovered in Ireland and in Scotland, is also represented in the tomb. In general, the ornamentation is characteristic of that of the Bronze Age,[1] the chevron and losenge patterns being common figures in the ornaments of gold and bronze which belong to that period.[2]

We have already met with what I shall call the "trabeate arch" type of roofing exemplified in the tholos tombs of Mycenae and elsewhere in that region. We have shown its counterpart in the tomb of Newgrange, and, in the "bee-hive" huts of Ireland and Scotland, we have further expressions of the same constructive principle, fully developed at a date which must, at the latest, have been many centuries before the Christian era. In the stone districts of Ireland, many such huts are found; some are circular, others are elliptical; and they are usually set out

1. There is also the "Boat" figure — an example of which has been found on a Bronze Age stone at Poltalloch, Argyle — identified 1930. (of a cist)

2. The spirals of this phase are not the prototypes of the La Tène patterns to which reference is made later. see Coffey's The Origins of Pre-historic ornament in Ireland. Journal R.S.A.I. 1894-96. also 1897 (p 248).

in clusters, often within a "cathair" or stone fort. The doorways as a rule, have inclined jambs, and are square-headed. In a few examples, the hut is square within, though circular without. Near the remains of Teampull an Cheathrair aluinn, in the Aran Isles, there is evidence of an additional chamber abutting upon the wall of one of these huts, and having no connection with the main apartment. In the Book of Leinster, in the description of Cathair Chonrai, the title Suidhe-faire, or "watching seat," is given in a reference to a chamber of this nature.

In regard to the date of the "bee-hive" huts, there is no question that the type is very ancient, although its usage may be comparatively modern. As an old writer states, "They have clochans, a kind of building of stones laid upon one another, which are brought to a roof without any manner of mortar to cement them - so ancient, that nobody knows how long ago they were made." [1]

Regarding these structures, Miss Stokes observes as follows:- "These huts with conical roofs or domes are formed in a manner universally adopted by early races in all periods of the history of man and in various portions of the globe where stone was available, before the knowledge of the principle of the arch had reached them." [2] Be this as it may, their physical or technical relationship with Eastern types is at once apparent.

1. Rod. O'Flaherty: 'Chorographical Description of West Connacht.' - 1684. quoted by O'Curry: 'Manners & Customs of Ancient Ireland' vol. III.

2. Margaret Stokes: "Early Christian Art in Ireland" 'Building and Architecture': p. 36.

In the Forts of Ireland, we have another type of primitive structure associated with the basic styles of architecture, and with which the Mycenaean fortifications show analogies.

"The chain of ruined forts (of similar type to those of Ireland) extends without a break from Thessaly and Bosnia, through Hungary, Prussia, the Low Countries, France, Switzerland and the British Isles"[1] - and they are found also in Denmark and in Sweden.

This wide distribution is no doubt the result of the plans or ideas of such fortifications having passed from the south-east to the north-west of Europe, as artistic ideas appear to have done, though they need not have travelled by the same routes or at the same time.[2]

The age of some of these forts, is difficult to determine; certain examples in Bosnia have been assigned to 800 B.C. or earlier, from the evidence of objects of known date found associated with them. From like evidence, some of the Irish forts, others in Yorkshire and one in Wales, have been referred to the Bronze Age; Dun Aenghus, in Ireland, ranks among the oldest.

As in the case of the "bee-hive" huts, while the type is doubtless of considerable antiquity, it is quite certain that such forts were still in use, some repaired and others rebuilt down to comparatively late

1. Westropp: The Ancient Forts of Ireland: p.16.
2. Champneys: Eccles. Arch. of Ireland - p. 6.

times. Thus, in the Annals of Ulster, it is recorded that the fort of Ailech was demolished in A.D.674, 937 and 1101, from which it must be inferred that rebuilding or re-instating had taken place between these dates. In the middle Irish literature, the Fort - Dùn or Cathair, is treated as being contemporary with the writings, and there is little doubt that the ancient type of fortification continued to exist and to fulfil its function, until finally superseded by the more advanced architectural conceptions represented by the castle.

As to the nature of the construction of these forts, they were approximately circular in plan, consisting of a wall built without mortar, sometimes in courses and sometimes polygonal.[1]

It is to be noted that the term "Cathair" (Cathir) implies a fort whose wall is built of stone; the term Dùn is applied indiscriminately to ramparts constructed either of earth or stone. There is often more than one circumvallation, the walls or ramparts being formed in concentric rings.[2]

As a rule, the walls encircle completely a plot of ground, but sometimes advantage is taken of the protection afforded by natural features, as in the case of Dubh Chathair, on the Aran Islands, where a cliff forms part of the fortification. At Dùn Beg, on the Dingle peninsula, the fort consists of the promontory, cut off by a straight wall with a ditch

1. v. p. 17. reference to similar Mycenaean work.

2. "Raith" is another name. "To constitute a legitimate Raith, five things were requisite. viz: a dwelling-house, an ox-stall, a hog sty, a Sheep-pen and a calf-house; these buildings were generally surrounded with a ditch and rampart and formed, if necessary, a place of defence as well as residence". H.M. Westropp: "Pre-historic phases". p. 136.

and earthworks outside.

The walls are of great thickness, usually in two sections with a packing of rubble between them. In some of the forts, as at Dun Beg and Ailech, a platform is formed along the inside of the wall, and in several instances, there were steps leading to such platforms and to the top of the wall.

The doorways usually have jambs inclined inwards to the opening, and are capped with a horizontal lintel, sometimes relieved by another above. In certain forts, we again meet with the trabeate arch forming the roof of cells contained within the thickness of the wall; while within some of them, souterrains have been found, roofed with slabs, and often leading into "bee-hive" chambers. These underground passages are of similar character to those of the "earth-houses" of Scotland, and likewise to those found in Cornwall. A number of the forts have a palisade of stones set around them, an arrangement somewhat similar to that found at Pen Caer Helen in Wales, Dreva and Cademuir[I] in Scotland, Castel Coz in Brittany, in Switzerland and in the Baltic.

I. Peeblesshire.

THE BASIC OR ROOT STYLES. II.

Egypt and Assyria.[I.]

At the outset, I shall briefly indicate the main stages of architectural activity which have been recognised in the history of the development of Egyptian culture.

The erection of the Pyramids, built by the Kings of the fourth dynasty, is the chief work associated with the first stage.

The second stage is that of the twelfth dynasty, to which belongs the remains of the tombs at Beni-Hâsan in Central Egypt.

The third is the period of the eighteenth and nineteenth dynasties, when Thebes was at the height of its glory, in the time of the Rameses, a period generally regarded as the most brilliant epoch of Egyptian art.

The fourth stage is the Ptolemaic period beginning about B.C. 323, of which there are remains at Denderah, Edfou and Philae.

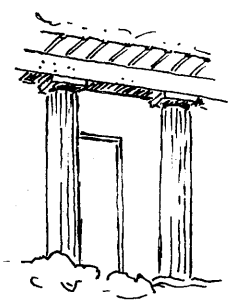
In B.C. 527, Egypt was conquered by the Persians, from whom it was wrested by Alexander the Great, in B.C. 332.

On the death of this great Grecian general, his empire was divided, and Egypt passed to Ptolemy who founded a dynasty. After the wars which ended in the death of Cleopatra, B.C.30, Egypt passed into the hands of the Romans and became a Roman province.

I. Architectural descriptions summarised from standard works—
Banister Fletcher: History of Architecture.
T. Roger Smith: "Architecture—
Rosengarten: "Architectural Styles".

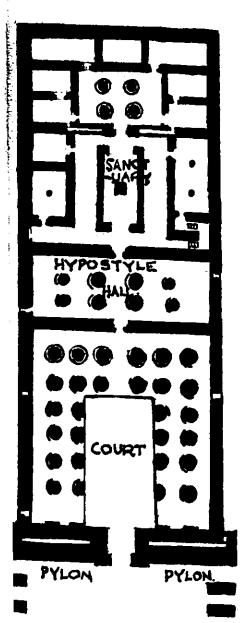
On the spread of Mahometanism, in A.D.638, the country was conquered by the Arabs who left important monuments of Saracenic architecture.

Considering now, the architectural types which prevailed in ancient Egypt, the tombs provide an appropriate beginning. The Mastabas were rectangular structures with sloping sides and having flat roofs. They were divided into three parts; (1) the outer chamber, in which were placed the offerings to the "Ka" or "double", and whose walls were decorated with representations of festal and other scenes. (2) the inner secret chamber, serdab, containing statues of the deceased, and (3) a well of great depth, leading to the chamber containing the sarcophagus.



Of the rock-cut tombs, those at Beni-Hâsan are of peculiar interest, in respect of the design of the columns of the great entrance, which suggest a wooden origin, and which are regarded by many to be proto-types of the Greek Doric column.

The principal elements in the designs of the Temples consist, firstly, of the temple building itself; secondly, of a court which surrounded the temple, and thirdly, of an entrance-gateway, flanked by massive towers called "pylons". The approach to the gateway gave access to the outer courtyard, which had a colonnade on three sides, and was open to the sky in the centre.

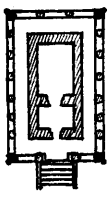


This courtyard led to the hypostyle hall

to which light was admitted by means of a clerestory, an arrangement which gave place in later times to a system of low screens between the pillars, having openings above. Beyond this hall was the cell or sanctuary, with a passage around, and a smaller hall occupied the rear of the building.

The Great Temple at Karnac and the temple of Khons at Edfou are representative examples of this class of building.

The Mammisi exhibit a different form of temple; they are generally erected upon a raised terrace. They are rectangular buildings, usually divided by a cross wall into two chambers and surrounded on all sides by a colonnade of circular columns or square piers, the whole under one roof.



Broadly characterised, Egyptian architecture presented a system of massive construction expressed in walls and columns. The latter were of stout proportions, having capitals which appear to have been derived from the features of the lotus plant, in various conventionalized forms. The columns were closely spaced; carrying lintels which supported the horizontal beams of the flat roof. The buildings were designed to present one facade, and are disposed, not to effect external display, but to produce varied and impressive interiors. The walls are of great thickness, often tapering from the base upwards (not in the case of the Mammisi), and are usually constructed

of stone in large blocks, though brick is also found. The walls surfaces, as a rule, were rendered with thin, fine plaster decorated with paintings and hieroglyphics. Openings are invariably square-headed. Apart from painted decoration, ornament consisted chiefly of symbolical devices, such as the solar disc and globe and the vulture with outspread wings. Diaper patterns, spirals and the "feather" ornament were largely used; mouldings were confined to the bead for the angles, and a hollow moulding for the cornice.

Under the head, "Western Asiatic Architecture" we shall now turn to Assyria, regarding which, the following are a few of the main historical facts. The cuneiform inscriptions - those "arrow-headed" writings consisting of groups of strokes in the form of wedges which were impressed upon clay tablets or cylinders - have been instrumental in conveying much of the knowledge of the history of this great country; a country which has been described as the cradle and tomb of nations and empires.

The earliest Babylonian King mentioned in these inscriptions was Eannadu, who reigned B.C.4500. The empire thus founded, gradually extended its dominions to the north, following the course of the river Tigris. In B.C.1700, Assyria, the northern part of this Babylonian empire, asserted her independence, and became the great power of Western Asia. One of the most renowned of Assyrian Kings was Sargon,

B.C.722-705, who erected the great palace at Khorsabad - a King who was the first to come into contact with the Egyptian army. The Assyrians conquered and occupied Egypt in B.C.672, sacking the ancient city of Thebes in B.C.666, but the Egyptians were able at a later time to free themselves from the Assyrian yoke. In B.C.609, the destruction of Nineveh took place, and the Assyrian kingdom was divided among its conquerors, Assyria falling to the Medes. Babylon then assumed the leading place, until finally conquered by the Persian general Cyrus, in B.C.538 from which time it remained under the rule of the Persians until the time of Alexander the Great, when it became a possession of the Greeks.

These historical references, brief as they are, will serve to connect chronologically the civilization of the countries under review; and in addition, will lead us to expect that certain interacting influences would inevitably result from the contacts established between them - influences which found expression in the sphere of architecture as in other fields.

Western Asiatic architecture may conveniently be divided into three phases associated respectively with (1) the Babylonian or Chaldaean period (B.C.2234-1520), the temple-building epoch; (2) the Assyrian period (B.C.1290 to the destruction of Babylon by Cyrus in B.C.538), the palace-building epoch. (3) the

Persian period, (B.C.538-333).

Of the first period, the principal remains are the Temple of Birs-Nimroud near Babylon, and the Temple at Khorsabad.

These temples appear to have been constructed in receding terraces, several storeys in height, access to which was obtained by flights of stairs. The angles of the temples were orientated - not the faces, as in the pyramids of Egypt. An enclosing wall surrounded the buildings.

The "Ziggurat" is a temple-observatory, built in the form of a tower in a series of oblique offsets which lead to the summit; and was a feature of the Chaldaean cities.

It may be noted here that Nimrod's Tower, the Tower of Babel (Gen.XI.4) is to be associated with this epoch.

The recent excavations at Ur of the Chaldees, reveal several tombs of great antiquity, and in one of these, attributed to circa 3400 B.C. we meet again with the trabeate arch. It is built entirely of rough, quarry rubble and is vaulted by the overlapping of stones in the method previously explained. In another grave, probably of later date, there are three chambers, all built of stone, and the roof is constructed in a composite system of trabeate and true arch; the stones overlap, but as they rise towards the top, they are tilted forward, and in the centre, there is a key-

stone rather than a cap, thus presenting a transitional arrangement between the two systems. Another tomb in the vicinity has a roof constructed on the true arch principle; the bricks are not shaped voussoirs, but the arch is effected by radial mortar-joints.[I.] Touching upon the matter of the true arch principle, it may be noted that at Nippur, in Mesopotamia, in the pre-Sargonic stratum, a passage was found, formed of radiating bricks, having a key-block of wedge-shaped joints.

These constitute probably the earliest known examples of the employment of true arch principle.

The Assyrian period finds typical architectural representation in the Palaces at Nimroud, Nineveh, (Koyunjik) and Khorsabad.

The terrace arrangement of the temples was followed in the palaces; each successive terrace diminished in area, and they were probably faced with distinguishing colours of tiles or brick. At Nimroud and Khorsabad, the palaces were set upon a terrace or mound from 30 to 50 feet high. The entrance portals were flanked by sculpture subjects representing human-headed, winged bulls - reproductions of the supposed creatures which guarded the sun-gates of the East and the West.

The floor space of a great Assyrian palace was laid-out on a plan quite distinct from that of the Egyptian temple. The rooms are almost always

I. C. Leonard Wooley: Recent Excavations at Ur, R.I.B.A. Journal 21st June, 1930.

grouped around quadrangles. The halls are comparatively narrow in proportion to their length, but still so wide that their roofing arrangement must have presented a serious problem. Wooden beams may have been employed or a form of barrel vault. In any event, the stone roofs of Egypt seem to have been discarded and with them, the necessity for the employment of columns and piers placed closely together. In some bas-reliefs, buildings with roofs of a domical type are shown. Important doorways were treated with emphasis, and sculpture employed towards this end. The columns were probably constructed of timber. In general, the buildings were designed to secure external in addition to internal effect.

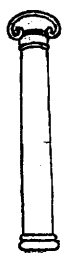
Of the third or Persian period, the extant remains consist of palaces, tombs and temples. In Persia, the columns, which were formed of marble, remain, while in Assyria, being of wood, they have disappeared. At Persepolis, the terraces or platform is cut out of the solid rock, and is approached by a flight of steps constructed of black marble. The rock-cut Tomb of Darius has a facade of striking character, incorporating columns having capitals of the "double-bull" motif supporting the cornice cut out of the solid rock. The smaller columns have voluted capitals and moulded bases.

Some further general characteristics of this West Asiatic architecture are of interest.

Mention has been made of rudimentary examples

of the true arch. The use of the arch, both semi-circular and pointed, was practised by the Assyrians. We find the former type employed, for example, in the arches which spring from the backs of the winged bulls which flanked the portals.

The columns were slender, and a form of "Ionic" scroll is found in certain examples of their capitals. Indeed, it is from the decorative treatment of Assyrian architecture that speculations arise as to its influence upon Greek detail. For instance, on the sculptured slabs found at Nimroud and Koyunjik, there are specimens of capitals which offer plausible grounds for the assumption that they are fore-runners of the capitals of the Greek Ionic and Corinthian orders. Moreover, it is maintained by many, that Greece obtained from Assyria, the idea of the sculptured friezes, the coloured decorations and the honeysuckle and guilloche ornaments.



GUILLOCHE.

Before passing on to the consideration of the Classic Greek and Roman architecture — the "Stem" styles — it is of interest to gather up and summarise such elements of the older work as were absorbed in the process of evolving in the first instance, the matured style of the classic Greek; that is, to ascertain

ascertain what contributions were made by the root styles to the stem. Those elements, and their number is considerable, were subjected to a certain amount of handling in the process of absorption; sometimes to re-modelling, sometimes to re-casting and always to refining. Nevertheless, their essential identities are readily recognised in the finished fabric of the classic Greek edifice.

Contributions of the Basic Styles.	Classic Greek Usage.
The Megara of Troy, Mycenae, Thermum etc. The Mammisi of Egypt.	The Temple Plan.
The Gateways at Cnossus, Troy and Tiryns.	Propylaea
Antae and Pillars at Troy, Thessaly, Tiryns etc. The Mammisi of Egypt	Treatment of Portico or Pronaos.
Peripteral scheme at Thermum; Egyptian Mammisi.	Classic Peripteral scheme.
Capitals of Columns at Cnossus and Mycenae; Beni-Hasan, Egypt.	Doric capital.
Fluting of colums-shafts at Tomb of Clytemnestra; Beni-Hasan, Egypt.	Treatment of Classic column-shafts.
Capitals of columns at Aeolis; also Assyrian examples.	Ionic capital.
Capitals of columns at Karnac, Egypt; also Persepolis.	Corinthian capital.
? "Triglyph and Metope" scheme at Cnossus and Tiryns.	Classic Entablature.
Podia and Terraces, West Asiatic.	Stylobate.
Sculptured Friezes, Honeysuckle and Guilloche ornaments, Assyria.	Classic Greek decorative usage.

The above may serve to illustrate the indebtedness of the Classic Greek work to the earlier styles; and represents in the main, those elements which were passed on to be incorporated in the content of that matured phase of Greek architecture, which in turn, provided the model and much of the material for the subsequent Roman phase of the classic styles.

THE STEM STYLES OF CLASSIC GREEK AND ROMAN ARCHITECTURE. I.

Greek.

By the fifth and fourth centuries B.C., the cities of Greece had, in the main, settled down in their several forms of government.

Among the outstanding events in the history of the period, the attempts made by the Persians to invade Greece, fall to be noticed in regard to their effect upon architectural issues. Of the two attempts recorded, the first was rendered ineffectual by the battle of the Marathon in B.C.490, and the second likewise ended in failure through the naval victory achieved by Xerxes at Salamis, in B.C.480. The removal of the Persian menace through these victories was in a large measure responsible for the fact that practically all the important temples of Greece were erected in the subsequent half-century.

Athenian prosperity reached its zenith during the reign of Pericles, B.C.444-429, and that consummate example of classical Greek architecture, the Parthenon at Athens, was brought into being during this "golden age".

Hellenic civilization and culture was soon destined to flow far beyond the territory of its source; and it is largely to the conquering activities of Alexander the Great that this result is to be

I. Architectural Descriptions (and historical notes) summarised from standard works: Banister Fletcher: "History of Architecture" and others.

attributed. In B.C.334, Alexander set out to subdue the Persian empire, and in a space of six years, he was successful in accomplishing this object. In the course of his campaign, Tyre was besieged and captured; he received the submission of Egypt, and founded the famous city of Alexandria there. The scope of his conquests and influence spread far and wide throughout Asia, extending eastwards to Northern India. Alexander died at Babylon in B.C. 323, and on his death, the empire which he had erected, was divided among his generals, Egypt being given to Ptolemy.

In Greece itself, the formation of leagues or unions between cities was attempted, and such groupings as the Achaean League and the Aetolian League were effected; but by this time, the penetrating influence of Rome had begun to operate upon a people whose national unity was weakened through the disintegrating effect of the league system and the mutual animosities which this engendered; an influence which gradually increased in scope and power until in B.C.146, Greece became a Roman province.

In proceeding now to describe the character and salient features of classic Greek architecture, I desire first to notice a fact of paramount importance namely, that Greek architecture expresses essentially the trabeated principle of construction in its design; that is, it adopts a system of building in which the horizontal beam or lintel is employed to span all

openings.

This predilection on the part of the Greek architects favours the traditional mode expressed in the more ancient architecture of the country, wherein, as we have seen the square-headed opening was consistently employed.

Nor are the vaulted tombs of the Mycenaean phase outwith this category; for here we have found that the "arching" was effected by means of horizontal courses projecting over one another in series; an adaptation, in fact, of the beam or cantilever principle to produce the arch form.

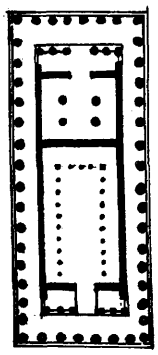
In architecture, the method of spanning an opening is not of little consequence. On the contrary, it constitutes the factor which brings about the division of architecture into two great groups, viz: the architecture of the beam and the architecture of the arch, each of which assumes a character distinctive and peculiar to itself. How this comes about need not be followed up here; it is perhaps sufficient to notice that the span of a beam is practically limited, while the span of an arch is practically unlimited.

The Greeks, of course, must have known something of the true-arch principle; indeed, apart from such knowledge as Assyrian examples may have provided, there are extant a few instances of Greek arcuated work e.g. a "Cyclopean" arch at Cnidus, an arched gateway at Oeniades. Notwithstanding these facts

Greek architecture connotes a deliberate choice of the trabeated mode of building, and adheres strictly to this principle throughout its vogue. In this respect, Greek architecture and Egyptian architecture are in the same class.

In describing the character of Egyptian architecture, it was shown that the Egyptian edifice was designed to display internal rather than external effect. The contrary is the case in regard to Greek architecture.

Certain rudimentary types of the Greek temple have already been noticed, and I shall now give a brief description of the mature classic type.



The Greek temple usually consisted of a naos or cell in which the statue of the deity was placed. The side walls of the naos, extended beyond the cross-walls containing it, to form a portico or pronaos in front, a chamber in the rear, and a posticum or opisthodomus beyond. The end walls usually terminated in those pilaster features or antae, of which previous mention has been made.

IN ANTIS

PROSTYLE.

The porticos contain columns, either between the antae, or in front of them; in the former case, they are said to be <u>in antis</u>, and in the latter, <u>prostyle</u>. A series of columns generally surrounded the building, a feature described as a peripteral colonnade or pteron. A marked characteristic of the Greek temple is the platform or crepis upon which the

columns and the main visible structure are set, together with the steps or stylobate with which the crepis is surrounded. Internal colonnades for the purpose of supporting the roof, are found in the larger temples, the roofs being constructed of timber, covered with slabs or tiles.

The doorway was usually placed in the centre of the end wall behind the portico of columns, and there was a general absence of windows of any kind. Various theories have been propounded as to the means employed to admit light to the building, and it is possible that some such device as the clerestory conjecture enunciated by Fergusson or the skylight hypothesis of Botticher may have been adopted.

Whether or not the typical temple was hypaethral - having an opening in the roof - analogous with the traditional arrangement pertaining in the ordinary dwelling house, is also a matter of conjecture; certainly the case of temples of vast dimensions such as the Didymaion of Miletus, wherein the greater part of the interior was of the form of an unroofed court, supports the theory.

Over the columns, was the superstructure or entablature consisting of architrave or lintel, frieze and cornice, and at the end walls, the facades were closed up to the roofing by triangular pediments crowned with a raking cornice, the tympana or triangular spaces being often decorated with sculpture.

Classic Greek architecture was expressed in three modes or orders; the Doric, the Ionic and the Corinthian. Reference has already been made to the main features which differentiate these types.[1]

Of the first, the Doric, the Parthenon at Athens is the representative example. This temple was dedicated to Athena Parthenos, and was built in the time of Pericles, B.C.438. The building is one of the few ancient structures of which the names of the architects have been recorded - Ictinus and Callicrates. As the Parthenon is fully described in all the standard works on architecture, I shall merely reiterate here that it expresses all the attributes of a sublime architectural composition, in proportion, dignity and refinement. Points of aesthetic interest include such as the curvature of the stylobate and of the architrave to prevent the appearance of "sagging"; the closing in of the intercolumniation at the corners to show angular strength; the graceful entasis of the columns to counteract the appearance of hollowness, and the increased diameter of angular columns because seen against an open background.

The Ionic order, which was employed chiefly in Ionia, - Attica and Asia Minor - is of a lighter character than the Doric, its proportions being less massive and forceful. The Doric column had no specialised base, but in the Ionic, the base is marked by a series of mouldings.

p. 25.

The shafts of the columns have twenty-four flutes, separated by fillets, not by sharp edges as in the Doric shaft. The height of the columns is between 8 and 9 times its diameter, measured at the base, whereby it attains a more slender character than the Doric column, whose height was from 4 to 6½ diameters. The capital, as previously noted, has for its dominant features, volutes of spiral-scrolls.

The entablature, formed of the typical components of architrave, frieze and cornice, is also lighter in character than that of the Doric. In regard to sculpture work and decorative treatment generally, it may be noted that while the Doric order provides spaces for the application of decoration, the Ionic order, as a general principle, incorporates it within its scheme of main lines or bands usually in the form of enrichments to mouldings.

The Temple on the Ilissus at Athens, of date 484 B.C. is a good specimen of the Ionic order of Greek architecture; but in the Erechtheion, we find the Ionic capital and base in the fullest phase of development.

Of the Corinthian order there are not many examples of Greek usage. The Tholos of Polycleitos at Epidaurus is probably the earliest known building in which this order was employed.

The Choragic Monument of Lysicrates at Athens, 338 B.C. displays the character of the Corinthian order

in all its essential features.

This order is still more ornate, in respect of the capital of the column, than the Ionic, and the column is of more slender proportions, its height being about 10 times its diameter. The base and shaft are similar to those of the Ionic, while the capital is elaborately devised in a bell-shaped composition of acanthus foliage and volute-spirals.

Regarding buildings other than temples, the dwelling house seems to have been planned to secure privacy in a marked degree; all the doors and windows looked into an internal court, and the principle of seclusion was further promoted by an encircling wall. In public buildings of the agora class and in the theatres, the Greeks found considerable scope for their genius, including the advancement of the circular plan. It is interesting to note that the Greeks did not include the tower within the content of their architectural elements; (it was left to a Scotsman of the 19th century to conjoin tower and temple in a Greek composition.[I.]) While such a structure as the Mausoleum of Halicarnassus approached the proportions of a tower, effect gained by height was not a feature of Greek architecture.

Various other points in regard to Greek work will include such as the following viz. The walls of the temples rivalled those of the Egyptians in the accuracy and beauty of workmanship and in the solidity of their construction. Yet the wall, as such, was not

I. Alexander ("Greek") Thomson: Glasgow: d.1875.

brought forward to any great extent in the architectural sense; it was chiefly upon the columnar features that the Greeks expended their powers in the art of architectural expression.

Only in the pediment, regarded as a development of the walls, do we find the exception.

We have already dwelt upon the trabeated treatment of the openings. Doorways were often somewhat narrower at the top than at the bottom i.e. they displayed inclined jambs. They were often emphasised by a band of mouldings, described in modern times as an architrave, to form a frame to the opening, and a small cornice was often added to the lintel. Beyond the emphasis gained by such features, Greek doorways were not advanced into prominence.

In regard to ornamentation, it has been said with truth, that Greek ornaments have exerted the same wide influence over the whole course of Western art, as Greek architecture generally, and the columns in particular.

Only a few of the mouldings which were employed in Greek architecture are to be traced to anterior styles. The profiles of these mouldings were very rarely "compass" mouldings, i.e. segments of circles, rather were they the lines of curvature of conic sections. In the Doric, the mouldings were few and chiefly of convex profile; but in the other styles they became much more numerous and included

many of concave section. The series included the ovolo, which formed a part of the Doric capital and the crowning member of the Doric cornice; the cyma; the bird's beak, employed in the capitals of the antae; the fillets under the Doric capital, and the hollows and torus mouldings of the "Attic" base - that of the Ionic and Corinthian orders.

Decoration applied to mouldings followed the principle of making the outline of the pattern conform to the profile of the moulding; e.g. the egg and dart enrichment upon the ovolo, the honeysuckle upon the cyma recta, the leaf and tongue ornament upon the cyma reversa (ogee) the bead and reel upon the bead moulding and the guilloche upon the torus.

The honeysuckle, which was a feature of Assyrian decoration, was adopted by the Greeks and applied as an architectural enrichment with much delicacy and refinement in the typically Greek "anthemion".

A broad-leaved plant known as the acanthus was the origin of a foliageous decorative motif which found much favour in both the Greek and Roman phases of classic architecture. In Greek work, the acanthus spinosus was the "species" which, in a conventionalized form was adopted; in Roman work, a smoother variety, acanthus mollis, was the vogue. This ornament is well displayed in the capitals of columns of the Corinthian order, and another fine example of Greek usage is the

acanthus foliage shown in the crowning finial of the Choragic Monument.

Fret or Key-patterns[I] were also employed by the Greeks; these were composed of squares or L shaped lines, interlaced, and set out on a horizontal and perpendicular basis, not diagonally as was the Celtic plan as we shall see. The Greek fret was most frequently associated with the Doric order, as an enrichment to the corona, the vertical surface of a cornice.

Sculpture in bas-relief formed a conspicuous and highly developed feature of Greek architectural decoration; and in having spaces provided for its reception, very little in the way of conventional treatment was necessary in its modelling..

There is no doubt that colour was commonly employed in Greek architecture to decorate the plain surfaces of cornices and other flat faces. It appears too, that a preparation of cement was used as a rendering to stone and brick, as exemplified in the Greek temples at Paestum and in Sicily, to provide a surface for wall-paintings or colour decoration, particularly in buildings of the Doric order.

Roman.

Until about 150 B.C. the application of Etruscan art formed the basis of Roman architecture. The third Punic War, B.C. 149-146, effected the destruction of Carthage, whose territory became a Roman province, and the conquest of Macedonia and

I. Interlaced ornament is found also: eg. Capitals of Ionic columns of the Erechtheion.

Greece was accomplished at the same time. It was then that the Romans began to take an interest in Greek architecture, and its introduction into Italy soon followed; Roman architecture, and Roman art in general, conforming to the Greek ideal yet asserting the Roman spirit and genius.

Broadly stated, the classic Roman architecture may be taken as that which pertained to the period of the Emperors, during which era the full magnificence of architectural display was attained.

The Augustan age, B.C. 31 - A.D. 14, marks a culminating point in its development. In the time of Hadrian, A.D.117-138, notwithstanding the love of art which characterised this Emperor, material prosperity with its attendant luxury, seems to have brought about a tendency to extravagant over-elaboration in the sphere of architecture, which, together with a marked receptivity to foreign influences, gradually superseded a sensibility to beauty of form; with the result that by the time of Antoninus, Roman architecture assumed a certain decadence, a condition which prevailed in an ever increasing measure, down to the fall of the Western Empire in 476 A.D.

Before going on to deal with Roman Architecture, something must be said regarding the architectural material which lay to hand on native soil. This material is found in Etruscan architecture. Whatever the origin of the Etruscans, one of the ancient peoples

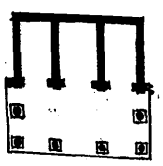
of Italy, it is certain that at the time of the founding of Rome as a city, they had attained to a civilization which produced architectural works of no mean quality.

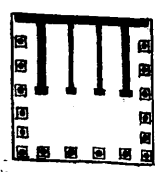
Much of this architecture exhibits a character closely allied to that with which we are already familiar - the Mycenaean.

In the existing remains of the city walls, the masonry is of that type which has been termed Cyclopaean, consisting of stones of great size; and in most cases, they were of polygonal shape.

Of the tombs, the circular tumuli are very similar to those described in the section dealing with the "root styles".

In the Regulini Galeassi tomb, and elsewhere, the trabeate arch is employed to form the vault.





In regard to the temples of the Etruscans, the absence of the remains of actual examples renders it difficult to obtain accurate knowledge of their construction. According to Vitruvius, the plan of the Etruscan temple differed from that of the Greeks in respect of the former being nearly square instead of oblong. Such temples consisted of a portico, and a tri-cellular sanctuary.

The intercolumniation was wider than in the Greek work, and it would appear that architraves of timber were employed of necessity for such spans;

indeed, the evidence of the rock-cut tombs makes it clear that wood entered into the category of constructive materials, the ceilings of these tombs displaying a very close imitation of timber rafters construction.

Another form of Etruscan temple as described by Vitruvius consisted of one circular cell and a portico. It is possible that; if Vitruvius be correct, this circular type of building was the origin of that series of circular structures which the Romans developed and which included such forms of temple as that at Tivoli together with many mausolea, and also the Pantheon. The circular structure indeed, was perpetuated by the Romans down to a comparatively late period, in Christian baptisteries, tombs and occasionally Churches. An instance of its use in Roman Britain is that in the ruins of Silchester, near Basingstoke.

The artistic worth of the Etruscans is especially displayed in the plastic arts, many of their vases showing delicacy and grace to a very high degree, and having a marked affinity with the Greek character.

The chief interest of Etruscan architecture, so far as the subsequent Roman work is concerned, lies in the fact that in the former we find the true-arch principle employed in common practice.

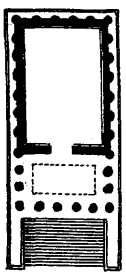
Examples of its scientific application are found in the gate at Perugia, and in the Cloacae or sewers at Rome which were constructed about the beginning of the 6th century B.C; and it is certain

that the radiating arch was the main contribution of Etruscan architecture to the Romans, who, combining the trabeated system of the Greeks with the developed arcuated system, evolved that distinctive phase of architecture which we call the Roman style. In its use of small materials, the arcuated system rendered possible the development of those essentially Roman features, the vault and dome.

The arch, then, was the chief among local contributions to Roman architecture. Great and important as it is, the indebtedness of the Roman style to Greek architecture is of no less magnitude.

In brief, the Romans virtually took over the complete fabric of Greek architecture, in its three modes of expression as represented by the Doric, Ionic and Corinthian orders. In this connection, however, it must be noted that Roman architecture is by no means Greek architecture re-instated upon Roman soil. A summary of typical buildings will demonstrate the manner in which the Romans dealt with this Greek material. It is probably true that the Romans possessed but little aesthetic perception, but on the side of technics, they were unexcelled. The artistic appeal of the parabolic curve of a Greek moulding found no response in the Roman; the contour produced by the "compasses" satisfied his genius. With the Greeks, art was a matter of feeling; with the Romans, rather was it a matter of understanding. Their skill lay in their ability to utilize available material to produce new

and varied forms of construction. The plans of Roman buildings are striking in their variety; a variety partly due to the different functions which they were designed to serve, comprising all to which Greek buildings had been appropriated and many others, the product of the complex and luxurious civilization of the Empire.



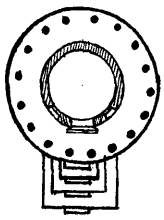
The Roman temples, founded as they were upon Greek models, resembled these in many respects; but there were differences. The characteristic Roman temple has no flank or rear colonnades, columns being employed only at the portico. In consequence, the steps were not carried round the edifice but were confined to the portico, their ends abutting upon flank walls, a continuation of which provided a base to the building.

In place of the flank and back colonnades, three-quarter columns were attached, "engaged" to the walls, an arrangement of columniation described as pseudo-peripteral. The antae, it is to be noted, have lost their distinctive treatment, or meaning, and have become pilasters, designed as counterparts of the column.

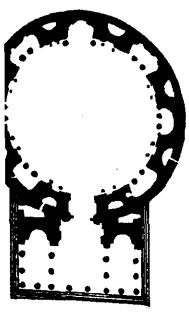
Notable temples in Rome include the Temple of Fortuna Virilis, of the Ionic order, dated 100 B.C; the remains of the Temple of Jupiter Stator, of the Corinthian order, A.D.6; and the Temple of Antoninus and Faustina, of the same order, A.D.141. In France,

that at Nimes, erected in Hadrian's time (A.D.117-138) is a good example of the type described above. At Athens, the Temple of Jupiter Olympius, commenced in B.C.170, but completed by Hadrian in A.D.117, has claims to be regarded as a Greek building; the columns here have capitals which in all probability served as models for those of the Roman Corinthian order.

A circular type of temple, pertaining more to the Etruscan model than to the Greek "tholos" class, is represented by the Temples of Vesta at Rome, and at Tivoli, the circular temple at Baalbec in Syria, and that famour edifice, Temple or Hall, the Pantheon at Rome. The Temples of Vesta consist of a circular cella, surrounded by a peristyle of Corinthian columns.



The Pantheon, probably the most impressive of all Roman buildings, is a vast domed structure, having an imposing portico of Corinthian columns; the portico is set out in three bays in the manner planned by the Etruscans for their three-cell temples.



The wall of the rotunda contains eight recesses one of which is opened out to form the entrance to the building. The lighting is effected by a circular opening in the crown of the great dome.

In the Pantheon, it is apparent that Roman architecture has all but forgotten its indebtedness to that of Greece.

It will readily be understood that the most potent influence which would bring about a radical

difference between Roman architecture and that of the Greek, is the use of the arch as a structural element.

The adoption of the arch rendered width and height of openings a matter of choice; consequently, doorways, windows and arcades became prominent and spacious.

The arch made possible the vault and dome in their fullest development; the roofing of areas large and small could effectively be achieved; increase in height was a natural corollary; a circumstance that brought about a modification of the Greek order system in the employment of the column; for the use of one order from base to top in the Greek manner was architecturally impracticable. Hence it came about that it was not uncommon for two, three or more orders to be employed one above the other, and, from practical considerations, free columns gave place to attached columns, with the result that, instead of performing structural functions, the columns became mere decorative additions to the walls. An arch occupied the space between two column features, or, stated otherwise, a column feature occupied the pier between two arches. This arrangement is well shown in the Colosseum, Rome. Several other variations from Greek usage of the orders were devised by the Romans, such as the introduction of the pedestal to the column; the placing of a separate entablature over each column as at the Baths of Diocletian; the differences effected in the design of

column and entablature themselves, and the introduction of two additional orders to those devised and employed by the Greeks.

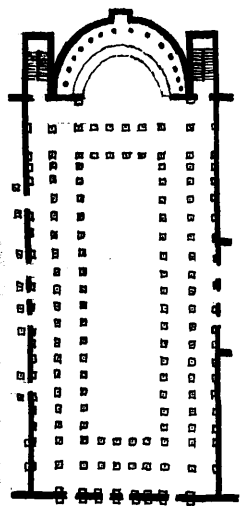
Thus, Roman architecture recognised five orders; but the Tuscan and Composite, the two near types, are really but derivatives of the three fundamental orders.

The mouldings employed in Roman architecture are all based upon Greek originals, but as a rule, are composed of segments of circles, resulting in strong contrasts of light and shade.

Carved enrichments display less refinement than that of Greek work. While the same may be said of Roman sculpture generally, the work was effective enough in the vigour of its conception and execution. In later times, vaults and floors were finished in mosaic of considerable excellence but many examples show but commonplace motifs in their composition.

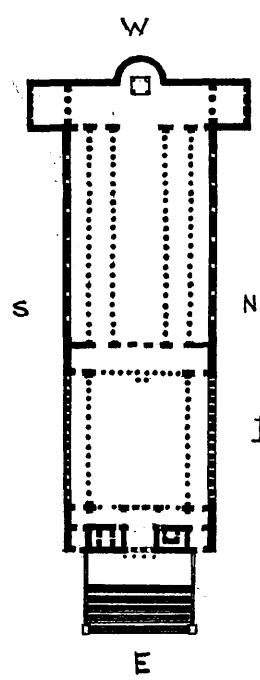
The foregoing survey will suffice to present the general character and a few features of detail of Roman architecture; and I shall pass over such other types of building as Thermae, Amphitheatres, Dwellings and Commemorative monuments and conclude with a short reference to the Basilicas or Halls of Justice, which not only comprise some of the finest buildings erected by the Romans, but also are of particular interest inasmuch as they form a link between classic and an important branch of Christian architecture.

The typical Basilica was of rectangular plan, the length being two or three times the breadth. Internally, the building was divided into three or five sections by two or four rows of columns, returned at the ends, resulting in one or two aisles and a central nave; galleries were frequently placed over the aisles. At one end of the basilica, a semi-circular recess or apse was formed, protruding from the end wall. The floor of the apse was raised above the general level. The opening between the apse and main hall was formed typically by an arch.



-Basilica-

The entrance was at the side or at one end; the antae formation was not ~~specialised~~. The roof was generally constructed of timber, and external effect was apparently not sought in the design of the building.



Basilican church with Atrium.
(v. following pages).

THE BRANCH STYLES OF THE EARLY CHRISTIAN PERIOD.

I. Basilican (developing into Romanesque) and Byzantine.[1]

Having given a descriptive resumé of the character of the Greek and Roman styles - the stem of our architectural tree - we shall now proceed to consider the nature of subsequent development. In the classic architecture, European civilization had evolved and formulated a definite and established tradition in the sphere of building. Having accomplished this, it was not in the nature of things that the stability of the fabric should remain unimpaired or its character remain unchanged. In regard to Roman architecture, it has already been observed that circumstances brought about a certain lowering of architectural and aesthetic standards. The monument had been completed; prevailing conditions offered no stimulus or encouragement to further achievement.

The history of the rise and fall of the Roman Empire reflects the corresponding development and decline of its architecture; but it is sufficient here to notice one aspect of the situation. As the classic architecture gradually yielded to mortifying influences, another influence was gradually gaining strength and power. This was Christianity, the new religion, whose influence was destined to revive the dying embers of the architectural fabric; to inspire the builders to new effort; to cause the tree to

1. Descriptions summarised from (chiefly) Banister Fletcher: "History of Architecture".

blossom in new shoots.

In the year 313, Constantine issued his celebrated edict from Milan, declaring for the new religion equal rights with all other religions. Christianity became the religion of the empire, A.D. 323, Constantine himself having become a convert. This was an important step from the point of view of progress for the religion itself and also for architecture; for it was in the sphere of church building that architecture found new activity; it was religious fervour that gave renewed vitality to the stem and so brought about the development of new branches.

Until the time that Christianity became the religion of the State, its converts had perforce to worship in such places as might best protect them from molestation. Now they were in the position to conduct their services openly and freely.

With these new liberties, the Christians took the natural step of casting about for buildings appropriate to the needs of their religious exercises. It should be noted here, that almost from the beginning, Christianity diverged in distinct directions.[I] The Latin section worshipped in accordance with a ritual which came to be known as the Latin Liturgy; the Greek section brought its own peculiar rite, the Greek Liturgy, into its worship. Obviously, ecclesiastical architecture is closely related to liturgical observances; and, as we should expect, two main architectural styles were evolved as the outcome in a considerable degree, of the

I. The first beginnings of dogmatic difference are found as early as 385 A.D.

respective ritualistic forms. The Latin Liturgy of Western Christendom developed, through the Basilican, the Romanesque style; the Liturgy of the Greek Christians developed the Byzantine.

This constitutes the main bifurcation to which reference has been made in the introductory chapter. I shall deal first with the Western development.

-Basilican.

Whether or not the first Christian churches were but adaptations of dwelling houses in which the worshippers were wont to assemble prior to their religious freedom, there is no doubt that the "Basilica" [I] was early employed as an edifice set apart for public worship. While there is probably no basilica erected during the time of Constantine surviving as evidence, there are several examples, such as that of S.Clemente in Rome which, although subsequently rebuilt, exhibit what is regarded as the original plan.

In the case of S. Clemente, the building was approached through a forecourt or atrium, perhaps derived from the forum to which the Roman basilica was generally attached.

The atrium is of similar arrangement to that of a Roman house, having a "lean-to" roof around four sides, and open in the centre. The side adjacent to the main building was the "narthex", a feature usually provided irrespective of the existence of an atrium.

The Early Christian basilica in general plan followed the old lines; having nave, aisles and apse.

I. Prof. Baldwin Brown derives the Early Christian "Basilica", not from the pagan basilica, but from such as Cellae, and Scholae.
"the Christian basilica of the 4th cent., could not have derived its apse from the pagan basilica for this building had no such feature to lend". G. Baldwin Brown: "FROM SCHOLA TO CATHEDRAL". p. 197.
G. Gilbert Scott says that semi-circular recesses were found at the ends (of the pagan basilica). "Essay on Hist. of English Church Arch". p.4.
In any event, Prof. Baldwin Brown is no doubt correct in stating that "Christian Architecture had several root-fibres traceable back to non-Christian origins, and these unite to form the historical church of the age after Constantine, an architectural creation embodying features

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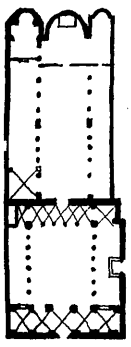
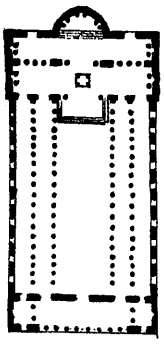


The nave of S. Clemente is lofty and covered with a timber roof of simple design; it is separated from the side aisles by arcades, the arches of which spring from the capitals of columns. Windows are placed in the wall at a high level. Like the nave, the aisles have wooden roofs. A portion of the floor of the nave is occupied by an enclosed space for the choir, a pulpit (ambo) being placed on each side of it. A vaulted sub-structure or crypt extends under the greater part of the church of S. Clemente.

With slight variations, the above description is applicable to all the ancient basilica churches in Rome, Milan, Ravenna, and the older cities in Italy; the principal feature of departure being the introduction of a clear space or transept in front of the apse. In certain large churches, double aisles are present; while in the churches of S. Agnes and S. Lorenzo, the aisles are in two stories. In many instances, we find no atrium, but the essential elements of nave and aisles, the apse at the end of the nave with its arch and elevated floor, the entrances at the end remote from the apse, and some form of narthex or portal, are represented in all cases.

The adaptability of the classic basilica to Christian usage as a place of worship is clearly evident. The bishop took the place of the praetor or questor; the presbyters, or members of council of the early church, occupied the seats provided on each side

for the assessors. The apse became the chancel; the altar in front of the apse, formerly used by the Romans for the pouring out of libations or for sacrifices to their gods, was now given to the celebration of Christian rites; a choir was introduced, abutting into the nave, and enclosed by low screen walls or "cancelli" (from which the word "chancel" is derived); two pulpits or "ambos" were provided, from one of which the gospel was read, and from the other, the epistle.



A transept called the "bema" or "presbytery", which existed in a modified form in the basilicas themselves, was occasionally introduced, converting the plan into the form of a Latin cross of which the nave was the long arm.

In a few examples, galleries, sometimes called "tribunes" were introduced for women; where no galleries existed, the women were seated on one side of the nave and the men on the other.

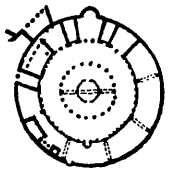
From such considerations, it will readily be understood how the basilica type, not only met with the acceptance of the Christians of the Latin group in the early period as an appropriate form of church edifice, but also served as the model, conserved in the Romanesque phase, for the church fabric of the greater part of Western Christendom.

Another type of building associated with the Early Christian architecture of the Roman area, is that of the Baptistery; usually a detached edifice of

circular or polygonal plan.

Until the end of the sixth century, the baptistery appears to have been a detached building, but subsequently, the font came to be placed in the vestibule of the church itself.

The Baptistery of Constantine at Rome is octagonal, and the timber roof is supported by a series of columns, two storeys in height. That at Nocera, between Naples and Salerno, is of circular plan, and has a central, elliptical dome; the vault here is of the nature of an internal ceiling, being covered externally by a timber roof.



A few buildings of this class, such as that of S. Stefano at Rome, and S. Vitale at Ravenna, do not appear to have been baptisteries, but churches. The latter is of octagonal form, and has a large vestibule and apsidal choir. The central portion is carried by eight arches springing from lofty piers, and is surrounded by a hemispherical dome which rises high above the surrounding aisle.

As to origin, it is probable that the circular and polygonal type may be referred to the Roman circular temples and tombs.

While the buildings of this class are synchronous with the basilica, their occurence is much less frequent in Roman Christian architecture; but, as we shall see, this form was that which prevailed as the church plan in the Eastern Empire, in

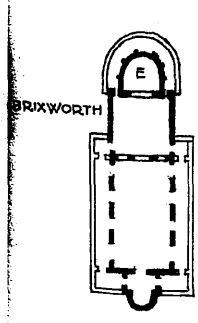
the architecture of the style known as Byzantine.

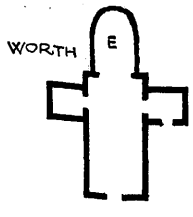
Another feature associated with basilican architecture may be noted. During the later period of this work, the employment of the tower as an adjunct to the basilica is in evidence. This was an isolated structure, of square plan, in several storeys generally surmounted by a low pyramidal roof, and was placed near the front facade of the building. That at the early Christian Basilica of S.Maria is an example. The circular plan was also employed, as is shown in the tower associated with S.Apollinare in Classe at Ravenna. As to the function of these towers, it is generally supposed that they were intended to collect the congregation for service by means of bells, and the term "campanile" or bell-tower, may rightly be applied to them.

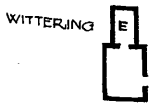
The era of the Early Christian Basilican architecture, broadly stated, may be taken as extending from 300-600 A.D.; and with this architecture, we have reached what may be regarded as the final phase of Roman Art. During the period of Gregory the Great, (590-603 A.D.) Early Christian architecture of the class described declined into desuetude, a condition which prevailed until the time of the first Frankish King, Charlemagne, (790-814 A.D.) who applied himself to the restoration of civilization, and who made architecture possible again in Western Europe. Leaving Ireland out of count in the meantime, architecture in

Western Europe generally, developed slowly as order gradually emerged out of the chaos of ruin that followed the sinking of the Roman Empire of the West. Churches and monastic buildings began to take form, and, looking to Rome as the ecclesiastical centre, it was natural that the architecture adopted followed upon that of the Roman tradition.

Until about 1000 A.D., this style of architecture prevailed over a large part of Western Christendom with but little variation in character. The churches were usually small, of rectangular plan, and as a rule, had an apsidal east end. The openings were arched, the windows being small and of one or two lights. The outer walls are generally marked by flat pilasters of slight projection. Towers were not uncommon. While these churches were founded on the basilica type, many of them show traces of having been vaulted in part at least, differing in this respect from the basilica.







Of this architecture, which may be classified as rudimentary Romanesque, Britain, as early as the tenth century, possessed a considerable number of examples, represented in the Anglo-Saxon churches[I] of Brixworth, Worth and elsewhere, and in such towers as that at Earl's Barton, Lincolnshire.

Romanesque.

The year 1000 A.D. is a convenient point to mark off the localising of this type of architecture in various countries; moreover, by this time it had

I. The single cell, with an adjunct in the form of a square-ended sanctuary is a common type in this architecture, and appears to have been the normal form of the smaller Saxon church as at Wittering, Northants and Escombe, Durham. Celtic influence may be inferred.

begun to assume that more mature and developed phase which is designated Romanesque.

Romanesque architecture is the offspring of one particular sort of Roman architecture viz. that of the basilica. "Le probleme que les architectes de l'epoque Romane s'etaient donne a resondre etait celui-ci; elever des voutes sur la basilique antique." The Romanesque problem was that of vaulting a basilica; to vault an aisled church without destroying its clerestory lighting.[I]

So far as types of Romanesque are concerned, the character of the architecture was influenced by such factors as climate, geographical and geological considerations, together with the aesthetic ideas peculiar to the respective countries.

General characteristics included such as the following:-

To the basilican plan, transepts were added, and the chancel was elongated. The floor of the choir was raised by steps; towers were prominent, having well-marked storeys with windows to each.

The openings were round-arched, and their jambs were formed in receding planes or recesses into which circular columns were fitted. The introduction of vaulting was a marked feature, the form of arch being semi-circular, and often raised above the semi-circle i.e. "stilted". Intersecting barrel-vaults were common. In regard to columns, the shafts were

I. Viollet-le-Duc : Dictionnaire . IV. 60.
Francis Bond : Gothic Architecture in England: p. 6.

treated in various manners including flutings of spiral and trellis forms. In the earlier phases, variants of the Ionic and Corinthian capitals were employed, but in later times, a new form was evolved in the "cushion" capital of cubiform shape. The base to the column was an adaptation of the classical "Attic" base, set upon a square plinth, at the angles of which, foliage or animal forms were occasionally carved to fill the triangular parts. Many types of ornaments derived from foliageous and animal forms were employed as enrichments, the mouldings being often carved in an elaborate manner.

We have now sketched the course of development of one of the two main branches of the classic stem, to the point at which its architecture has reached the stage of the Romanesque of the West. Let us return to note what has been taking place in the Eastern capital, with reference to that other main branch of architecture, to which the term Byzantine is applied.

Byzantine.

In the fourth century, Byzantium was a Greek colony inhabited by a people largely of Greek race. In 330 A.D., Constantine effected the removal of the capital of the Roman Empire from Rome to Byzantium, which thereafter was called Constantinople. Under Theodosius the Empire was divided, and Constantinople became the capital of the East, 395 A.D. Byzantine

architecture is that which was developed at Byzantium on its being re-established as a city by Constantine.

The style attained full vigour in the sixth century, during the reign of Justinian (527-565 A.D.) who built Santa Sophia at Constantinople, and by that time, all Italy was recovered to the Eastern Empire; which fact accounts for the presence of certain buildings of Byzantine character in places distant from the source of the style. Of these, the church of S.Vitale at Ravenna, (526-547 A.D.) is an example from several which are found there. Again, at Venice, which was a great centre of traffic between East and West, the great church of S.Mark, was erected, between 1063-1071 A.D.

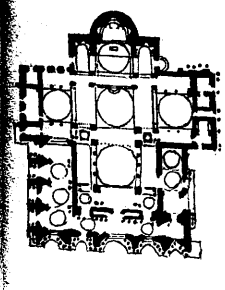
Architectural styles proceed from gradually attained characteristics, and strict lines of demarcation cannot be drawn between them. In regard to the Byzantine style, it is sufficient to recognise one outstanding feature which marks the trend of its character viz: the development of the dome.

While this is the case, it falls to be noted that Roman practice and tradition were by no means unrecognised. Indeed, it has been said that the origin and history of Byzantine architecture would be clearer were it called East-Roman; that it is an architecture in which Roman methods of construction were worked out by Hellenistic craftsmen. In any event, it will be remembered that Roman architecture included

both the rectangular (basilican) and the circular plans; Early Christian Basilican and its successor the Romanesque, developed on the rectangular plan; Byzantine architecture was influenced by the appeal of the circular. The use of the arch, it will readily be seen, applied to the circular plan, brought about the dome. What influenced the choice is another matter; but it is significant to note that the dome as an external feature was enshrined in the tradition of the ancient East.

As indicated above, Byzantine influence in architecture extended far afield; to North Italy, France, Sicily and other parts of Europe chiefly where the Greek church prevailed.

The general plan of a Byzantine church consists of a central square space, which, through pendentives, yielded to the circular, in the formation of a crowning dome. Short arms extend from each side, forming a Greek cross, the narthex being contained within the main walls. As a rule, two small internal apses were placed one on each side of the main projecting apse. An effective feature of Byzantine architecture was the grouping of smaller domes around the central dome. Massive piers and wide arches were prominent elements in the design; columns were subordinate to the piers which carried the dome, and were introduced rather to support subsidiary arcading. Here, however, the Greek principle of truthful expression in

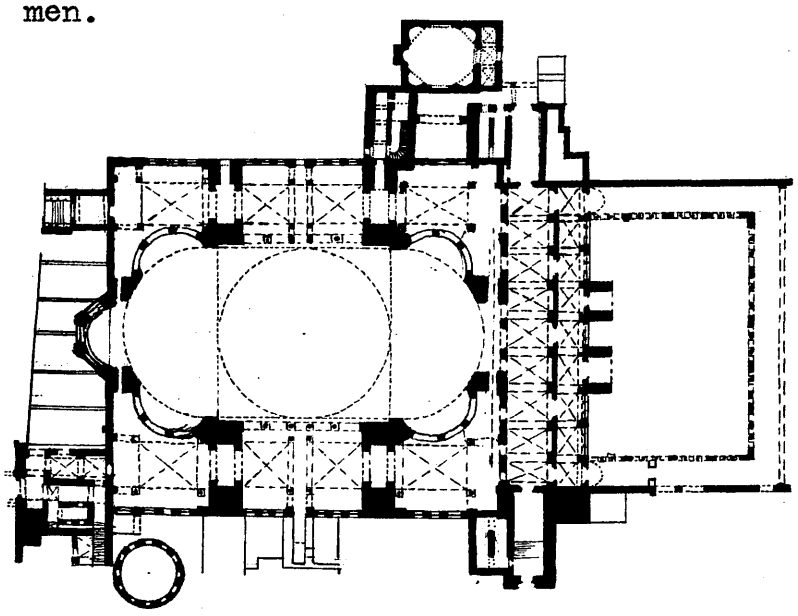


construction is restored; the columns fulfilling the function of structural support, and the capitals assumed a form appropriate to the purpose of receiving the springers of the arch. This was effected by shaping the block which formed the capital so that a simple transition from the square of the arch-springer to the circle of the column shaft was accomplished.

Doors and windows have semi-circular arches, but examples are also found of the segmental and horse-shoe arch. The churches were lighted chiefly by a series of comparatively small windows placed around the base of the dome, and by windows grouped in the gable-ends.

The use of ornament is a feature of the style, the walls internally being faced with marbles and mosaics; in this connection, it may be said that external decoration was sacrificed to internal decoration of sublime magnificence.

Carving was executed in low relief, the pattern being obtained by sinking portions of the surface. Greek and Asiatic traits are apparent in the treatment of ornament rather than Roman, a result to be expected considering the Greek origin of the craftsmen.



S.SOFIA
CONSTANTINOPLE

First-Christian Series.

First-Christian: Syrian: Coptic to Scoto-Celtic.

In the introduction to this treatise, reference was made to another branch or development, a product of the stem of classic architecture, whose ramifications, in regard to Scoto-Celtic architecture, are of peculiar significance.

We have already dealt with those two main branches known as Basilican[1] and Byzantine, each of which is a phase of early Christian architecture. At this point, it is well to emphasise a few particular circumstances associated with those phases. Both styles came into being as the result of national policy, namely the acceptance of Christianity as the state religion. Now, this at once brings in what may be called the personal factor;[2] the state, represented by Constantine as its official head, was in the position to influence the direction of the church's activities, in accordance with this official interpretation of the character and requirements of the religion; e.g. the personal touch is exemplified in the adoption of the Chi-Rho monogram by Constantine as the symbol of his faith; it is reasonable to anticipate many more expressions of an individual attitude to the new religion.

In the sphere of architecture, so far as the Basilican and Byzantine styles are concerned, notwithstanding divergence in ritual, the Roman predilection is present from the beginning; in the former it is emphatic, in the latter less pronounced. In its attitude

I. i.e. Basilican culminating in Romanesque.

2. The Roman Empire maintained the Pre-Christian view that there could be no worship apart from the corporate life of the state.

to this architecture, Roman policy, I am constrained to venture the opinion, was inclined rather to accommodate religious requirements within the prevailing architectural concepts,[1] rather than attempt to give architectural expression to the religious requirements; their ecclesiastical architecture was Roman Christian rather than Christian Roman. In the case of the Basilican, the application of the metaphor "new wine into old bottles" is not inappropriate; in regard to the Byzantine, however Greek in character it may be, in the church edifice, religious expression bears the impress of Roman direction, and is subservient to Roman architectural conceptions.

Another important point is the fact that over 300 years of Christianity had elapsed before this official Basilican and Byzantine architecture was established. In these circumstances, it is reasonable to suppose that some form of church plan was in being or in process of being, prior to the advent of the official Basilican churches of Constantine's time. The architectural history of the Christian Church shows that this is no mere supposition.

First-Christian.

In Rome itself, in the secrecy of the catacombs,[2] chapels were erected, having features which we now recognise as definitely pertaining to Christianity as

I. Be it Schola, Cella or Basilica.

2. G. Gilbert Scott says :- "...from similar small buildings arose the simplest type of church architecture – a type which may be considered as distinct from that larger type of building which was developed afterwards and which is known as Basilican. To this earlier class may be referred the chapels of the catacombs .... this simple type dates from the commencement of Christianity itself. To this class must be referred the small early churches of Britain and Ireland." In these British and Irish churches we have evidence of the existence of a tradition earlier than his (Constantine's) date. "Essay". p.84. See also. G. Baldwin Brown: "FROM SCHOLA TO CATHEDRAL".

conceived in the East; for early Christianity was cradled amid Greek conceptions. The Capella Greca, in the catacomb of Priscilla, assigned to the middle of the second century, is an example of these chapels. Orientation is one of these features; in the chapels of the catacombs, the sanctuary, apsidal or rectangular, was placed at the eastern end, and was divided from the nave by a cross arch and veil. Such features as these are indicative of a certain attitude which is essentially associated with the religion; and they, with others, are expressions of the spirit which transformed classic art in the East.[I.]

In the Basilican architecture of Constantine and his successors, they are not so evident. Of the many churches then erected in Rome, by far the greater number have their sanctuaries to the West - a characteristic, it may be remarked, of the Jewish Church.

The arch of the Basilica was the wide, open arch of the Romans, providing no seclusion for the sanctuary; it was of architectural import rather than ritualistic, and in the developed plan of this church, it almost disappeared in the formation of the great transepts. The number of these early churches was considerable. According to Eusebius,[I] the Emperor Gallienus, in 260 A.D., ordered the restitution to the Christians of some forty churches at Rome.

A church at Nicomedia was destroyed in the persecution by Diocletian; it must therefore have been

I. Prof. Baldwin Brown says that the true germ of the Christian church was an oblong interior terminated by an apse: "From Schola to Cathedral", pp. 196-197. I am inclined to the view that the features mentioned above were more important to the "First Christians" than the apse as such. eg. it is not always found in the East, and never in Ireland.

I. Eusebius: Eccles. Hist. vii, 13.

built before the end of the third century.[I.]

On the close of the first Christian century, there were many parts remote from the seat of its origin, which gave shelter to its converts.

Antioch, where Christians were first called by that name, early became one of the most important centres of the cult, and the medium for missionary efforts eastwards to inland Syria, Mesopotamia and even to the Parthian Kingdom. In the district of Garamaea - east of the Tigris, there were Christians as early as 170 A.D. Edessa, at a very early period, became associated with a Syrian form of church and Syriac ecclesiastical literature. The Edessene chronicle ascribes the destruction of a Christian church in the year 202.

In Asia Minor, the south and west coasts were specially prominent in propagating the faith; Ephesus and Smyrna assuming important positions. In Greece, Corinth early became identified with the movement, and there, in the time of Marcus Aurelius, the Bishop Dionysius stood in alliance with other churches at Athens, Lacedaemon, and communities in Crete.

Next to Antioch, Alexandria ranks as the most important centre of the Hellenic oriental empire. Here, Christianity began its activity in the country among the Jewish and Greek population of the Delta; but gradually this extended to the Egyptians proper - the Copts. In the second century, Gnosticism had a chief seat here as well as in Syria, and towards the close of the

I. Lethaby: Mediaeval Art; 16.

century the Alexandrian Catechetical School was established, showing the importance of this centre of religious movement and Christian education. From this district of Egypt, Christianity passed upward to Middle and Upper Egypt, and by the time of the persecution effected by Septimius Severus, (193-211 A.D.) we find Christians in the Thebaid. In close connection with Hellenised Egypt stands the highly civilised Western district of Cyrenaica, in which Christians are to be found as early as the middle of the second century.

In the West, Rome was eminently the Sedes Apostolica; here, alongside the Roman element, were incomers from all parts of the Empire. In Gaul, the first communities of historical importance met with are those in Gallia Lugdunensis, Lugdunum and Vienna (Provence) the aged bishop of which, Pothinus, suffered a martyr's death under Marcus Aurelius in 177, and over which the celebrated Irenaeus subsequently presided. The origin of Christianity here, however, points not so much to Rome as to Asia Minor, the home of Irenaeus, with which especially Smyrna, those communities stood in intimate relationship.[1]

Prior to the Peace of the Church, i.e. the assumption of Christianity as the State religion, there were many waves of persecution, and extant accounts referring to the demolition of churches in Syria, Armenia and Egypt show that the number of churches was considerable.

1. Wilhelm Moeller : Hist. of the Christian Church, Vol. I. p. 103-107.

Here we have a line of development of Christian architecture whose origin is antecedent to the phases represented by Basilican and Byzantine; an independent shoot, as it were, from the classic stem; a development having attributes or qualities which constitute it a definite phase. I shall call this phase, the First-Christian Series, and in treating of its character and features I shall confine these remarks to a brief description of the style as developed in the architecture of Syria and Egypt.

In seeking to discern the fundamental concept of the Christian Edifice, the enquirer is led to accept, from the evidence of the churches themselves, the view that this concept is to be found in the picture portrayed in the Apocalypse of S.John. Herein is a revelation of an idealised ritual enunciating the principle which governed and determined the general character and disposition of the Holy Place. The interpretation has been worked out by ecclesiologists; it will suffice to notice the salient features which emerge:- the narthex, the place which is outwith the temple; the nave, the place of the great multitude; the choir; the altar; the sanctuary, where a veil conceals the rites of the eucharist.[I.]

In the churches of the first centuries which spread over the East, this principle is deliberately expressed. In the case of the Roman Basilican Church, there is the semblance of such expression, but there it

I. v. G. Gilbert Scott: "" The Deity has revealed to men the ritual whereby [illegible] Him in purity." W.M. Ramsay: "The Letters to the Sev[illegible]
heaven, so no idea of [illegible]
to the members [illegible] Baldwin Brown states that "as the seer of Patmos" 'saw no temple' in the city which descended before his eyes from heaven, so no idea of a specially Christian form of building occurred to the members of the primitive church". 'From Schola to Cathedral'. p.35.

"The Deity has revealed to men the ritual whereby they can approach Him in purity." W.M. Ramsay: "The Letters to the Seven Churches in Asia". p.64.

is rather adventitious; in the First-Christian Church, it is the inspiring cause of the plan. It will fall to be shown that the architecture of the Irish Church - the Scoto-Celtic architecture of our subject - through its relationship with the Eastern church of this phase, expresses the same principle.

In conceiving this idealised church edifice, S.John was assisted by his familiarity with the existing church forms of the Old Law.[1] The Jewish temple, in its general disposition, resembles that depicted in the Apocalypse. Herein was the Holy of Holies, screened by a veil; the Holy Place, corresponding to the Choir; the Court of the Israelites, accessible only to the Jews, not to the Gentiles, corresponding to the Nave; the Outer Court or Court of the Gentiles, corresponding to the Atrium or Narthex.

The Jewish temple, however, had its sanctuary not at the East, but at the West end of the building.

As orientation[2] is associated with the Christian church, some reference to this subject is appropriate here. The principle may not be peculiar to Christianity. Tertullian, c. A.D.205, tells us that the heathen suspected the Christians of being sun-worshippers, "because they were well known to turn to the east in prayer." In Ezekiel, viii, 16, we find "their faces turned toward the east; and they worshipped the sun toward the east."

S. Clement of Alexandria says of pagan temples: "The most ancient temples looked towards the west (i.e.

1. G. Gilbert Scott does not hold this view: He says: "Its imagery is neither Jewish nor pagan, but is derived directly from contemporary Christian sources --- That the Apocalypse assumes the Christian and not the Jewish ceremonial, is clear from a comparison of its ritual with that of Mosaic Law". "Essay on Hist. of Eng. Church Arch." p 31.

2. Orientation is discussed in Scott's Essay', p. 14.

had their entrance towards the west), that those who stood with their face towards the image might be taught to turn towards the east."

While it does not appear, therefore, that orientation was the prerogative of Christianity, there is good evidence of Christians having faced eastward in prayer from very early days; indeed, general instinct may have engendered the attitude as a reversion from that of Judaism. But there are more likely reasons. Even the Jewish prophets had looked forward to a deliverer who should come forth like the sun. "Unto you that fear my name shall the sun of righteousness arise with healing in his wings." St Clement of Alexandria writes: "The east is the image of the day of birth." The second coming of Jesus Christ was regarded by the first Christians as a near event. In the 1st Epistle to the Thessalonians, written probably about 65 A.D., S.Paul states: "We which are alive and remain unto the coming of the Lord." It was believed that He would come with the clouds of heaven and appear in the east, as "the morning star", "the sun of righteousness", "the light of the world", "the dayspring from on high"; so the Christians continued to testify to their belief in His second coming by turning to the east. In Matthew xxiv, 27, we find His second coming likened to lightning in the east; a definite allusion by Himself to the east. S.John Damascene and Cassiodorus say that as Christ faced the west when on the cross, so we face

east in prayer; that as He appeared in the east and then ascended into heaven, so He will reappear in the east. S.Cyril of Jerusalem explains that the catechumen at baptism turned from the west, the place of darkness, to the east, the place of light and the site of Paradise, which is reopened to him by that sacrament.

Orientation is mentioned also in the Apostolic Constitutions: "And first let the house be oblong, turned towards the east"; directing the congregation to "rise up with one consent, and, looking to the east, pray to God eastwards."

From such testimonies as the foregoing,[1] it will be seen that there was much authority for the application of the rule of orientation in the first Christian churches. In the Roman Basilican churches, it has been mentioned that orientation did not find expression to any great extent; and while this may have been due to the exigencies of site in the first instances, as time went on, the principle was practically unrecognised in Rome; and, with the spread of Roman liturgical customs, following the Council of Trent, the absence of orientation characterised generally, the churches under Roman rule. Elsewhere, orientation was the rule of the Christian church, and nowhere was it more rigidly followed than in the Celtic church.

Having now observed the general principles upon which the plan of the First Christian churches was founded, the matter of the choice of architectural material calls for consideration.

I. Summarised from F.C. Eeles: "Proceedings, Soc. of Antiq. of Scot." 1913-14. p169. etc.

What among existing architectural elements were those selected by the first Christians for their edifice, and in what combination were those elements employed?

The legacy of the architectural achievements of Greece and Rome was theirs from the beginning; and their architecture, influenced as it was by circumstances of locality and other exigencies, which brought about variation of expression, was not indifferent to this heritage; it was a branch of the classic stem, exhibiting in the course of its development, features and phases influenced more or less by Oriental tradition.

The use made of the classic elements and the manner of their continuation can best be shown by a description of typical buildings. As a class, those structures exhibit considerable diversity; native factors peculiar to their districts, exercising varying degrees of influence. It is a class, too, in which separate "styles" may be identified; but, regarding the phase as a whole, it can with certainty be maintained, that its architecture, apart from circumstances associated with origin and development, possesses a physical character, which justifies its differentiation as a class apart from that of the Roman Basilican and Byzantine.

Of the architecture comprised within this category, that of Syria will first be considered; a country which probably preserves a greater number of

of the more ancient buildings of the early church, than any other part of the world.

Syrian[1]

The architecture of Syria may be grouped in three main divisions in which the degree of "Classicism" ranges from the marked to the slight, varying inversely as the native features in its composition. Notwithstanding the manifestation of varying degrees of adherence to classical forms and principles, there is no doubt as to the stock from which it has sprung. It is a phase of classic architecture, evincing the Greek attitude and idea, and bearing the impress of a strong native individuality. Hellenism was its mainspring, for Aegean culture, permeated the civilization of Syria, long ages before the Christian era.

As to Oriental influence, whatever be its extent, and there is no doubt that in one at least of the groups of Syrian architecture, the fact of such an influence may be accepted, this does not undermine the postulate for "Classicism".

"The Orientalising theory, in its effort to push the origin of all that is virile, beautiful, ingenious and original in the formation of Christian architecture, back into Northern Mesopotamia, Persia and Armenia, has unconsciously slighted the Hellenistic aspect of the large mass of Christian Syrian architecture, for the more problematic evidence of Oriental influence to be found in Armida, Edessa and Nisibis."

1. Architectural descriptions from Howard Crosby Butler: "Early churches in Syria, fourth to seventh centuries". 1929. Melchior de Voguë: "La Syrie Centrale: Architecture Civile et Religieuse".

In the Northern district, the classic character is strongly evident; and of the many details or elements of classic origin, perhaps the pediment is the most marked. The three Greek orders, too, are all represented. Externally, the columns carry architraves; in the interiors, they generally support arches, but even here, Greek feeling is suggested in the horizontal band, which like an architrave, is carried above the arches. Other features include the placing of a pediment directly above an arch, and the carrying of the arch up into a pediment, for which also there is Hellenic precedent at Palmyra, Baalbec and elsewhere.

As to minor details, the use of columns attached to the exterior of walls, of pilasters and moulded string-courses, the cornice with dentils and modillions are all derivatives of classic forms.

Regarding the architecture of the Southern territory, the case for classic descent is undoubtedly more slender; yet architecture of a classic character was actually represented here at two particular periods, in the second century and in the middle of the third century, and the architecture which followed was not immune from this influence. It may be observed that the classic of those periods was more expressive of Greek than of Roman taste, as is clearly demonstrated in the carvings.

The advent of Christianity, however, both

in the North and in the South, seems to have caused an inclination to the choice of elements rather more of the native or indigenous character than of the classic. In the case of the North, this reaction was of temporary duration, being perhaps an instinctive recoil from pagan association, and classic form soon reasserted itself.

In the South, full recovery was not effected, and here we find an architecture, in which features of a peculiarly individual character are represented.

Sufficient evidence has been brought to bear upon the classic extraction of Syrian Christian architecture. In regard to its claim to be associated with a phase distinct from the Roman Basilican and the Byzantine, the facts related to its origin and development in themselves justify this claim.

As we have seen, the architecture of the Basilican and Byzantine was officially determined under the sanction and direction of the Roman state; developing, in the case of the former, under what may be termed the Roman Christian rite.

In the case of the Syrian, development proceeded under the Eastern or Greek rite, architecturally independent of the circumstances which brought about the adoption of the basilica as a model for the church edifice.

Freedom of choice is everywhere expressed in this architecture; and, while the basilica[I.] type is

I. I do not, of course, assert absolute detachment from Roman architectural influence.

prominent among its buildings, the plan was adopted in so far as its form lent itself to the functions required of it.

When the basilica type is employed, many distinctive features differentiate it from the Roman original. It is always orientated; the eastern end is often square instead of apsidal; the sanctuaries are flanked by side-chambers; and in general, there is evidence of a free and untrammelled treatment of this useful type of church building.

It has been stated that "The basilical plan, as used in Syria, was undoubtedly of classic origin, whether taken from the great basilicas of the Imperial City, or from those of cities of Greek foundation in the East; and the services of Christian worship developed in accordance with the form of sanctuary which the pagan basilicas of the empire offered." I.

In regard to origin, this statement is undoubtedly correct; but in the light of the freshness and independence brought to bear upon the treatment of the basilica type, with reference in particular to the form of the sanctuary, the assertion contained in the latter part of the statement, is not in accordance with fact; evidence is sufficiently strong to warrant the view that the contrary was the case, - that the form of sanctuary developed to meet the requirements of ~~and~~ the services of Christian worship - a circumstance made abundantly clear not only in the Syrian

I. Howard Crosby Butler: Architecture and other Arts. (Part II of Publications of American Archaeological Expedition to Syria in 1899-1900) p. 88.

work but also in the Coptic, as will be seen later.

Moreover, as regards plan, Syrian Christian architecture comprises types other than that of the basilica, as will be shown; types in which independence and freedom from the influence of Roman Church architecture are strikingly apparent.

The same may be said too, in regard to individual architectural features; for example, a tower is incorporated in the design of the church at Tafkha in Syria, assigned to the 4th or 5th century; in Rome, there is no evidence of a church tower being erected earlier than the 7th century.

The above facts are given in support of the claim that the Christian architecture of Syria constitutes a phase distinct from the Roman Basilican contemporary architecture; and chronological facts prove that it was not an extension of the latter.

In regard to the relationship between the Christian architecture of Syria and the architecture of the Byzantine style, the former, in point of time, was in advance of the Byzantine;[I.] in fact, it has been recorded that it was from Antioch that Justinian brought the architects, Anthemius and Isidore, for the building of his churches at Constantinople and Ravenna.

The architecture of Northern Central Syria was first systematically investigated by Count Melchior de Vogüé, who, in 1866-77, published an exhaustive

I. G. Gilbert Scott states :- "The earliest style which may fairly be called Christian was the Byzantine."
"Lectures on Rise and Development of Mediaeval Architecture" p. 10.
Much depends upon the interpretation of "fairly".

account of his researches in a work entitled "La Syrie Centrale; Architecture Civile et Religieuse."

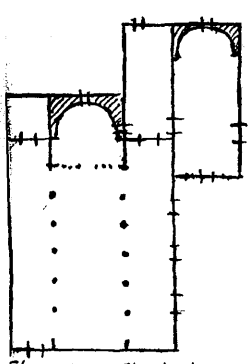
In regard to the Southern Region - the Djebel Hauran, a number of monuments were noted in 1837 by Count Leon de Laborde in his "Voyage de la Syrie"; and in 1860, Guillame Rey published several drawings of the architecture of this district in "Voyage dans le Haouran."

In 1899-1900, an American Archaeological Expedition to Syria resulted in the publication of a valuable contribution to knowledge on the subject of Syrian architecture by Howard Crosby Butler.

A recent account of the Early Churches of Syria has been published by the same author, and it is chiefly to this work that I am indebted for the following notes on the architectural character of those buildings.

All the churches of Syria have certain features in common. All are orientated, having the sanctuary to the east. The plan in all cases is composed of two main divisions, the nave and the sanctuary. The presence of a side-chamber on each side of the sanctuary is a feature of a large number of churches, including those of very early date. One of these chambers was the prothesis, the room in which the priest and deacon, it is surmised, performed the preparation and preliminary oblation before the litany; the other, the diaconicon, was of the nature of a

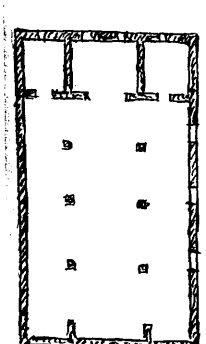
sacristy. Two forms of sanctuary are found; the one being of the apsidal type, the other rectangular. The former type was usually roofed with a semi-dome; the latter with a lean-to roof of timber, and sometimes, in the case of the smaller examples, with slabs of stone. An arched opening was formed between the nave and sanctuary. The side chambers usually open into the nave; occasionally one of these, usually the diaconicon, was connected to the sanctuary by a narrow doorway.



Church & Chapel.
SIMKHÂR - N. SYRIA.

The opening between the diaconicon and the nave is almost invariably a square-headed doorway, designed to accommodate a door to open inwards; an open arched doorway is that usually formed between the nave and prothesis.

The typical church of North Syria is of the "basilica" plan,—having a double row of pillars carrying architraves or arches which support a clerestory. Thus there are nave and two aisles, the former having a double-pitch roof, and the latter lean-to roofs. There are examples of both the square sanctuary and the apsidal. In the latter, as a rule, the curve appeared internally only, the exterior being formed by a straight wall.



Church -
Khirbit Hasan.

A low tower was sometimes introduced by carrying up the walls of one of the side chambers, and in a few cases both chambers were so constructed. In the earlier churches, two entrances were usually placed in the south wall, and a western entrance was not always

provided; in the later churches, a western portal is invariably found. In the early churches, a porch having two columns at each doorway, or a continuous colonnade along the wall containing the doorways, appears to have been a typical feature. Those churches in which a western doorway appears, were provided with a porch or a narthex extending across the western facade. One of the forms of narthex employed is that which consists of six piers with lintels carrying a wooden roof; in other examples, the ends of the narthex were closed with walls returned towards each other, piers or columns occupying the space between them.

Windows were placed in the clerestory, in the west facade and often in the side walls. The openings are of two forms, either square headed, or arched by cutting out a semi-circle in the lintel - a characteristic feature in Northern Syria.

Regarding mouldings, these were but sparingly employed in the earlier churches, being usually found only on the capitals of piers on the arch at the eastern end, and as a coping to the walls; occasionally the portals were framed with a moulding. As architecture developed, mouldings were extensively employed at base courses, string courses and for arches and other openings.

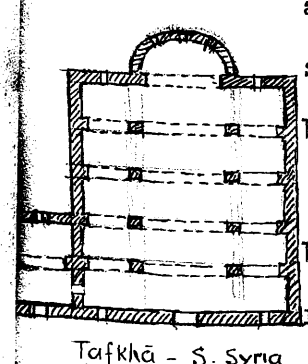
Another type of church is found in Northern Syria, whose plan is a simple rectangle divided into two sections, the nave and sanctuary. The end walls were carried up as gables, against which the timber

roof abutted.

In Southern Syria, the architecture of the church falls into two classes. In that type which appears to be the earlier, the arrangement consists of a long nave spanned by transverse arches which carry a flat roof of stone. The sanctuary has side-chambers in two storeys, or, as in some examples, it takes the form of an apse almost as broad as the nave.

The side walls of these buildings are carried up to the level of the crown of the transverse arches; the spandrils of these arches are built up to the same level, and a roof of slabs covered with beaten clay, is laid across the arches and spandrils.

The other type is confined to the mountain district of the Hauran. Here we have the same transverse arch system adapted to provide a nave and two aisles. A broad, high arch spans the nave, and narrow arches in two storeys span the aisles, the upper part of the latter forming galleries. The side and end walls are of the same height as the arch system, and a flat roof of stone covers the entire building.



Tafkhā - S. Syria

The apse in some of these churches, projects beyond the east wall, and in some cases, it is in the form of an ellipse whose major axis is parallel to the wall. A tower, giving access to the gallery and to the roof, is often introduced at the west end of

one of the aisles.

Three portals are generally found in the west wall, and occasionally there is an entrance on one side. The presence of a narthex is frequent, and in certain examples, a colonnade is formed along one of the sides of the building. Windows of small dimensions are found in the apse and in the galleries; mouldings and other decorative features are rare.

In North East Syria, the churches generally are of the basilica type, having apse and side-chambers, the former, in some cases, presenting a polygonal form externally. In this region, certain examples of an apse of horse-shoe form are found, and there is also a group of churches designed on a central plan in which the dome is a feature of the design. In the basilica type, piers are generally substituted for columns in the longitudinal system of internal arcades, though columns and architraves, and columns with arches, were not unknown. The narthex is generally a triple-arched structure, and western towers were occasionally employed.

In regard to the general architectural character of the churches of this region, the Hellenistic manner is modified by the introduction of Oriental features from the Persian and Mesopotamian sources. On the question of relationship between the styles of those three districts of Syria, geological factors are to be considered. In the

North, white limestone, which lent itself to carving, was the material at hand. The black basalt of the south, a stone of the hardest description, permitted only the simplest type of masonry; while in the north-east, basalt and brick were utilized to produce work appropriate to their respective potentialities. Subject to the limitation of materials, however, as the architecture of these different regions developed, a tendency to borrow each from the other, is evident here as it is in similar circumstances elsewhere.

In the introductory part of this section, I referred to that element of seclusion, which in the churches of this phase, was imparted to the sanctuary. The Eastern church, at a very early period endeavoured to invest the rites of church observance with a considerable degree of mystery, and made a more distinct separation between clergy and laity than did the early Roman church. Hence the exclusiveness of such a sanctuary as that of Djemla, North Africa and that at Pelopenesus, where it is cut off from the people by a solid screen wall and formed into a "holy of holies".

This point of difference between eastern and western custom may be one of many expressions of the persistence of local ideas and practices. Although the civilized world was one vast Roman empire, and the arts everywhere came under the influence of the capital,

yet religion preserved its local colour and form to a very considerable extent. In the East, Christianity did not fail to partake of the sacrificial character of Semitic worship - the Temple was attended by the Palestinian Christians until its destruction - and, while the basic arrangement of the church plan of the East finds its sanction and motif in the idealised church of the Apocalypse of S.John, this, as has been pointed out, bears resemblance with the Jewish conception.

In Rome, however, the church appears to have partaken more of that democratic character which Roman tradition embodied, and in the Roman Basilican church, the form of the sanctuary was much less influenced by the tendency to seclusion which characterised the Eastern type.

In regard to the Syrian churches, this feature, it would appear, is not markedly demonstrated in the evidence offered by the existing remains. "It is evident" says Mr Butler "that in the majority of the Syrian churches, the floor of the apse (presbyterium) was raised above the floor of the nave, and that the limits of the presbyterium were often extended forward of the chancel arch by a sort of platform, the bema.

The limit of the bema was marked by a solid parapet or chancel rail, but there are no remains whatever of a tall iconostasis. Grooves in

the walls at either side, just behind the line of the step, show where the end of the parapet or rail fitted into the wall. In the chapel at Sitt ir-Rûm, where there are no side chambers, a bema extends out in front of the chancel arch; at the angles of the platform, there are shallow sockets forming a right angle, to receive the solid stone cancellus or rail. Nowhere in all these basilical churches are there any remains or even suggestions of a high iconostasis, with or without columns, although several writers assume the former existence of such a feature. The only detail resembling an iconostasis was found in the little chapel at Bānakfûr."

De Vogüé, describing the church of Qalb-Lousé, has the following reference; "On remarque en outre les traces d'un iconostase qui montait jusqu'a l'ordre supérieur, mais qui a été exécuté après coup et ne paraît pas avoir fait partie du plan primitif."

Notwithstanding the absence of positive evidence as to the existence of a screen wall[I] between nave and sanctuary, the fact of the presence of such barriers as have been noted, points to a certain recognition of the principle of seclusion.

Moreover, there seems to me to be something in the use and arrangement of the side chambers which suggests the same principle.

The use of the prothesis and diaconicon was a feature of the Eastern church and not of the

I. The "beam & curtain" arrangement has been noted by J.P.W. Young: "Greek Influence on the Early British Church" Trans. Scott. Ecclesiological Society, 1926. p. 112. and appears to be indicated on plan of Church at Hass, Syria - facing p. 117.

Western in the early phase. It spread to North Africa and to the early Visigothic architecture of Spain, appearing finally in the early Christian church at Silchester in England. The diaconicon was markedly set apart for the officiating clergy. It has been shown that communication between this apartment and the nave was cut off by a door (contained within a square-headed opening.)

A further quotation from De Vogüé bears out the same inference. "Une port, située en dedans de la barrière, et niveau de l'abside, mettait le choeur en communication directe avec le diaconicum, dont l'acces se trouvait ainsi réservé aux seuls membres du clergé."

Two more references from "Early churches in Syria" touch upon this question of seclusion. "I have seen only one example in Syria of an enclosed space in the eastern end of the central aisle. This was in the basilica at Zebed, in North East Syria."

"A unique form of choir, and one that would mark a special type of church were it not the only example, was found in North East Syria at Kerrâtîn. In front of the rectangular sanctuary and between the two long and narrow side-chambers, is a partition wall with a doorway in it that enclosed a choir. How high this wall may have been it is impossible to say". In connection with this church, the opening to the sanctuary proper is comparatively small in width.

The position of the altar in the Syrian churches, has a bearing upon the matter. In the rectangular sanctuaries, there is evidence that the altar was not placed beneath the arch, but against the wall,[I] e.g. in a number of these sanctuaries, there are holes in the east wall which suggest a fixture of some sort, and usually two windows with sufficient space between them to permit of an altar being placed in this space. It would appear therefore that the rite was administered in a posture connoting a measure of privacy, and in the light of the information available, from such as the Coptic churches, there is little reason to doubt that the principle of detachment between sanctuary and nave was observed also in the churches here.

The foregoing description of the churches of Syria applies to a series of buildings of date ranging from the 4th to the 7th centuries.

So far as the direct evidence of inscriptions shows, there are apparently no Christian monuments in these regions that are earlier than the period of Constantine's reign. It is difficult therefore to ascertain the character and type of the places of worship which were in vogue in Syria prior to that time.

It seems to me, however, that a primitive type can be deduced even in the absence of material remains.

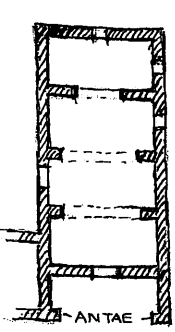
Two factors enter into the question viz. the function of the building and the possible influence of existing types. Here the function of the building was the administration of the religious rite

I. In the Celtic church, the position of the celebrant was before the altar (ante altare) i.e. facing the altar with his back to the congregation.
Warren: "Liturgy + Ritual of the Celtic Church" p. 111.

and the native architecture was Hellenistic. Now, while the function of the building is the governing factor in its design, and in this case the function was that which we call "Christian", there is no period in the history of architectural development where it can be said that a new class of building was not influenced in some degree by pre-existing structures. Therefore, it is no doubt true that the type of the Christian edifice here, was influenced by the forms of existing buildings, the customs of the times and the habits of the race, dominated by the necessity of providing the new requirements of the new faith. In fact, these Christian requirements were imposed upon an established architectural foundation.

The two main requirements were the sanctuary and the nave, and the traditional Greco-Roman temple type - of which the "megaron" is the germ - provided the foundation.

If we consider the simplest forms of Christian edifice of which examples in Syria survive, we find that the plan is not far at variance with this conception.[I] The chapel of Kasr il-Mudakhkhin consists of an oblong hall cut off at the eastern end by a small sanctuary. In southern Syria, as in the church at Anz, this same type is found expressed in the manner of the district, having a series of transverse arches in the nave, with a narrower arch at

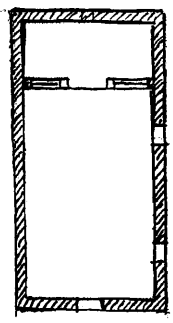


Anz Church.

I G. Gilbert Scott states:- "the Church at Babouda exhibits the simplest form of the Christian church, in principle, identical with the early churches of Ireland". Essay: p. 54.

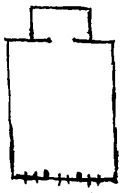
the sanctuary; here too, the classical antae are present.

Prior to the Peace of the Church, such structures as were erected would necessarily be of the simplest character and no doubt of small dimensions as demonstrated by parallel examples found in the catacombs of Rome, in the desert monasteries of Egypt and elsewhere. It was only after peace had been established, that the more highly developed forms of structure such as the basilican, were evolved. Nevertheless, the completely rectangular plan of the primitive phase persisted throughout this development.



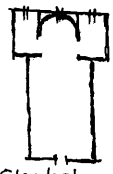
Chapel: BĀNAKFŪR. N. SYRIA.

In concluding this section, I shall allude briefly to the character of the ornament associated with Syrian ecclesiastical architecture.



Church at VYŶN.

On account of the nature of the materials available, the employment of mouldings was more general in Northern Syria than in the other regions of the country. In the churches of the 4th and 5th centuries, the mouldings were of a comparatively simple character, consisting of convex and concave forms, together with fascias and bevels. In course of time, the enriching of mouldings by decoration of various forms was effected. A striking feature in this direction is the use of a cusped cresting added to the band of mouldings. We also find the volute or spiral loop at the termination of the



Chapel. IL-ANDERÎN.

moulding which frames an opening, a detail which is characteristic of the architecture of Northern Syria during the 6th century. The use of incised mouldings was also a feature. While in general, the mouldings were of classical type, the curvatures were sometimes at variance with the standard forms, a notable instance being found in the curve of the cyma-recta.

When the fascia is employed as an outer member, it is decorated with interlaced ornament of double-strand plaits, or with a highly conventionalised grape-vine pattern.

As an intermediate member, the ornamentation may be the bay-leaf pattern, a braided pattern resembling the guilloche, a chain pattern, or double chevron.

The large ovolo is enriched with a row of symbolic discs or with acanthus ornament having a disc in the middle.

The narrow ovolo has a leaf pattern or a form of egg ornament, of the character of that of the egg and dart.

The decoration of the wide cavetto usually takes the form of a row of erect acanthus leaves; that of the torus, twisted flutings or overlapping leaves.

Except when employed as a heavy cornice or hood moulding, the cyma-recta was usually unornamented; in the former case, it was classically treated with

honeysuckle and acanthus forms. The rarest type of moulding in Syrian Christian architecture, is the cyma-reversa, and when employed, it was not decorated.

The disc is a characteristic feature of this architecture. It carries symbolic devices, the cross being the chief motif. Such figures as the lily, the rose, the dove, the wafer and the lamb occupy the "quarters" formed by the arms of the cross.

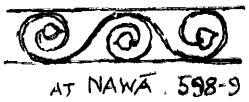
Of the system of ornamentation, the classic survives chiefly in the acanthus ornament, in dentil mouldings and the many varieties of bead and reel which are found.

4-DOUBLE CORD PLAIT - BĀBISKĀ 480 A.D.

Of the more oriental type, the interlaced patterns and the vine scrolls have peculiar interest in respect of similar forms to be found in Celtic art.

The capitals of columns include Doric of the Roman form both pure and transformed; Ionic invariably of a debased type; Corinthian of a great variety of forms often offering little resemblance to classic examples beyond general outline and proportions; in other cases the classic model is closely followed. In addition to the classical types, there is also a form of capital resembling that adopted in Byzantine work, having a square abacus surmounting an inverted truncated cone often carved with interlacing ornament.

Vine Scroll - on Lintel at DJĀZ.



AT NAWĀ. 598-9 A.D.

In passing to consider the architecture of Christian Egypt - the sister style of the Syrian - which, with that of the latter, forms an offshoot of the classic stem, distinct in origin from the Roman Basilican and Byzantine branches of Early Christian architecture, some reference to their relationship is of interest.

In the first place, the two churches were as one, as were all the churches of the Christian East, in regard to their supreme function. In the second place, there is reason to believe that intercourse between their priests was common, and with this intercourse, there was the interchange of ideas.

As to architectural forms, between Antioch and Alexandria on the one hand, and between the monastic centres of Syria and those of Upper Egypt on the other, there was undoubtedly a relationship and in some respects a similarity. In the minor arts, - ivory carving, goldsmith work, and book illustration - there was strong influence from Alexandria and Asia Minor, upon Syrian craftsmanship; but in the sphere of architecture, it was Syria, having the richer tradition in the art of building, that was the giver. In fact, there is no evidence that Egypt, early or late, had any appreciable influence upon the Christian architecture of Syria; and such similarities as exist, as in the use of the prothesis and diaconicon, are to be attributed to Syrian influence upon Egypt.

Coptic.[1]

The ancient Egyptians are now represented by their descendants, the Copts, whose ancestors were converted to Christianity in the earliest ages, and whose patriarchs claim their descent, in uninterrupted succession, from S. Mark who was buried at Alexandria, but whose body the Venetians in later ages boast of having transported to their island city.[2]

In Egypt, the predominant type of Christian church edifice is that whose plan is arranged in the basilican manner in respect of the fact that the nave is divided from the aisle on each side by a series of columns of Greek or Roman character.

The usual arrangement shown in such churches presents twelve columns distributed around three sides of the nave, as at Abu Sargah, leaving the eastern side open, but forming a narthex or returned aisle at the west end. The absence of such cross aisles is rare, but it is equally rare now to find the columns of the latter standing free; as in most cases, the spaces between them have been built up, resulting in the formation of a true narthex. The narthex is well defined in a number of the more ancient churches of Upper Egypt, as in the church of the White Monastery near Suhag, which dates from the 3rd or 4th century.

In this building, the narthex is completely screened off from the aisles as from the nave, a single

1. Architectural Descriptions from Alfred J. Butler: "The Ancient Coptic Churches of Egypt."

2. Curzon. "Monasteries of the Levant" p. 85.

central doorway in the screen wall giving access to the church.

The walls of the nave in the churches of this type, are generally carried on a continuous wooden architrave supported by the columns, relieved by arches;- ultimately open arches were employed.

Upper galleries were constructed over the side and west aisles, opening into the nave by large bays between the columns; these galleries being designed to accommodate the women. In later times, when women were admitted into the body of the church, a special place was railed off on the westward side of the building for their accommodation. This division of the nave into men's section and women's section by means of screens is an ancient feature, and was carried out not only in the larger churches, but also in many of the small chapels and oratories.

The division was in all cases across the body of the church, the women being placed behind and westward of the men.

In Coptic architecture, the clerestory form of lighting was not adopted - windows were restricted to small skylights.

The transept is a very rare feature; indeed the cruciform plan was apparently unknown or disregarded in this architecture.

In the chief buildings of the "basilican" class, the floor of the choir is raised two steps

above the level of the floor of the nave, and screened by lattice work. At Abu-ṣ-Ṣifain, this screen is solid, and is pierced by a small, square opening on each side; the entrance being closed by folding doors across which, in early times, a curtain was suspended. The churches have three chapels in the eastern end, those on the flanks being analogous with the prothesis and diaconicon of the Syrian architecture, and the Greek churches. But in the latter churches, these side chapels do not contain an altar; in the Coptic churches, each contains an altar in addition to that of the central sanctuary.

The three chapels are cut off either by a continuous screen or by three screens on the same alignment.

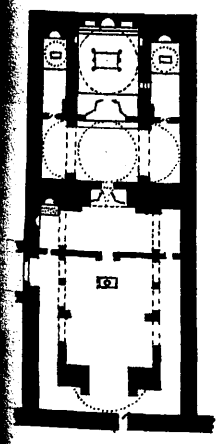
Each of the three altars is detached, and stands in the centre of its chapel; the central is invariably the high altar. A continuous wooden screen divides the three chambers from the choir, and the central sanctuary is divided from the side chapels by walls, with or without doorways for communication. These chapels, of which the central corresponds to the Greek bema or presbytery, are often raised one step above the level of the floor of the choir.

The sanctuary screen is always formed of solid woodwork, enriched with arabesques or geometrical patterns, inlaid with carved crosses and stars of ivory.

Each chapel has a low round-arched doorway, fitted with double doors, over each of which is a Coptic or Arabic text, inlaid with ivory letters.

The door of the haikal is veiled with a silk curtain, having texts, crosses and sacred figures wrought in silver. This hanging is drawn aside during the period of the celebration.

The altar screen is always a lofty, solid iconostasis, - solid in the sense that it is not of lattice construction. In the church of Al 'Adra, in Dair-as-Suriani, the haikal screen consists of a pair of folding doors, each in three leaves, which open against the side walls; when closed, they entirely conceal the altar and its surroundings. In a few of the older churches, the haikal screen is not in alignment with those of the side chapels, but projects three or four feet into the choir space, and a door is formed on each of its returned ends, in addition to that on the face,"an arrangement that clearly points to the ceremonial procession of the greater and the lesser entrance."



In some cases, a small, square opening placed about five feet from the floor, having a sliding shutter, is formed in the screen on each side of the central door. At Abu'-s-Sifain, such windows are found in the choir-screen also; but in neither case do they permit of the congregation viewing the celebration within.

At Anba-Bishoi, the doors forming the haikal screen have been closed permanently to form a partition, and the two inner leaves have been cut to provide a low, arched doorway as an entrance to the haikal.

The eastern wall of the three chapels is generally apsidal, particularly that of the haikal. The apse, however, is internal only, the outer face of the east wall being in almost every case, straight.

In the apse of the haikal, the curve is followed by a series of curving steps at the top of which a bench is formed containing a raised seat or throne in the middle. Behind the throne, there is usually a round-headed niche in the wall, a feature which is sometimes present in the three chapels. In these niches are kept the books, cymbals, candlesticks and other articles which are used for the daily service.[I]

The foregoing description presents the main features of the church edifice in general.

The desert monasteries, however, call for special notice as a class by themselves in respect of their "lay-out" in particular.

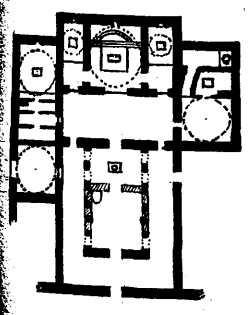
In the Natrun valley, in the Libyan desert to the north-west of Cairo, there exist a few monasteries whose features are much alike. Each monastery is contained within a lofty wall (Dair) having a single entrance. A platform, with parapet, extends around the wall. Within the dair, there is a principal

I. Curzon: 'Monasteries of the Levant'. p. 116.

court and one or two smaller courtyards, around which stand the cells or oratories of the monks, the domestic buildings such as the mill-room, the oven, and the refectory, and the churches. Each monastery has a square tower, containing library, store-rooms and other chambers; its position is always virtually detached.

At Abu-makar, there are three churches, the smaller of which is marked by a detached bell-tower, as is also the case at Dair-as-Suriani.

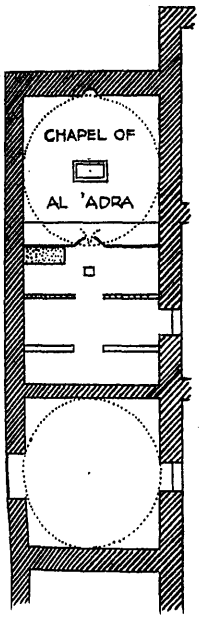
In all the churches of the Natrun Valley, the sanctuary chapels are non-apsidal.



At Dair Anba Bishoi, the principal church consists of nave, aisles and narthex, choir and three chapels.

The choir is cut off from the nave by a solid wall having an arched opening containing folding doors.

The haikal is raised one step above the floor of the choir, and its altar is further raised one step upon a platform. Beyond, against the eastern wall, there is a tier of six steps and a throne. Communication exists between the haikal and side chambers. The roof of the nave is formed by pointed-arch vaulting. The aisles are also vaulted, and are separated from the nave by massive piers which carry lofty pointed arches. The roof of the choir is vaulted at right angles to that of the nave. Domes form the roof of the eastern chapels.



Two auxiliary chapels open from the north and south of the choir respectively. That to the north, which is dedicated to Al 'Adra, has no aisles, and has one altar, the sanctuary being cut off from the nave by an iconostasis in the usual way. The roof of the building is in the form of a waggon vault. The chapel on the south side is of the "central" or square plan, having a domed roof.

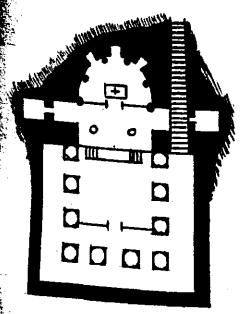
The monastery of Dair-as-Suriana appears to have derived its name from a colony of Syrian hermits, who either founded it or occupied it very early. There are two principal churches within the wall forming the enclosure. The larger building, known as Al 'Adra, has nave, side aisles and return aisle, choir and sanctuaries. The main entrance is on the north side contained within a porch as in Syrian examples. There is also a small, low doorway in the western wall. The choir is separated from the nave and aisles by a thick, solid wall, which divides the church into two portions. The arched doorway in this wall, contains a pair of lofty, folding doors. The floor of the church is all on one level except the haikal, which is raised two steps above the general floor. The three altars are set upon a platform, one step above the levels of the floors of the respective chapels.

The nave is roofed with lofty vaulting, slightly pointed, carried on piers supporting high,

pointed arches. A dome covers the central part of the choir, and is flanked by two semi-domes. There is a large dome over the haikal altar, and two smaller domes over the side altars.[1] The doors between choir and nave are of early date; a Syriac inscription on the posts and lintel fix this as not later than the 7th century.

Between the haikal and the choir, there is a lofty archway closed in the lower part by a pair of high, folding doors, around which is another Syriac inscription indicating a similarly early date.

There are many monasteries situated in the desert regions of Upper Egypt. In the Eastern Desert, in the district associated with the name of S. Anthony, the hermitages, it has been said, outnumbered the dwelling houses, and pagan buildings were turned to monastic use - "Aedes publicae et templa superstitionis antiquae habitationes nunc erant monachorum, et per totam civitatem plura monasteria quam domus videbantur."[2]



In the Nile Valley, there is the Convent of the Pulley, a partly subterranean building, internally exhibiting classic design, and externally of Egyptian character; the White Monastery and the Red Monastery, buildings assigned to the fourth century. A vaulted chapel formed in the narthex of the former is notable in respect of its fine classic architecture. The Dair al Malak contains a group of contiguous churches in which examples of an unique feature are found in

1. British Churches at the beginning of the 4th. century had more than one altar. Warren: "Liturgy & Ritual of the Celtic Church" p. 91.

2. Rosweyde: "Vitae Patrum" (Antwerp, 1628) pp. 350.363.

the projecting apse, a characteristic of Syrian work. The presence of an atrium and the structure of the iconostasis in which there are two side doors and no central entrance, also suggests Syrian influence.

In general, the main features of Coptic church architecture may be summarised as follows:-

Orientation is always observed; the entrance is almost invariably towards the western side, the sanctuaries at the eastern end. Three altars within three chapels is the common arrangement. The square eastern end; the use of the iconostasis; the cross aisle or narthex; the division of the church into men's and women's sections; the employment of the waggon vault as well as the dome, are all features.

In the monasteries, the grouping of churches and subsidiary buildings within a wall, together with the tower, is characteristic.

In regard to architectural character, the classic style, chiefly Roman, is expressed chiefly in the interior; externally the buildings were severely plain. Naturally, the influence of the magnificent buildings of the ancient Egyptians must have been felt, but in general, there is no decided impress of such architecture upon the Coptic edifice.

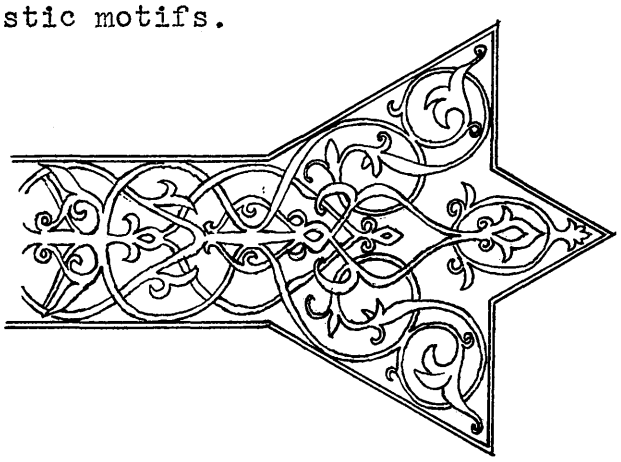
Curzon, in his "Monasteries of the Levant" states: "It has struck me as remarkable that the architecture of the Churches in these most ancient monasteries is hardly ever fine; they are usually

small, being calculated only for the monks, and not for the reception of any other congregation." This is of particular interest in connection with Irish parallels as will be seen.

From the same source, and in the same connection, another reference may not be inappropriate here. "The Armenian monasteries, with the exception of that at Etchmiazin and one or two others, are much smaller buildings than those of the Greeks; they are constructed after the same model, however, being surrounded with a high, blank wall.

Their churches are seldom surmounted by a dome, but are usually in the form of a small barn, with a high-pitched roof, built, like the walls, of large, squared stones."

In the sphere of decoration, variegated marbles were employed for wall-facing and paving. Mosaic, consisting of minute pieces of coloured marbles and porphyries of all shapes was employed in a variety of conventional designs. Ivory chased with arabesques, and ebony inlaid with carved ivories; pictures of New Testament subjects and ornamented inscriptions were all brought into the decorative scheme. Foliageous scroll-work and interlacements were characteristic motifs.



The Monastery of Lerins.

With the architecture of the Copts in our vision, let us move far westwards to the Islands of the Lerins which lie in the Mediterranean, off the south coast of France. Here, in the 5th century, S. Honorat founded his famous monastery.

Barralis,[I] the historian of the abbey, states that in the island of S. Honorat there were seven chapels, named as follows:- The Holy Trinity, SS. Cyprian and Justina, S. Michael, The Transfiguration of our Saviour, S. Caprasius, S. Peter, and S. Porcarius.

The Church of the Transfiguration of our Saviour was octagonal in plan and had a low, semi-circular apse. Its roof was in the form of a slightly raised dome.

The chapel of SS. Cyprian and Justina was a simple structure lighted by two lancet windows and roofed with an arched vault.

The Chapel of The Holy Trinity consisted of a nave with semi-circular vaulted roof divided into two parts by a groin. The oblong building terminated in three apses, and a narrow arcade separated the nave from the apses.

Meagre as they are, these references show the remarkable similarity which exists between the architecture of those chapels and that of the churches of Christian Egypt.

I. Barralis : 'Chron. Lerins ; I. p. 376.

The triple apse, the separation between nave and sanctuary, the waggon-vault and that peculiarly Eastern feature the dome, all testify to the extension westwards of that manner of church architecture, formulated in Syria and in Egypt, which I have chosen to call the First-Christian.

The same characteristics apply to the architecture of the Church in Gaul, where Egyptian monasticism found early acceptance. The connection and relationship will be dealt with later, and I shall now pass over to Ireland as the venue of the remotest extension of the First-Christian series, the Scoto-Celtic ecclesiastical architecture.

Scoto-Celtic.[I]

In dealing with the ecclesiastical architecture of Ireland including that which was developed in Scotland, I shall first describe a few typical examples of the "lay-out" or arrangement of the monastic settlements.

On the island of Inismurray (INIS MUIRDOIG), near Sligo, there is to be found a very good example of an Irish monastic establishment of the 6th century, known as the monastery of S. Molaise.

A high wall, approximately circular and of varying thickness, surrounds an enclosure containing several huts and three churches. A low entrance leads into a passage paved with slabs, which in turn,

I. A comprehensive series of Illustrations — PLANS and PHOTOGRAPHS — is contained in Dunraven's "Notes on Irish Architecture". Fine Photographs are shown in Champneys' "Irish Eccles. Arch."

A neat set of drawings is shown in the "Quarterly" of the Royal Incorporation of Architects in Scotland — No. 37 — 1931. Including an interesting restoration of the Maghera Doorway.

Scottish examples are illustrated in "Ecclesiological Notes" by T.S. Muir. and in Macgibbon & Ross: "Eccles. Arch. of Scotland".

is connected with a chamber having a doorway to the enclosure. The enclosure is divided by inner walls, and between these and the encircling wall the ground in certain parts, is raised to form something of the nature of terracing, a large open space being left around the principal church. The terrace thus formed contains a number of passages, one of which appears to have connected a small building known as Molaise's House with the church called Teampull na Teinidh. Some of these passages open out into cells. The huts within the enclosure are of the "bee-hive" type, the roofing being constructed on the trabeate-arch principle. Of these huts, that called the "School-house", is nearly round; it has a small window, and a low doorway, having inclined jambs.

Another, called the "Place of Prayer", is elliptical on plan, and has a smaller room opening out of it.

The third is called the "Sweat-house" and appears to have been used for medical purposes where heating was required.

The church buildings are of rectangular plan, and of later date than some of the other structures, this monastery being an example of the adaptation of an ancient fort to the monastic plan of the period.

Another example of the early monastery is that of S. Finan on the Skelligs, the "S.Michael's

"SCEILIG MHICHÍL"

Rock" of Ireland, an island off Bolus Head, near Valencia Island. On a shoulder of the rock, containing a plateau or platform, the monastery was erected, and was enclosed by a wall carried along the edge of the precipice, and approached by a series of steps cut in the cliff. Within the enclosure are six cells of "bee-hive" type of the usual construction, but rectangular internally. On the outside of the roofs, a number of stones project beyond the general surface, probably for the purpose of fixing an outer covering of turf. In some of these cells, holes are provided to emit the smoke; cupboards are formed in the walls, and there is also present an arrangement of projecting stone pegs for the purpose of suspending book-satchels.

In one of the doorways, an insertion of four quartz stones forming the shape of a cross is found over the lintel.

There are also two oratories of similar construction generally, but one of them is square on plan, the walls sloping inwards on all sides.

The church, known as that of S. Michael, is of rectangular plan, the south wall, constructed without mortar, being coeval with the other buildings, but the remainder is of later date. In addition to these structures, there are two holy wells and five burial grounds, together with many free-standing crosses of rude character.

Coming now to Scotland, we find in Eilean Naomh, one of the Garvelloch group in the Firth of Lorn, the remains of a monastery of a type analogous with those of Ireland just described.

Here there is evidence of an encircling wall of earth and stones, and the remains of the walls of the habitations associated with the establishment.

A small court separates the huts from the chapel; a rectangular building, described by Muir,[I] as having the walls almost entire, but the gables absent, and constructed of rude masonry in which no lime or cement of any kind has been used.

Among other remains to be observed, are a burial-ground, a water-spring called S. Columba's Well, and a pile of loose masonry resembling an altar, flanked by a slab incised with a cross, the structure being traditionally regarded as forming the tomb of Eithne, the mother of S. Columba.

Champneys refers to the remains or traces of a building which appears to have been the Abbot's House, and another in the vicinity which may have been the hospitium, or guest-house.

There is also a kiln for drying the corn before it was ground, showing a cavity and aperture for the fire. In this connection it may be mentioned that on the plan for the rebuilding of the monastery of S.Gall, an Irish foundation, at about 829 A.D. a some-

I. T. S. Muir : 'Ecclesiological Notes on some of the Islands of Scotland': p. 18.

what similar building is depicted and described as "locus ad torrendas annonas".[1]

From these examples, the general arrangement of the early monasteries is seen to consist of an encircling wall (caiseal) within which are set out chapels and oratories, habitations for the monks, and such auxiliary structures as were necessary to accommodate the needs of a community of ascetics.

The monastery was, indeed, an ecclesiastical village of the pattern known among the Egyptian as the Laura, comprising, typically, in addition to the cells of the monks, a "great-house" (tech mor), a church (teampull) an oratory (aregal = oraculum) a kitchen (cule or cuicenn) a refectory, (prainntech) and a guest-house (tech n-oiged).[2]

The abbot, clergy and monks had each their separate cells, and such other houses as have been mentioned, were also separate edifices.

The origin and antiquity of this kind of monastic establishment is given by Bingham,[3] Origines Ecclesiasticæ, as follows;

"The first sort were commonly known by the name of anchorets, from their retiring from society, and living in private cells in the wilderness. Such were Paul and Anthony and Hilarion, the first founders of the monastic life in Egypt and Palestine, from whom other monks took their model. Some of these lived in caves, as Chrysostom says

1. Mabillon : Annales Benedictini : ii pp570-571.
2. Whitley Stokes . Tripartite Life of S. Patrick . Part I. clv. clvi.
3. Book VII . Chap. ii . and Petrie

the monks of Mount Casius, near Antioch, did; and others in little tents or cells.

When many of these were placed together in the same wilderness at some distance from one another, they were all called by one common name, Laura; which as Evagrius informs us, differed from a Coenobium or community in this, that a Laura was many cells divided from each other, where every monk provided for himself; but a Coenobium was but one habitation, where the monks lived in society, and had all things in common. Epiphanius says "Laura or Lubra was the name of a street or district, where a church stood at Alexandria; and it is probable, that from thence the name was taken to signify a multitude of cells in the wilderness, united, as it were, in a certain district, yet so divided as to make up many separate habitations; whereas a Caenobium was more like a single house for many monks to dwell in."

Such, then, was the character of a Scoto-Celtic monastery - a "Laura", qualified in some cases by the use of a common kitchen and refectory, and surrounded by a wall; such too, was the kind of arrangement upon which the monastic establishments founded by the Irish ecclesiastics on the Continent, were based.

Hermitages (disert) often existed in the immediate neighbourhood of monasteries. Such

establishments were laid out on the same general plan as the larger monasteries, having a wall around, "in order that, with a view to restrain the licence both of eyes and thoughts and to raise up and direct the mind wholly to heavenly longing, the pious inhabitant might be able to see nothing from his dwelling except the heaven."[1]

Such places were also used for temporary "retreat", just as S. Aidan "used to retire to Farne Island for private prayer and silence."[2]

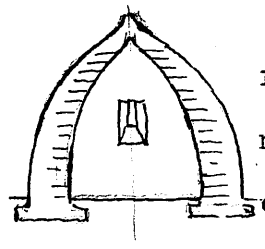
"Those who desired to follow a more ascetic life than that which the society afforded to its ordinary members, withdrew to a solitary place in the neighbourhood of the monastery, where they enjoyed undisturbed meditation without breaking the fraternal bond. The abode of such was called a "disert" from the Latin "desertum"; and as the eremitical life was held in such honour among the Scotic churches, we frequently find the word Disert an element in religious nomenclature. There was a Disert beside the monastery of Derry; and that belonging to Hy (Iona) was situate near the shore in the low ground north of the cathedral as may be inferred from Port an Diseirt, the name of a little bay in this situation. The individual who presided here was styled the Diserteach, or Ceann an diseirt, 'Superior of the Hermitage'."[3]

Having described the general arrangement of the monastic establishment, the character of the

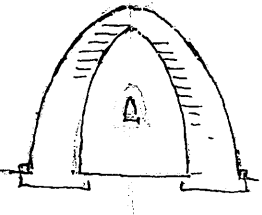
1. Bede: "Vita Cuthberti" in Migne, "Patres Latini" cc xvii, xviii.
2. Bede. Hist. Eccles. iii. 16.
3. Reeves. "Adamnan - Life of S. Columba." cxxiv., cxxv. quoted by Champneys. "Eccles. Arch. of Ireland.

architecture of the ecclesiastical edifices will now be considered.

Those structures may functionally be differentiated into two classes viz: oratories and churches, but architecturally they may be grouped.



The oratory at Cell Mealcédair is a rectangular structure, built of stone without mortar. All its walls slope inwards, having corners of large, hammer-dressed stones. The roof also was constructed of stone, vaulted internally on the trabeate-arch principle, to form an "ogee" at the apex. The building is lighted by one square-headed window placed in the eastern wall above a little altar formed of rough stone. The doorway is placed in the western wall and displays the characteristic inclined jambs supporting a lintel.



Near this oratory, is another of interesting character, known as that of Gallarus. The structure is built upon a plinth, and both externally and internally is of the form of a pointed arch, trabeate in principle, the stones being laid in courses, dressed outside to throw off the rain. The end walls have a curved slope or "batter" and the ridge is formed of triangular stones slightly rounded. Each of the gables was terminated by a small stone cross of which the sockets remain.[1] Relative to this feature, it may be noted that in the Oratory called Teampull Geal, near Dingle, a

TEMPUL GEL
mod. Scot. form.

1. Petrie, 'Ecclesiastical Architecture of Ireland': p. 133.

plain specimen of the Irish gable ornament resembling a pair of wings set together, was found in close proximity to the building; a feature, much more elaborate in form, depicted in the Book of Kells, as the ridge terminals of the Temple of Jerusalem.

The oratory has one window in the east wall, having a lintel cut out to form an arch, a device, as has been seen, which is a characteristic of Syrian work. Above the window, are three stones irregularly placed, projecting from the wall internally. The doorway is square headed and has inclined jambs.

Of the oratories of early Christian Ireland, those represented by Cell Mealcédair and Gallarus are in a class by themselves. Borlase [I.] connects them with the "boat" tradition related to tombs and dolmens. In referring to a similar example of this class of structure found in the island of Minorca, he states: "no structure known to architecture resembles so precisely in external form, in the laying of the courses of its masonry and in other details of its construction, the little boat-shaped stone structures found on the south-western coasts of Ireland and traditionally attributed to Christian hermits whose tombs they have in some cases said to contain, as does this Nao dels Tudons" (in the northern part of Minorca).

I. Wm. C. Borlase - "The Dolmens of Ireland" 1897. pp. 701-703.

"That the Irish structures are cemented" (referring now to such as the oratory known as Leaba Mologa) "and that their interior chamber is oblong, are merely details of development; the inverted boat-shape is retained. The very name Leaba or Bed (of the dead) they share to this day with the dolmens of Ireland, of which they are the extant representatives as surely as the present Bedawin tombs of the Jaulan are, as Dr Schumacher (The Jaulan, 1888 p.129) has pointed out, the representatives of the dolmens of that district. In either case, the structure was formed for the cultus of the dead, whether the development of that cultus was to be continued under Pagan auspices or under Mahommedan or Christian, and in either case, its type was to be traced back to that which had been adopted in pagan times for the ancestral tombs." Borlase stated further that actual vessels have on several occasions been disinterred in Scandinavia, and that in cemeteries of the Iron Age, in that country as well as on the more southern Baltic coasts, the ship was a recognised form of sepulchral enclosure.

He also quotes from Sallust[I.] a reference to dwellings resembling inverted ships, in use in Africa. "Ceterum adhuc aedificia Numidarum agrestium, quae Mapalia illi vocant, oblonga, in curvis lateribus texta, quae navium carinae sunt."

I. Sallust: (c.viii, x. edit. Nisard. Paris, 1861)

Miss Stokes[1] appears to hold somewhat similar views; "The oratories of this period and within these cashels, are angular, oblong structures, with walls either sloping in a curve towards the roof, or built in steps, and often formed like upturned boats." ("Later, the boat form was changed to that of the "ark".) "It is not only the old traditional form of the ark, in which the Church was rescued from the flood, but also of the shrine in early Christian art, in which the relics of the dead were entombed. It has always remained the form of the mortuary chapel and often of the tomb itself in Ireland." see foot-note page 143 here)

Fergusson[2] refers to Gallarus as follows:- "It is certainly one of the oldest places of worship in these islands, belonging probably to the time of S. Patrick; and it is also one of the smallest, being internally only 23 feet by 10 feet. It shows the strange cyclopaean masonry, the sloping doorway, the stone roof and many of the elements of the subsequent style, and it is at the same time so like some things in Lycia and in India and so unlike almost any other building in Europe that it is not to be wondered at that antiquaries should indulge in somewhat speculative fancies in endeavouring to account for such remarkable phenomena."

Other writers are less inclined to stress the "cult" motive, confining themselves to considerations of ordinary architectural development.

1. Margaret Stokes: "Early Christian Art in Ireland" - Buildings and Architecture. pp 38-40.
2. Fergusson. Architecture. Vol. 2. p. 117.

Champneys, discussing such structures, says:- "As regards churches, there are several instances of 'bee-hive'-built oratories or small churches. These are almost always rectangular, and it is an interesting question whether this shape is a later development, i.e. whether the original Irish oratory was commonly round, as 'bee-hive houses' and the ancient Irish wooden houses usually (but not always) were. The fact that the end walls of the early square oratories slope inwards as well as the side walls, seems consistent with their derivation from a circular 'bee-hive' shape, and such a change would be easily explained by the influence of the usual plan of chapels (except those which were sepulchral) in the rest of Christendom, an example which, however remote and dimly felt, would be constantly pulling in that direction, in spite of the occasional early round churches which occur, such as S. Costanza and S. Stefano Rotondo at Rome."

Brash[I] expresses the opinion that "the clochan was evidently the original type, and the curve-sectioned structure at Gallarus, the transition stage to the rectangular and vertical walled oratory."

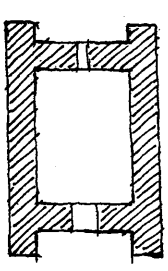
It seems to me that the type of building represented by that of Gallarus is to be regarded as a derivative of the vernacular primitive architecture, related to the building tradition that produced the ancient forts and bee-hive tombs and

I. R.R. Brash : Ecclesiastical Architecture of Ireland : p. 10.

cells, and influenced by that specific character of structure which, from the era of the dolmens, came to be associated with sepulchral monuments throughout the greater part of Europe and elsewhere.

Beyond the penetration of the idea of the rectangular plan, up to this period, the Christian church type of edifice had not definitely impressed itself upon the architecture of such structures as Gallarus. In fact, the building was more nearly allied to the tomb and its congener the primitive pagan temple, than to the Christian chapel.

The extension of the lateral walls beyond the end walls, or, better stated, the recession of the end walls, to form antae,[I] as in Leaba Molaga is, I believe, further evidence of such relationship, and the persistence of this feature in some of the later churches is to be traced to the same source.



In the oratory of Gallarus, we find cut stone and a round headed window in a building which otherwise is of the primitive type; in the church on Eilean Naomh, which, with its upright walls, is a suitable specimen of a more advanced type, there are no traces of its masonry having been built with mortar, so that it is doubtful whether the use or absence of mortar can be taken as a definite index of date.

As a general rule, however, in the churches built with mortar there are characters and features

I. Prof. Baldwin Brown states: "They (the "antae") are clearly connected with the system of roofing -"
"The Arts in Early England" p 25. 26.
I cannot think they have anything to do with roofing, even when carried up the gables as at S. Macdara. Their association strongly appears to be with the wall and the completion of the recess at the top in the case of the latter arrangement.
Roof considerations are suggested in the later 'brackets' sometimes found — features not necessarily connected with antae.

such as serve to connote advancement in the direction of a formulated architectural style. In these churches, the walls are usually of moderate thickness compared with those of the earlier types: they are vertical, or with but a slight inclination; there is a preference for the use of large stones; the arch appears, either as a true arch or by means of cutting one or more stones to the arch form, and, in general, the building assumes a less archaic and more elegant appearance.

The plan of this more advanced type is rectangular, and there are no aisles. The buildings are still of small dimensions. The walls often stand upon a plinth, and very large stones are often employed in their construction, as in S.Mary's, Glendaloch and Teampull (TEMPUL) Benin on Aranmore.

They have no side buttresses, but the side walls often form "antae", as in S.Caimin's Church on Iniscealtra (TEMPUL COEMHAIN), in S. Declan's House at Ardmore and elsewhere.

In the church of S. Mac Dara on the island of Cruach Mhic Dara off the coast of Connemara, those projections are carried up the gables to the apex, but generally, they stop short at the level of the eaves.

The presence of the "antae" together with the peculiarly Greek type of doorway which is characteristic of these buildings, bring about a

somewhat close resemblance to classical models.

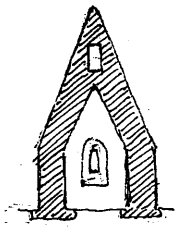
The doorways are a striking feature of those early churches. They are almost always placed in the west wall, an exception being that of Disert Oengus, near Croom, where the doorway was in the south wall. That at Leaba Molaga is formed by two upright stones, inclining inwards, which form the jambs supporting a horizontal lintel; a form which appears to be a direct descendant of doorways found in the dry-built cells and forts. In general, however, the stones of the jambs are laid horizontally, but occasional exampled of "long and short" work occur. The opening is often framed with a projecting band as at S. Mary's, Glendaloch; at Dulane (TULÁN), this band consists of two incised, parallel lines.[1] At S. Mary's, Glendaloch and at Killiney, there is a cross cut on the underside of the lintel; at Fore, a cross within a circle is carved upon a raised panel over the entrance, an arrangement bearing a close resemblance to many in Central Syria.[2]

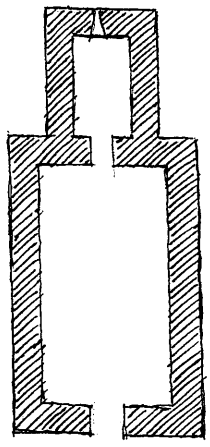
In regard to windows, the early churches had one window only, placed in the east wall. In many cases, these are round-headed, formed by "arcuated lintels." Sometimes the window-head is of triangular form, the courses of masonry being roughly cut to that form. In Teampull Brecain and Teampull Mac Duach on the Aran Islands, the

1. Dunraven. 'Irish Architecture'. Vol. I. p. 29.
2. De Vogüé. 'Syrie Centrale'. plate 136.

triangular head is attained by setting two stones inclined to an apex. Square-headed windows are not uncommon, and the jambs, like those of the doorways, are almost always inclined; a deep splay is often formed on the inside.

The roofs in many cases, were constructed of timber, covered with a thatching of reeds or straw; but particular interest is attached to the stone roof as a characteristic feature of the early Irish churches. The pitch of the roofs was strikingly steep, necessitated, in the first instances, by the method of construction employed viz: a system of corbelling on the trabeate-arch principle. The roof of S.Molua's Oratory on Friar's Island, CILL DÁLUA Killaloe, is triangular inside as well as outside - the corbelling following a straight inclined line instead of an arch - a structure which offers a good example of this steepness and how it is brought about.





When the arch came into use, the pitch of the roof continued to be steep, but the space between the crown of the vault and the ridge of the roof was utilized to provide a chamber or "overcroft". "S. Columba's House" at Kells, Co. Meath, is an example, described by Champneys as follows:- "Its length internally, is 19 feet; breadth, 15 feet 5 inches; height to the ridge, 38 feet. The walls are nearly 4 feet thick, and

the crown of the vault is 23 feet above the floor. The building had three stories, a wooden floor dividing the two lower ones. This is now gone, but its place is marked by a recess in the wall and by the original entrance which was in the west wall, opening to the first floor. The whole would form a complete monastic establishment on a small scale. The ground floor was in all probability, the chapel; the altar appears to have been away from the wall towards the middle of the floor; there are recessed seats in the west wall. The first floor, covered by the barrel-vault, would be the refectory and living-room, and the uppermost storey, between the vault and the outer roof, was, no doubt, the dormitory."

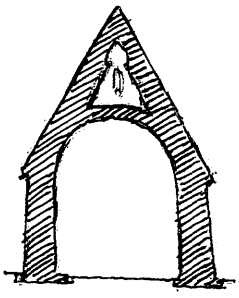
The stability of the roof is assisted by the introduction of two cross walls in the top storey, resting upon the vault. These walls have each a doorway in the centre, formed of inclined jambs and arched heads. The chambers are lighted on the east by a square-headed window, and at the west end by two openings, beneath which is a trap-doorway, opening through the vault.

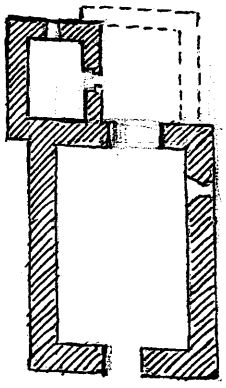
"S. COEMGHEN. Kevin's House" at Glendaloch is another example of a building of this type. Here again, is the high stone roof, and the barrel-vault with overcroft. Champneys states that there was a lower storey of wood beneath the vault, at

the west end only.

The entrance was in the west wall, a square-headed doorway, having inclined jambs, the lintel being ornamented with a projecting band, and relieved by a semi-circular arch. The "springing" of the roof is marked externally by a projecting string course which is carried also along the gables. The lower storey was lighted by three small apertures, of which two are plain and placed in the east end one over the other, and the third in the south wall. Of the eastern windows, the upper is an oblong loop, and the lower has an arcuated lintel.

The overcroft is lighted by two small oblong loops placed one at the east and the other at the west end.





The above description, in the main, indicates the character of the original building; subsequent additions include the following features:- a miniature round tower at the apex of the west gable, the entrance to which is from the overcroft; a chancel or sanctuary, having a stone roof, the east wall being cut through to form an opening with a semi-circular head; a stone-roofed sacristy, placed on the north side of the chancel. Petrie considers that these additions were made not long after the erection of the original building.

As to the date of "S. Kevin's House", Petrie[I.] states; "That this building, in its original

I. Petrie, 'Eccles. Arch. of Ireland', p.435.

state, was at once the habitation and oratory of the eminent ecclesiastic to whom the religious establishment of Glendalough owed its origin, I see no reason to doubt; and it is highly probable that it received, shortly after his death, those additions which were necessary to make it a church, fit for the worship of those who would be led thither from reverence to his name."

If this be a correct view, the original building might be assigned to the beginning of the 7th century, Kevin, it is recorded, having died about the year 618.

"S. Columba's House" at Kells, according to Miss Stokes, is dated at 807 A.D., and from the evidence of structure, that of S. Kevin would appear to be a contemporary of the former, a view which would the better fit the latest opinion regarding the era of the round towers of which, as has been mentioned, a miniature, albeit of somewhat later date than the main structure, forms a feature of "S. Kevin's House."

The foregoing descriptions of these few buildings may suffice at this stage to represent the general character of the architecture of the period with which we are dealing.

In brief, the "bee-hive" hut and the caiseal are survivals of the native, primitive tradition of pagan times; a type of architecture related to the "root-styles"; and from which certain

features, such as doorways, were carried forward into succeeding developments. Imported or evolved in connection with the introduction of Christianity, were the oratories and churches, structurally distinguished by the rectangular plan and generally in the latter, by cemented masonry.[I.]

These buildings were of small dimensions, and consisted of a simple, oblong chamber, having its longer axis east and west. At first, the native construction was expressed in the curved side and end walls closing over to form the roof. Later, in the 7th and 8th centuries the walls were vertical, and the roofing specialised. "Antae" and pediment gables are found. Barrel-vault roofs of stone, displaying transitional stages between the trabeate and true arch, were characteristic. This feature of the stone roof, supported on an arch, was retained in small structures down to the 12th century.

In the 9th and 10th centuries, sanctuaries or chancels, having arched openings to the nave, were added. In the case of S. Molua's Oratory, Friar's Island, Killaloe, a nave was added to the original oratory which then became the chancel. The church called S. Kevin's House, already described, affords a good example of a chancel added to a single-chambered oratory, but no real arch was formed at the opening between them. In general, however, the opening

I. I have referred (p.134). to Miss Stokes' "Ark" motif for these structures. I have not found that this motif enters into the "First Christian" architectural conceptions.

between nave and chancel was arched on the true-arch principle, the radiating arch, it would appear, having been introduced about the same time as the chancel, the sloping jambs continuing to be employed until the introduction of the Romanesque style.

I shall now touch upon the matter of ornamentation. Prior to the impress of Romanesque influence, the churches of Ireland were almost devoid of architectural decoration so far as stone-carving is concerned; there remain, however, some few churches in which such decoration was attempted. Of such elements of decoration, the bands or "architraves" around doorways have been noticed and also the crosses cut on lintels. A Celtic cross carved in relief within a panel, now built into the churchyard wall at Fahan on Loch Swilly, is likely to have formed part of the church which is known to have existed there.

The carved figures, supposed to represent S. Kevin with an ecclesiastic holding a crozier of the old Irish form on one side, and a bell-ringer on the other, part of which stands over the "Priest's House" at Glendaloch, may possibly belong to an older building. There is an animal carved on a stone in the west wall of Teampull (TEMPUL) Mac Duach on the Aran Islands; a piece of interlaced ornament is carved on the door-jamb of a church on the Mullet, Co.Mayo and a somewhat similar feature is found on a stone in the wall of S. Ciaran's Church at Clonmacnois; (CLUAIN MIC NOIS.)

there is also at Teampull na Griffin at Ardfert, a carving of interlaced dragons and ropework inserted in a jamb of one of the windows. The doorway at Maghera, Co. Londonderry is a singularly fine one. The jambs are recessed, having an outer and an inner "architrave". Above the lintel, is an elaborately sculptured panel representing the Crucifixion, and depicting apostles, angels, Longinus and soldiers.

On the door-jambs there are various patterns; foliage slightly interlaced, chequer-pattern, spirals, vine-patterns, a bird, and the figure of an ecclesiastic wearing the pointed Gallican cap.

The doorway of the church at Banagher, in the same county, is generally similar to that of Maghera in point of form, but here the enrichment is confined to a simple moulding carried along the inner edge of the "architrave"-frame. The older part of this building, the nave, is assigned to about 1100 A.D., and the Maghera doorway to the same period or not earlier than the 11th century.

To proceed further than this in noticing examples of an advance in the employment of decoration to these churches, is to enter into the question of when the Romanesque influence was first felt.

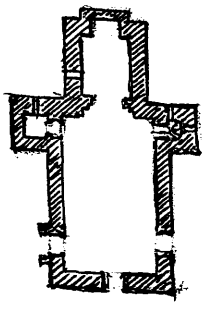
This has been the subject of considerable controversy.

Within the scope of my subject, it is

not necessary for me to contribute to this discussion at length. The character and features of the typical architecture of the period prior to the definite appearance of the Irish Romanesque style, have been noted and described. Obviously, there must have been some sort of transition period; new ideas connoting new motifs would inevitably filter through to Ireland from outside sources and gradually graft themselves upon the more or less stabilised architecture of the definitely pre-Romanesque or Scoto-Celtic style.

As to when this transition came about, the evidence of the structures themselves makes it clear that the ecclesiastical architecture of Ireland became definitely Romanesque towards the end of the 12th century, and the beginnings of this influence were felt probably more than a century earlier.

It is to be noted in the use of the term Romanesque, that, as Champneys[I.] has stated, it would be a great mistake to suppose that 12th century Irish architecture is in general a mere copy of that which is found in England or Normandy of about the same period.



TEMPUL CORBMAC MAC CARTAIG.

At Cormac's Chapel at Cashel, for instance, the square transverse ribs of the barrel vault over the nave, and the moulded diagonal vaulting-ribs of the chancel, together with the radiating pointed

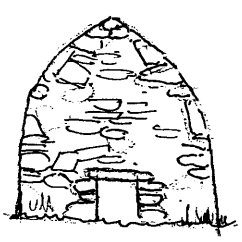
I. Champneys. "Irish Eccles. Architecture". p.120.

arch which carries the external roof, are parts of a building which is in plan, the direct descendant of those with double stone roofs such as that at Kells already described; in fact, in Cormac's Chapel, the vaulting is but a more highly developed or perfected expression of the earlier idea.

So too, the plan of the Irish Romanesque Church follows the old disposition - a nave and square-ended chancel or sanctuary, without aisles. Without pursuing the matter further in regard to details, it may be said that the Romanesque style of Ireland was evolved by superimposing Norman features upon Irish buildings, and that the native tradition was never entirely submerged.

Before proceeding further in the matter of the examination of Scoto-Celtic architecture in general, I shall refer to a few examples of those outliers of the Irish group which are to be found in Scotland.

Two of these are of the "Gallarus" type, as the following brief descriptions bear out.



On Eilean Mor, one of the Flannan Isles which lie to the westward of Lewis, "the chapel of S. Flann, or Teampull Beannachadh as it is commonly called, stands nakedly about the middle of the slope..... It is a very primitive looking thing, composed of rough stones joggled compactly together

without lime. The form is a squared oblong, but not strictly regular..... The walls vary in thickness, taper a little, and are covered with a stone roof internally flat, but following the obtusely pointed or cradle form of the gables outside. A narrow squared aperture, scarcely 3 feet in height, in the west end, is at once a doorway and window."

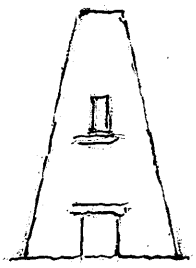
Differing from Gallarus in respect of the gables being vertical and the ceiling flat, the "boat-shape" of the external structure, the general proportions and dimensions and the small doorway in the west wall, proclaim at once their kinship.

The other example is that oratory known as Teampull Sula Sgeir. On a narrow and lofty rock situated ten or twelve miles to the south west of North Rona and about forty miles from the Butt of Lewis there exists "a rude chapel with a stone roof. On the outside, the roof of this primitive cell is of curved form; but inside, the rude vaulting, which may be said to commence almost from the ground, finished somewhat short of the summit in so many heavy slabs laid horizontally across.

Entrance to it is by a low and very narrow flat-topped doorway with sloping jambs in the south wall.

The only window is a small one of squared form, in the east end, under which is an altar, flanked by slabs set on edge and raised upon a

slightly elevated dais."



An example showing a structural resemblance to the oratory of S. Molua, on Friar's Island, is that of the Chapel of S. Ronan, North Rona, a structure in which like the former, the original oratory was enlarged by the addition of a nave, to form a church with nave and chancel.

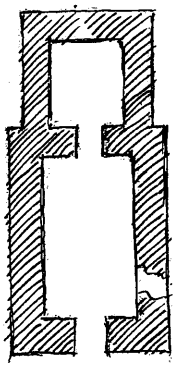
"The end walls lean inwardly a little, the side ones so greatly that when they meet the flat slab-formed roof, they are scarcely two feet apart." In S. Molua's oratory, the walls and roof are differentiated, here they are not; nevertheless, the structures are of the same type, the former being of more advanced construction.

Of churches built in the simple Celtic style of one oblong chamber, having vertical walls, and doorway with inclined jambs, there are many examples in the West of Scotland.

In these structures, there is some variety in the position and number of window openings, these, it would appear, being arranged to suit local conditions with special reference to the exposure.

As in Ireland, a further development in the plan of these buildings is found in the churches containing nave and chancel, such as that at Lybster, Reay, in Caithness.

The nave of this church is about 18 feet long by about 11 feet broad, and the walls are about



4 feet thick. In the west end, is an entrance 2 feet 3 inches wide at the bottom, and 1 foot 9 inches at the top. The doorway is square-headed, the lintel having wall-rests of about 2 feet 6 inches. Another entrance has been formed in the south wall near the west end. There is now no trace of a window, but one may have existed in the place of this doorway.

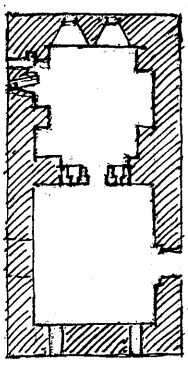
The entrance to the chancel is 2 feet 9 inches wide at the bottom and 2 feet 1 inch at the head, which is flat, like the west entrance. As in all cases, the chancel is square-ended, and is practically square, being 11 feet 3 inches east and west, by 10 feet 9 inches north and south inside. There is no trace of a window, but as the chancel has been rebuilt, a window may have been present in the original structure.

I have described this building in some detail, as its features conform very closely to type. Here are observed the characteristic proportions of nave, the square-ended sanctuary, the narrow opening between nave and sanctuary, and the square-headed doorways with inclined jambs.

An example of the barrel-vault with overcroft is found in the church of S. Carmaig, Eilean Mor off the coast of Knapdale, Argyll.

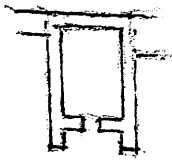
"The chancel is covered by a low waggon-vault, between which and the external roof, there is

a chamber lighted by a square window in the gable. In the east end are two small round headed windows, placed considerably apart, the north one having its interior sill underdrawn and levelled for an altar."[1]



It is interesting to notice that, in this church, the arched opening to the chancel has been reduced by building a stone screen wall containing a narrow, square-headed doorway, having a small aperture on each side of it.[2]

These references may be sufficient to show the architectural connection between the early Christian churches of Ireland and Scotland. As in Ireland, we have in Scotland examples of churches associated with bee-hive huts, sometimes surrounded by a wall; the types of structures are in general, of similar character; groups of chapels are found resembling similar groups in Ireland - in fact, there is no lack of evidence to show the development in Scotland, of a style of ecclesiastical architecture similar to that of the parent isle.



At Iona, there is a small building to the North of the West door of the Nave of the Cathedral. It has a western door, with "antae", and had a high pointed stone roof resembling the early Irish churches.
Mr. J. Jeffrey Waddell, (of Dr. P. MacGregor Chalmers, who carried out the restorations there) believes that this building is the "Church of S. Columba."

1. MacGibbon & Ross. "Eccles. Arch. of Scotland" vol. I. p. 90
2. do do. do vol. I p. 65.

PHYSICAL SIMILARITIES BETWEEN SCOTO-CELTIC AND EASTERN GROUPS OF THE FIRST-CHRISTIAN SERIES.

Petrie states that the Irish churches "in their general form, preserve very nearly that of the Roman basilica, but they never present the conched semi-circular absis at the east end, which is so usual a feature in the Roman churches."[1]

Apart from the fact that the Roman apse was not habitually in the east end, it falls to be added that no aisles are ever present in the Irish churches, and in the absence of both apse and aisles, the two features which essentially distinguish the Roman basilica as such, I cannot see that Petrie's view can be sustained.

Architecturally, there is little or nothing to connect these churches with the Roman Christian style.[2] They remain non-basilican throughout their development and their general character and appearance presents nothing that is distinctively Roman. The arch is present, it is true, but this feature soon became common to many architectural styles. Nor is the division of the church into nave and chancel the prerogative of the Roman Christian architecture. In fact, in regard to Scoto-Celtic architecture we must seek

1. Petrie: 'Eccles. Arch. of Ireland'. p. 162.

2. G. Gilbert Scott: "In all the schools of church architecture which trace their origin to Rome or to Byzantium, we find invariably the apsidal termination" "Essay" p. 4.
v. also. Cox: "The English Parish Church" p. 70.

elsewhere to find such physical affinities as will connote relationship of kind.

I shall now endeavour to show that in the styles of the First-Christian series, Scoto-Celtic architecture finds its counterpart - not expressed sharply as a replica of any one of its phases, but rather as a reflection of its general character.

The similarity between these phases of architecture is helped out by the circumstances that the native primitive architecture of Ireland was of a very similar character to that of the primitive East, as has been shown. Thus a system of common basic architectural elements is present at the outset.

These native features, in the main, consist of trabeate-arch construction, doorways with inclined jambs, large-stone masonry and circular 'fort' walls.

Scoto-Celtic work retained the inclined jambs, the large-stone masonry, and the circular walls, the latter forming the "caiseal" of the monastic establishments. The trabeate-arch is existent, but is transitional rather than static.

Syrian work likewise features the inclined jambs, and large-stone masonry; while the trabeate-arch is transitional here also. In technique, the masonry of Syrian and of Irish work has a common feature in the peculiar method of "joggling" employed.

The circular wall is represented in Coptic work by the Dair which surrounds the monasteries of the deserts.

The "Laura" arrangement of the grouping of the buildings of the Coptic desert monasteries, is that employed in the lay-out of the Scoto-Celtic monastic settlements.

The small dimensions of the Scoto-Celtic churches has been noticed. Regarding the "first-Christian" Greek churches it is observed that "they are usually small, being calculated only for the monks, and not for the reception of any other congregation. The Greek churches, even those which are not monastic, are far inferior both in size and interest to the Latin basilicas at Rome."[1] The chapels of the Armenian monasteries also were of very small size.

Various reasons have been adduced to explain this feature of the Scoto-Celtic churches, one of these being that the dimensions were determined by the limits presented by the stone roof, a form to which the Irish clung with great tenacity.

I am inclined to the opinion,[2] however, that structural exigencies do not form the determining factors here. The small single-chambered churches, I believe, were really sanctuaries set apart for the clergy; and it is possible that the laity were assembled outside the church, and

1. Curzon: 'Monasteries of the Levant.' pp 2-3.
2. Hull: "Early Christian Ireland" – p. 202. "We are to regard them rather as oratories where the saint worshipped or celebrated the Divine mysteries, than as congregational churches intended to accommodate a number of persons."

addressed by the clergy from the doorway. It has been recorded that in the early Christian churches of the East, the priests held conversations and homilies with their congregations in the porch of the church.[1]

As in Greece and Asia Minor, the Scoto-Celtic churches were often* assembled in groups of 7 - a number probably suggested by that of the Apocalyptic churches of Asia.[2]

There are seven at Glendaloch, at Cashel and elsewhere, and we read of the seven churches which Patrick established at the river Fochaine, at Cianacht and at Hua Tuirtri.[3]

Adherence to orientation was a characteristic of the Scoto-Celtic churches as of the Syrian, Coptic and other Eastern groups. The Scoto-Celtic churches were rectangular, in this respect conforming to those of the First-Christian churches in general.

As the native traditional architecture was inclined to the circular plan, the departure from the latter form to the rectangular would appear to eventuate from a deliberate desire to conform to a type of ecclesiastical edifice which had been accepted by Christendom as a whole.[4]

The round plan persisted in the domestic architecture,[5] as is evident even at the present time in Western Scotland, where the plan of the

* not always.

1. Curzon, 'Monasteries of the Levant' p. 13.
2. Whitley Stokes: 'Tri-part. Life of S. Patrick' Vol. I. p. clvii and Fergusson: 'Architecture', vol. 2. p. 104.
3. Whitley Stokes: Tri-part. Life of S. Patrick' vol. I. p. clvii.
4. "Four-cornered churches" — Tri-part. Life - vol. I. p 110.
5. For a building of wood or stone, whose plan is small, the circular form presents the simplest means of construction.

old "black" house is an elongated circle, and the roofs have semi-conical ends - and the native instinct for the round construction is displayed again in the Round Towers.

The square east end, i.e. the square-ended sanctuary, was a feature of the Scoto-Celtic churches,[1] in which respect, they resemble the primitive type in Syria and the Coptic churches generally. The non-apsidal eastern end is found also in the Pre-Norman churches of England, and continued to be employed down through the various periods of "Gothic" architecture, in spite of Continental tradition in favour of the apse. As the adoption of this feature has formed the subject of some controversy, a short reference to the matter may be made here.

Francis Bond[1] alludes to the question as follows:- "In the smaller Anglo-Saxon, so in the smaller Norman churches of England, rectangular chancels are more common than apses. The origin of this rectangular chancel is somewhat doubtful. We knew that the greater part of England was not converted to Christianity by Augustine and the monks sent from Rome, but by Irish and Scotch missioners whose headquarters were Lindisfarne, Iona and Ireland. Now in Ireland, the churches were of stone, and rectangular; none were apsidal. It has therefore been assumed that these missioners brought with them the lithic architecture of Celtic

1. "The square-ended type followed the Irish into Scotland, and its plan is still extant in two cases in Cornwall - S. Piran & S. Gwithian" Cox: "The English Parish Church". p. 71.

1. Francis Bond. 'Gothic Architecture in England' pp. 212 - 219.

Christianity. But this is to ignore the fact that the Irish stone churches were of the rudest possible character in the seventh century and long after; little oblong sheds without aisles or chancel: without an arch, probably built without mortar. How could a race, architecturally so backward, impose its building methods on a country which, even in the seventh century was able to build aisled churches, three stories high, with towers, crypts, galleries and porticos? A race which architecturally is on a higher plane, imposes its building methods on a race which is on a lower plane. It is impossible then to believe that the rude lithic architecture of Ireland can have had any considerable influence on the far superior work of seventh-century England. Simple constructional reasons are sufficient to explain the preference for the rectangular over the semi-circular chancel.... The first churches of the Celtic missioners in England, no doubt was constructed of osiers plastered over with mud; a little later, these temporary oratories would be rebuilt in timber; ultimately, in stone.

In these osier or timber churches, then, of the first Celtic missioners the origin of the rectangular chancel might be looked for. But it is unnecessary to assume a Celtic origin.

To build an apse would have been as

unnatural to their converts as it was to the Celtic missioners. For the converts in England were Angles, Saxons, Jutes, and later on, Danes and Norwegians; and all these came from forest lands, and they were shipwrights and carpenters by trade, not stone-masons.....it would be difficult to build a log-chancel in the form of a semi-circle - secondly if a log-chancel were actually built apsidal, it would be difficult to cover it with a timber roof, though it is done at Worth and Brixworth. We may conclude that the churches of timber would invariably have rectangular chancels."

Professor Baldwin Brown[I.] expresses the following view:-

"In respect to what Professor Freeman called 'the strange insular tradition of the flat end', our churches form a group apart from those of the rest of Europe in that their peculiarity is national and not due to the influence of any special religious rule or set of ideas..... For this noteworthy characteristic of English architecture there must exist a reason, and this cannot be the most obvious one of cheapness for the practical abandonment of the apse took place at a time when great architectural undertakings were in the air and wealth was poured out lavishly for new fabrics and their adornment..... The tradition in question

I. Baldwin Brown. 'Notes on Pre-Conquest Arch. in England.' The Builder. Vol. LXIX. p. 410.

originates in the Irish or Celtic square-ended stone oratory, which was the outcome of habits of building in masonry indigenous in certain Celtic lands, and at first quite independent of all classical influence."

Having referred to Bede's expression "more Scottorum non de lapide" in regard to the original church on Lindisfarne, Professor Brown continues:- "Admitting however, that whether exceptionally, or by a less prevalent mos, the Scots built in stone as well as in the less durable material (i.e. wood) we have still to ask (1) whether there is any probability that the Celtic tradition of stone building affected the form and technique of our primitive English churches and (2) whether, if this be the case, the fact has any bearing on the later preponderance of the square-end in English churches." The writer then adduces evidence to support an affirmative answer to these questions.

"On the whole", he says, "we may safely say that there is no reason why the Celtic missioners who penetrated to almost every part of the land save unto the Roman preserve of Kent, should not have carried with them the characteristic features of their own native style."

Champneys[1] has the following reference:- "it must be remembered that, in a wooden church, to attach an apse to the end involves considerable

1. Champneys: "Irish Eccles. Architecture". p. 28.

(though not insurmountable) difficulties in construction."

The above contributions deal in particular with the matter of the presence of the square-ended chancel in England, but they serve to illustrate certain points of view regarding the rationale of this feature in reference also to the Irish churches.

Bond's disparaging allusion to the "low plane" of the Irish architectural achievements may largely be discounted in the light of knowledge acquired from more comprehensive researches. It is sufficient here to note that he regards a timber origin as the likely reason for the adoption of the square end. Champneys appears to sustain a similar view. Professor Baldwin Brown's observations uphold the stone tradition as against that of timber.

It appears to me that too much stress is laid upon the influence of timber proto-types in this architecture.

In the first place, the choice of material must largely have been governed by the physical nature of localities; some districts were rich in stone, others in timber; some were productive of both. Thus, it ought not to be assumed that the use of one these materials was necessarily antecedent to the other. Rather is it reasonable to conclude that both traditions grew up side by side.

In the second place, assuming such a view, extant examples of stone architecture, show that structural problems were successfully met by the Irish builders in the construction of circular buildings with stone roofs. In the case of timber construction, material evidence is scanty. If the Irish were accomplished carpenters - as might be inferred from such evidence as that afforded by the timber house of the lake dwellings type found at Drumkeln, Donegal and by the literary records which describe the Banquet Hall at Tara and the House of Bricriu - then the construction of circular work in wood, both walls and roof, would present no difficulty.

Yet there is no need to postulate a knowledge of framed construction in advancing the claim that circular work in timber connoted structural difficulties for these builders, particularly in regard to roof construction, for I see no reason to doubt that an elementary form of circular structure was known to them, wherein the roof is not differentiated from the wall, but both formed by curved ribs extending from the ground to the apex - a survival of which arrangement is found at the present day, in the curved "principals" forming the roofs of old houses in the Western Highlands of Scotland; indeed, an expression of the same constructive idea is found

in stone, as at Gallarus.

From such considerations as these, therefore, it would seem extremely unlikely that the square-ended sanctuary, or the avoidance of the apsidal form, resulted from lack of skill in the construction of circular forms, rather must we conclude that the feature of the square east-end, was the outcome of selection or choice. As we have seen, the adoption of this feature, marks another point of resemblance between the Scoto-Celtic churches and certain churches of the Primo-Christian style in the East.

We have observed the use of the waggon vault in the Irish churches. Of this usage, Butler says:-[I] "Another curious coincidence between Irish and Coptic practice is the use of the wagon-vault to roof nave and chancel, there being apparently no other parallel for its early employment in Western Christendom." The practice of constructing roofs of stone has been noted in the architecture of Syria also.

The presence of antae in some of the Irish churches is another feature of affinity with Eastern examples. Whether or not this feature is a survival of the antae of dolmen construction, the usage goes back to the megaron and succeeding Greek types, developing to the atrium and narthex of later times.

I. Butler: 'Coptic churches' vol I. p. 14.

It has been said that, in the case of the Irish examples, this feature is but the representation in stone of the corner posts of earlier timber construction; but, were such the case, flat pilasters on both faces of the corner would be much more likely. Moreover, in the church of Old Slievemore on Achill Island, the walls appear to have been carried out ten or eleven feet at the west end, with reference to which, Champneys states, "it is just conceivable that such approached may be due to vague imitation of an atrium or narthex." I.

The seclusion of the sanctuary is another feature to be considered in connection with similarities between the Scoto-Celtic and Eastern groups. This feature is strongly marked in the Coptic churches, as has been shown.

In the single-chambered churches of Ireland and Scotland, the seclusion is obvious - the churches themselves were the "sanctuaries" and the western wall, the "iconostasis."

Regarding the churches in which a chancel is added, the question arises as to whether there is any evidence of the iconostasis idea. In Ireland, the chancel opening as a rule, is more than a mere doorway; Petrie refers to such as a "triumphal arch", 2. a description which is applicable to most cases. In the Scottish examples, the opening may

I Champneys: "Irish Eccles. Architecture" p. 16.

2. Petrie: "Eccles. Arch. of Ireland" p. 162.

In Petrie's notice of the subject we have (p. 206). "There is no more reason to doubt that such veils were usual in all the ancient Irish churches of distinction which consisted of nave and chancel, than that chancelled partitions were used, of the existence of which we have the evidence of Cormacs Glossary." "crann-chaingel .i. a wooden partition .i. a latticed partition. the division between the laity and clergy, after the similitude of the veil of Solomon's Temple; for it, with its partition of boards, is named CLIATH; UNDE DICITUR CROCH AINGEL."

v. also Note 2 on following page.

more properly be regarded as a doorway in several instances. That at Lybster as already stated, is 2 feet 9 inches wide and that at S. Carmaig, Eilean Mor is likewise a narrow opening. In these structures, we have examples of a real iconostasis. On this matter it has been asserted that "a narrow chancel opening, after the pattern of a doorway, is certainly a characteristic of early Celtic churches in Scotland, if not in Ireland."[1]

In the absence of material evidence as to the existence of the iconostasis[2] in those Irish churches in which chancels appear, we might naturally conclude that "the discipline of the secret," if observed at all, was at least not structurally expressed.

Yet to accept such a finding, is to fail to do full justice to the inquiry. Certain authorities are of the opinion that the extant churches do not necessarily represent the largest and most complete examples of the ecclesiastical edifices of the early Christian period in Ireland; that in the timber churches, now destroyed, a more highly developed form existed.

If we accept the account of the Church (BRIGIT. genitive, Brigte) of S. Brigid at Kildare, given by Cogitosus, as a description of such churches, the extent of elaboration is apparent. Moreover, the presence of an iconostasis is evident; "the church, occupying a spacious area, and elevated to a menacing height, and adorned with painted pictures, having within,

1. Baldwin-Brown. "Notes on Pre-conquest Arch. in England". "The Builder", vol. LXIX. p. 411.

2. The Irish word "CRANN" or "CRAND", which means a "beam" is found in combination - "crann-chaingel". The screen may have been of the form of a curtain suspended from a beam supported on posts, as at Hass in Syria. v. The Church of the Holy Sepulchre as described by Eucebius.

three oratories, large and separated by partitions of planks under one roof of the greater house, wherein, one partition - decorated and painted with figures and covered with linen hangings - extended along the breadth in the eastern part of the church, from the one to the other party wall of the church, which (partition) has at its extremities two doors."[1] The arrangement certainly recalls that of the Coptic plan, and the description of the iconostasis brings to mind that given by Curzon with reference to this feature in the monastery of Barlaam - "the altar is separated from the nave by a wooden screen on which are paintings..... The iconostasis has three doors in it... The centre one is only a half door, the upper part being screened with a curtain of rich stuff, which, except on certain occasions, is drawn aside so as to afford a view of the book of Gospels....the priests and deacon pass in and out by the side doors."[2] Reference to pictures on the walls of the Eastern churches is made by the same author; "the walls of the churches, covered with frescoes served as books to insense the minds of the unlearned with the histories and doctrines of the faith."[3]

That the word "screen" should be metaphorically employed to denote the laity in an ancient Irish document concerning the life of S. Patrick, suggests that the use of the iconostasis was known; "iter crochaingil ocus altoir Drommo Lias."[4]

1. Petrie: Eccles. Arch. of Ireland: p 199.
2. Curzon: Monasteries of the Levant: pp. 250-251.
3. do. do. p. 13.
4. Whitley Stokes: Tri-partite Life of S. Patrick. vol II p. 399.
see also reference in APPENDIX.

Of minor features, the use of pegs upon which to suspend the book-satchels is common to Ireland and Egypt.

The Irish gable-ornament too, may possibly be included in the category of similarities. "An ornament such as may conceivably have suggested it, surmounts a tomb in Asia Minor of the third or fourth century".[1] This ornament is certainly a form of palmette, but the chief or central part of it is very much like the Irish gable-ornament.

Its origin, too has been attributed to timber construction, as an architectural development in stone, of the fork or "gobhlag" formed by the ends of timber rafters. Against this it may be said that such forks would never be exposed to view from the outside; they would invariably be covered by thatching or other roofing material. Nor do I think that forked ends would be found at the gables in any case; for it seems to me that, in timber buildings, the construction would generally take the form of the hip-end roof, and not the vertical gable type.

The former is that shown in the "Temple of Jerusalem" depicted in the Book of Kells, and also in such shrines as those of Loch Erne, Monymusk and a specimen in the Museum of Copenhagen.

In architectural decoration, the ornamental motifs found in the Irish churches show marked

1. Champneys, "Irish Eccles. Architecture" p. 24.

affinities with Eastern examples. The cross within a circle displayed upon the lintel of the church at Fore, Westmeath, bears a close resemblance to many of the crosses in Central Syria.[1] Interlacements and vine spirals as at Maghera, are almost identical with Syrian and Coptic usage. Of the latter ornament, Professor MacAlister says:- The vine motif was introduced to England by the Syrian sculptors who taught the art of sculpture to the Christian artists of that country. This has been clearly shown by the researches of Brondsted (Early English Ornament). This Syrian influence had a vitality sufficient to carry its impetus along for several centuries; it is therefore only to be expected that traces of its influence may occasionally be found in regions which it did not directly effect. The vines in the Irish crosses are thus to be interpreted simply as ornament, derived ultimately from the far-distant art-centre which gave to the world the Palace of Mashitta and other valuable works."[2]

The foregoing synopsis of similarities, is, I venture to believe, sufficient to establish relationship of kind between Scoto-Celtic and Eastern examples of the "First-Christian" architecture.

In concluding this section, however, I shall allude to certain ecclesiastical accessories the use of which was common to both the Irish and Coptic churches.

1. De Vogüé: 'La Syrie Centrale' Plate 136.
2. Prof. R.A.S. MacAlister. 'Archaeology of Ireland' p. 273.

The sealed textus is one of these. As early as the 6th century, metal cases of embossed bronze or silver were used in Ireland for enclosing copies of the Gospels or other MSS,[1] in which respect, the resemblance of the Coptic to the ancient Irish practice seems very close. Moreover, the Irish custom of enclosing missals and other books in leather cases finds a parallel in Abyssinian, if not in Coptic practice.[2]

Handbells were employed as part of the regular musical accompaniment of the chants in the Coptic service. In Ireland, the handbell was part of the insignia of a bishop,* delivered to him at his consecration, and a bell of this kind attributed to S. Patrick is still preserved at Dublin.

In the use of the Flabellum or fan, the Book of Kells depicts angels holding flabella which closely resemble those of the Maronites. In a Hiberno-Saxon MS of the 8th century, S. Matthew is figured holding a flabellum.[3]

As regards the Crozier, the Coptic patriarch and all his bishops carry the pastoral staff. Its shape resembles the Greek and not the Latin type of crozier i.e. the upper end terminates as a tau-cross, with two short symmetrical branches instead of a crook or spiral. A specimen of the tau-cross found in Ireland, is now in the museum of the Kilkenny Archaeological Society.

1. Warren : "Liturgy & Ritual of the Celtic Church" - p. 21.
2. Curzon : "Monasteries of the Levant" pp 105-106.
3. Warren : "Liturgy & Ritual of the Celtic Church" p. 144.
"Cuilebad", "Cuilefaidh", "cuilebaigh" IN MIDDLE IRISH MSS. Whitley Stokes : Tri. Life. Patricic p. clxxxvii vol. I.

* Further : The Celtic bishops wore crowns instead of mitres. (v. sculpture on chapel at Glendalock). Warren : "Lit. & Rit. Celt. Church p. 119.

THE CIRCUMSTANCES WHICH BROUGHT ABOUT A CONNECTION BETWEEN EAST AND WEST IN THE EVOLUTION OF THE CELTIC CHURCH AND HOW THIS CONNECTION WAS ESTABLISHED.[I]

When the Roman legions withdrew from Britain in 410 A.D. they left behind them a country which was considerably enriched by their sojourn there. Towns, villas, baths, roads, postal stations and other adjuncts of a civilized state had been established throughout the land.

The population had been Romanized in a very real sense, and the officials, who were chiefly Romanized Britons, were proud of their Roman names and culture.

The country, however, was not immune from the influx of foreign races; for, while the real Romans had practically disappeared, their places were often taken by such foreigners as Greeks and Gauls together with Scots from Ireland.

Britain, too, had been a military province for nearly four hundred years. This implied an admixture of foreign soldiers, which included Spaniards, Syrians, Egyptians and natives of Asia Minor.[2]

Notwithstanding the presence of this foreign element, the people as a whole were united as members of the Roman empire, under the Roman law, and having the same official language - with this reservation that, as a rule, the Roman government

I. This section is summarised from Prof. Sayce: "The Indebtedness of Keltic Christianity to Egypt" Trans. Scott. Ecclesiological Society. 1912. p 250 etseq.

2. The inscription found at Corbridge dedicated to Jupiter Dolichenus of Northern Syria and "celestial Brigantia" of Britain, is an illustration of the fusion of races that was taking place.

permitted the adoption of native ideas regarding political and social organization in so far as they did not collide with the Roman system of administration - But disturbance, succeeded by disintegration was soon to follow.

The geographical position of Britain rendered the country peculiarly exposed to attack from the sea. Ireland had remained unconquered by the Romans, and the Scots of that country were not slow to take advantage of their power to make assault. These invasions were not unsuccessful, many of the Irish having served as mercenary soldiers in the armies of Britain and were by no means ignorant of military discipline and strategy. "Great was the power of the Gael over Britain; they divided Alba amongst them in districts, and their residences and royal forts were there." I.

Following upon the Irish invasions, we next notice the migration of the Celts of Strathclyde - the sons of Cunedda of Welsh history - who established themselves in Wales on the ruins of the old Roman government. Living as they did to the north of the Roman wall, these people had been less influenced by the Roman rule, and they retained their old language, customs and religious beliefs.

Meanwhile, the city life of Britain was becoming disintegrated; petty leaders established themselves in the cities, and with the aid of Irish

I. Whitley Stokes. Cormac's Glossary. pp. xlviii-ix.

and Saxon mercenaries, they carried on war with one another. Attracted by the prospects of gain, other Irish and Saxon invaders set foot in the land; Picts penetrated the great wall; country villas and then the towns themselves were pillaged, sacked and often burnt, and to the turmoil caused by these external invasions was added a struggle between a Roman and a non-Roman Celtic party within. As the Roman party had drawn its chief strength from the towns, on the destruction of these, the non-Roman party, aided by the Strathclyde and Irish elements, eventually gained supremacy.

The native population of Britain was certainly not unacquainted with Christianity,[I.] in respect of which, they naturally followed the lead of the upper classes, the Romanized Britons of the towns. But Christianity among an illiterate peasantry, newly converted to the state religion, could not have been a deep-reaching affair.

I. "Coroticus, to whom S. Patrick wrote a Letter, was a Strathclyde King and the Letter assumes that the King and subjects were Christian".
Reference from Tertullian - "Britannorum inaccessa Romanis loca, Christo vero subdita".
The Council of Arles (314 AD) was attended by three British Bishops.
Prof. Sayce: "Trans. Scott. Eccles. Soc." 1912. p. 253.

At the beginning of the 5th century, then, Britain was nominally a Christian country. Where Latin was still read and spoken, the form of Christianity was, in the main, Roman; but with the waning influence of the towns, this character became less orthodox. The political bond with Italy was growing weaker; the British legions claimed to elect their own emperor, and at last, the chain which linked Britain to the Imperial City was broken, and British Christianity was left to its own resources. Henceforth, the religious development of Rome and Britain lay apart. Literary Britain looked to Gaul for teaching and inspiration,[I] no longer to Italy. After Faustus, the British friend of Apollonaris Sidonius, we enter upon a new epoch - the epoch of Celtic Christianity. On the one side, there was the religion of the illiterate; on the other, the church of the educated classes which was based upon a Latin culture up to a point, but beyond this point, it was increasingly influenced by the beliefs and ideas of the Celtic democracy. On the side of dogma, organ-

I. "The British Church looked to the Gallican as the mother church" PRYCE: "The Ancient British Church" p. 59.
"Many considerations minister to the conclusion that it is to the Greek colony of Lyons that Britain owed the first foundation of its Church". *Ibid.* p. 55.
"Between Wales, Cornwall, Ireland and Brittany, there was a constant ebb and flow of missionaries". *Ibid.* p. 185.

ization and literary influence, it had found a well-spring other than Rome.

This fountain of inspiration was the Alexandrian Christianity of Egypt.

The activities of John Cassian played a great part in effecting this turn of affairs.

Joannes Cassianus,[1] a Scythian monk and theologian, was born probably about 360 A.D. amd was educated at Bethlehem. He spent some years among the ascetics of the Egyptian deserts, was ordained by Chrysostom at Constantinople in 403, and afterwards instituted monastic life in Provence in the south of France. Shortly before 415, he founded at Massillia, two monasteries after the Egyptian model. One of these monasteries was for nuns; the other was the famous Abbey of S.Victor which served as a model for many monastic institutions in Gaul. He died about 448, and was afterwards canonised.

His writings[2] had an immense influence upon the religious belief and practice of Gaul. In his books he presents a picture of the sayings, doings and daily life of the Nitrian ascetics of that day, held up as a pattern for the monks of S. Patrick's time. In fact, Cassian made Egypt so well known in France, that whenever a bishop or presbyter desired a period for spiritual retreat and refreshment, he retired to Egypt to seek in

1. Reference chiefly from Prof. Stokes: "Ireland & the Celtic Church" pp. 169. 170
and Cooper-Marsdin: "Hist. of the Islands of the Lerins". p. 102 et seq.

2. "De Institut. Coenobiorum".
"Collationes Patrum".

Nitria, the development of his higher spiritual life. His doctrine, a semi-Pelagianism, was inculcated in opposition to the orthodox Augustinianism of the Roman church; in practice, Egyptian monasticism was introduced and therewith, Egyptian customs and habits of thought.

The foundation of Cassian's monastery was followed by that of the famous monastery established by Honoratus in the Island of Lerins; a monastery even more Egyptian and oriental in character than that at Massillia.

Here came Faustus from Britain and tradition represents S. Patrick as connected with Lerins and living for many years in the district where Cassian was teaching the laws and practices of Egyptian monasticism. Here, it may almost be said, the fathers of the Celtic church were educated.[I]

These were the times when the clerical and Latin-speaking portion of the British church turned to Gaul instead of Rome, for instruction and inspiration. From Britain, Christianity was brought to Ireland as the natural outcome of the close intercourse between the south-west of Britain and the south-east of Ireland. The actual founding of a Christian church spreading over the larger part of Ireland must have been, says Zimmer, a result of that first powerful wave of monasticism which swept over Gaul and Britain from the middle

I. Celtic Christianity in its main outlines, became Egyptian and Oriental rather than Western. The Egyptian system of monasticism readily adapted itself to the clan system of the Celts.

of the 4th century, which brought in its course, a number of half-Romanized Christian Britons as missionaries to Ireland.

The real conversion of Ireland to Christianity, however, crystallises in the mission of S. Patrick. The activities of Cassian, the influence of S. Jerome, together with many other agencies recorded by the authorities, all go to show how intimate was the contact between Syria, Egypt and Gaul when the Christianity of S. Patrick's mission passed over to Ireland.

It is appropriate in concluding these references, to allude to the part performed by the Patron Saint of Ireland.

Sucat-Patrick.[1]

A Briton named Sucat,[2] played an important part in the Irish Church during part of the 5th century. According to one statement he was born in the British borough of Bannaventa, which is believed by some to be a district near the modern town of Daventry. Others maintain that he was born near Dunbarton in the territory of the Britons of Strath-clyde, and it is interesting in this connection, to note that there is a small district at Cardross, near Dunbarton, called Succoth (from which the Campbells of Succoth take their title). The year of his birth, was in all probability, A.D. 386 and he

1. Zimmer : "The Celtic Church in Britain & Ireland". p. 43 et seq. Cooper-Marsdin : "Hist. of Islands of the Lerins". pp. 84-85.

A critical exposition of Zimmer's "Celtic Church in Britain & Ireland" by Prof. Hugh Williams, is contained in "Zeitschrift für Celtische Philologie". 1903. p. 526 et seq.

2. "The birth-name of the apostle of Ireland would seem to have been SUCCAT, signifying 'god of war'". G.F. MACLEAR : "The Celts". p. 68.

was of Christian parentage. At the age of sixteen, he was captured by marauding Irish, and taken as a slave to the north of Ireland. He succeeded in reaching the coast of that country, where he was taken captive by heathens, presumably Saxons, who compelled him to follow them about the country, it is said, for sixty days. He at length freed himself from this new yoke and, (according to Haddan and Stubbs) arrived back at his old home, A.D.408-9.

There, he entered the church and became a diaconus. He left home about 424, and followed the ancient route to Rome via Auxerre, where he made a stay with Germanus, along the valley of the Rhone, via Arles, and by the coast of the Provence and the Islands of the Lerins, through North Italy.

In the meantime, his native name of Sucat had been Romanised into Palladius,[I] and according to Prosper's statement, he was in Rome in the year 429.

The influence he gained in Rome, in spite of his want of learning must be ascribed to the circumstances that for 20 years back as already shown, Britain had actually been severed from the Empire, and consequently the connection between Rome and the British church had been difficult. From Prosper, we learn that, in 431, Palladius was ordained episcopus for Ireland. On his return from Rome, Palladius presumably visited Germanus and came

I. This duality – "Patrick = Palladius", is doubtful, but not improbable. Perhaps Whitley-Stokes' Account is more generally acceptable. 'Tri-Partite Life of S. Patrick'. Vol I pcxli.

to Ireland in 432. He now put aside the Roman form of name, assuming in its stead, Patricius.

As to his sojourn in Gaul, the passages in Ultan's[1] book, although missing in the Book of Armagh, appear distinctly genuine, and are supported by a passage in the "Epistle" and there is no reason to doubt the fact of that sojourn. In this connection, Cooper-Marsdin, referring to the journeyings of Patrick, has the following:- "We learn from the "Confession", that land was reached three days after leaving the coast of Ireland. This must have been either Gaul or Britain, and no part of Britain would have afforded so long a journey. On landing, S. Patrick and his shipmates spent two months wandering through desert country. This again can scarcely apply to Britain. There is evidence that the ship had reached the coast of Gaul, for Patrick tells his followers that he had the fear of God to guide him on his journey through Gaul and Italy."

His residence in Gaul is attested by the tenor of the "Confession" itself; as Zimmer says, it is a monkish ascetic who writes of the worldly tendencies of his youth. Patrick uses the same phrases as Salvian and others, to whom "convertere ad Deum (Dominum) is identical with "to go into a monastery".

1. Whitley. Stokes: "Tri-part. Life of S. Patrick" ii. p302.

Patrick does not mention in his "Confession" that he was consecrated bishop by Pope Celestine. His silence on the subject may have been politic; for a certain antagonism no doubt prevailed among the Irish towards the Empire, which for more than 300 years had been a menace to their liberty.[1] The Christian Irish about 432 A.D., would regard a legate from Rome with suspicion. At that time, they could hardly distinguish between spiritual and temporal Rome, and the interference in ecclesiastical matters of a legate sent by spiritual Rome, must have appeared to them as the beginning of an interference in political matters on the part of temporal Rome.

Zimmer expresses the opinion that it is unlikely that Celestine ordained the eccentric Briton Palladius (Sucat) of his own free will, but rather yielded to his incessant appeals, and finally sent him off to Ireland - "Ad Scottos in Christum credentes ordinatur a papa Caelestino Palladius et primus episcopus mittitur."[2]

According to M. l'Abbe Alliez,[3] Patrick came into Gaul about the year 400, entering the monastery of Marmontier, and received the tonsure there, returning to Britain shortly afterwards, with an ever-increasing desire to convert Ireland.

1. Tacitus : Agricola 24. conclusion.
2. Zimmer : "Celtic Church in Britain & Ireland". p. 51.
3. From Cooper-Marsdin : "Hist. of Islands of the Lerins", p. 88.
Alliez : Histoire du monastère de Lerins. I. p. 69.

He returned to Gaul to be trained for the work, and to receive his authoritative mandate. Dr. Bury thinks it probable that Patrick found shelter at Lerins before returning to Britain, and afterwards chose Auxerre.[I] Alliez makes the visit to Lerins the occasion of his preparation for his mission to Ireland, and considering all the varied circumstances, this is not by any means improbable. Some maintain that he received his commission from Pope Celestine in A.D.432; others say with equal certainty, that he received no such authority.[I]

If S. Patrick be thus regarded as one of the sons of the island cloister of Lerins, his testimony to the value of its teaching will be found in the influence that it, in turn, exerted over Ireland through his instrumentality. He had come under the spell of the monastic ideal. In his organization of the church, and especially in the foundation of monasteries, in matters appertaining to discipline, and in the use of a liturgy, the influence of Gaul may clearly be traced.[I.]

Monasticism had its birthplace in Egypt; Egypt, as the original seat, continued to be the model of every true monastery; from Egypt, monasticism found its way to Gaul, Lerins being a stepping stone in the course of its travel. Gallic

I. Cooper-Marsdin: "Hist. of the Islands of the Lerins". p. 88-94.
Killen: "The Ecclesiastical Hist. of Ireland" says of "S. Patrick's Hymn". "This hymn exhibits the faith of the Primitive church of Ireland. It endorses none of the peculiarities of Romanism". (I. p. 19).

monasticism was Egyptian both in theory and practice.

The early church in Britain stood in constant touch with the Gallican church[I] and regarded itself as an active member of that body; monasticism pervaded every department of the early Irish church, and was the secret of its rapid success.

With this wave of Christian influences flowing from Syria and Egypt through Lerins and Gaul to Britain, Ireland and Scotland, were carried those oriental practices, customs and learning which are reflected in the Scoto-Celtic architecture of our country.

I.

A Tract on the origin of the Irish Liturgy states that S. John the Evangelist was the first who chanted the Gallican Liturgy, then S. Polycarp, and, thirdly, Irenaeus, bishop of Lyons; In a new form, it was used by Jerome, Germanus and Lupus, and was called Cursus Scottorum; that Jerome affirms that this Cursus was chanted by S. Mark, and afterwards by Cassian, Honoratus at Lerins and by Cesarius of Arles where Lupus and Germanus were monks. These two, it is stated, taught Patrick sacred letters, and had him made archbishop *IN SCOTIIS et BRITANNIIS*. There he chanted the same Liturgy. *IPSUM CURSUM IBIDEM DECANTAVIT.*

Whitley Stokes: Tri-partite Life of S. Patrick. Vol. I. p. cxcvii.

This completes the architectural "tree", —its composition and circumstances associated with certain of its ramifications. Where does Scoto-Celtic architecture find a place?

The evidence which I have endeavoured to adduce here, namely, that of architectural affinities and that afforded by historical fact regarding those influences which were formative in developing the Celtic church, leads to the following conclusions viz:-

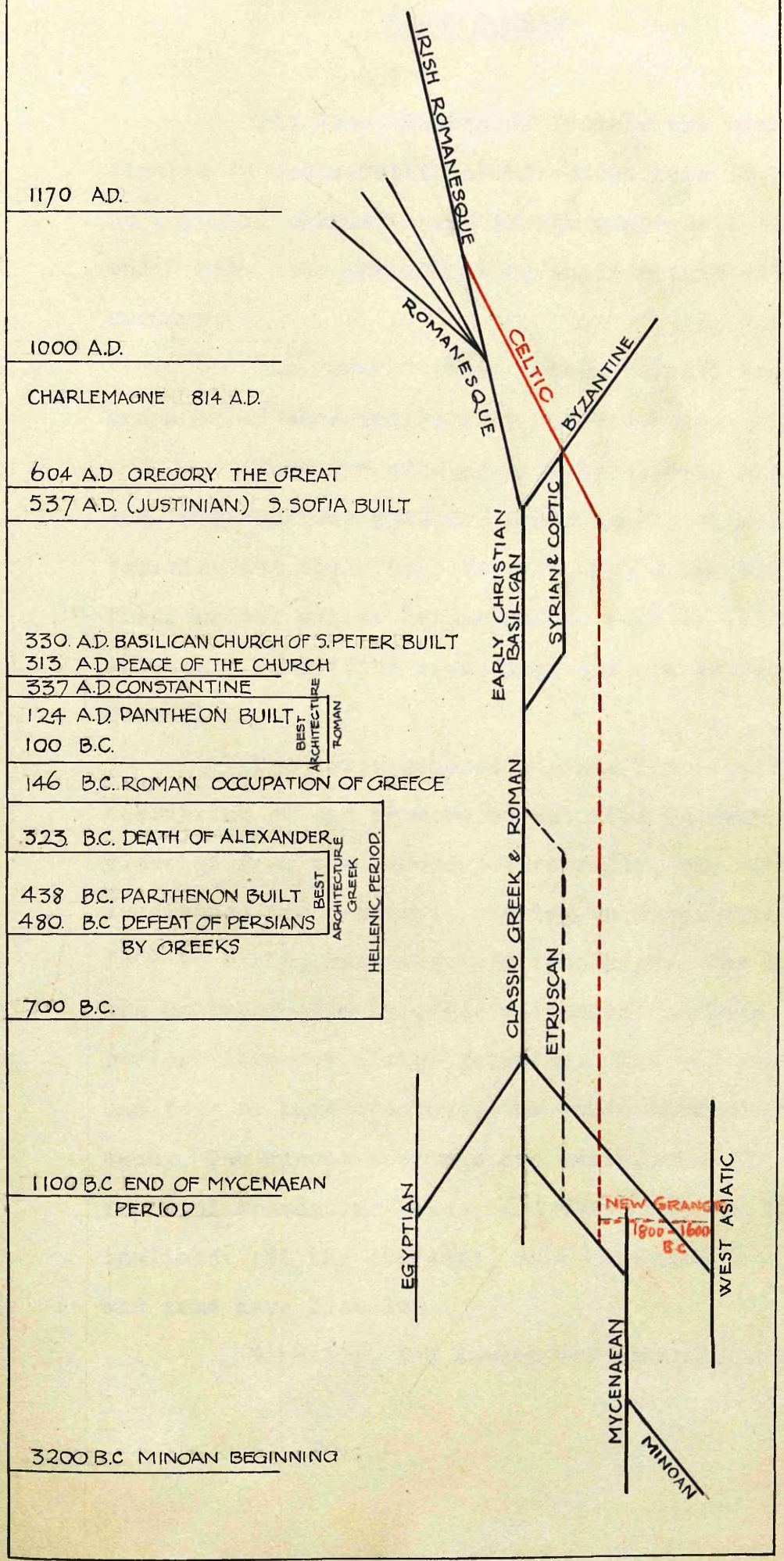
The preponderance of fact bearing upon its physical composition and the circumstances relating to its development, justifies the claim

(1) that Scoto-Celtic architecture was not the product of an extension of that phase known as Roman Basilican.

(2) that it is linked up with a sequence of phases (which I have called the First Christian Series) touched but lightly by Roman basilican, and intersected by Byzantine - a sequence of phases which may be claimed to constitute a distinct branch of Early-Christian architecture.

This branch springs from the Classic Stem and incorporates much that is Greek. Scoto-Celtic architecture is attached to this development, and to root-fibres bound to the ground out of which Mycenaean culture arose.

DIAGRAM
TO SHOW THE PLACE OF CELTIC ARCHITECTURE IN THE DEVELOPMENT OF EUROPEAN STYLES



ROUND TOWERS

The Round Towers of Ireland are conspicuous figures in Scoto-Celtic architecture both in regard to physical character and to the numerous theories which have been advanced as to their origin and purpose.

The form of these towers is well known, and a brief description will suffice here.

They are of elegant proportions, tall and comparatively slender, their shafts slightly tapering and their tops crowned with a conical cap. Their height varies from about 50 feet to 125 feet and their respective base-diameters are 14 feet to 20 feet.

The tower generally rises from a plinth consisting of one or more steps. The doorway is usually elevated from the ground. Internally, the tower is divided into storeys, varying in number from four to eight, each about 12 feet high. The storeys are marked inside by offsets (ledges) corbels, or perforations for timber joisting. The top storey has four or more openings; the other have one to each. The window openings are small, with flat, round or triangular heads, and the jambs are usually inclined. Of the doorways, some have arched heads and some have lintels.

Normally, the towers are detached, and

stand in close proximity to a church, the door of the tower often facing that of the Church. In a few cases, a tower is found attached to the church building, as at Glendaloch, where a small round tower rises from the roof of S. Kevin's.

At Clonmacnois, there is a round tower attached to the nave and chancel of Teampull Finghin.

The Irish Round Towers may be sssigned to 900 A.D., a date which marks the approximate centre of the period of their development.[I]

In Scotland, round towers are found at Brechin; at S. Brigid's Church, Abernethy; St Magnus in Egilsha, Orkney, and there are remains of a few others in Shetland; the "Well of S. Columba" at Iona, is possibly the base of a round tower; in the Isle of Man, a portion of a round tower exists at Peel; all of which are to be regarded as outliers of the Irish group.

Detached towers of early date are by no means uncommon in Europe and in the near East.

A tower, square in plan, but otherwise having some practical resemblance to the Irish type is found in Central Syria.[2] A square tower having a doorway 10 feet from the ground with a cross carved above it, was discovered at Moab.[3] This tower has an opening on each face at the top and no other window, and stands in close relation to the ruins

I. See periods of development – Margaret Stokes: "Early Christian Art in Ireland" (Building & Architecture.) p. 62.

2. DeVoqüé: "Syrie Centrale" p. 58. & plate 18.

3. Fergusson: "Hist. of Architecture". vol II. p 451.

Bryant: "Celtic Ireland", says:- "The idea of the Round Tower and of church towers in general, can be shown very clearly to have originated in Syria". p. 195.

of a church.

Towers are found in the desert monasteries of Coptic Egypt.

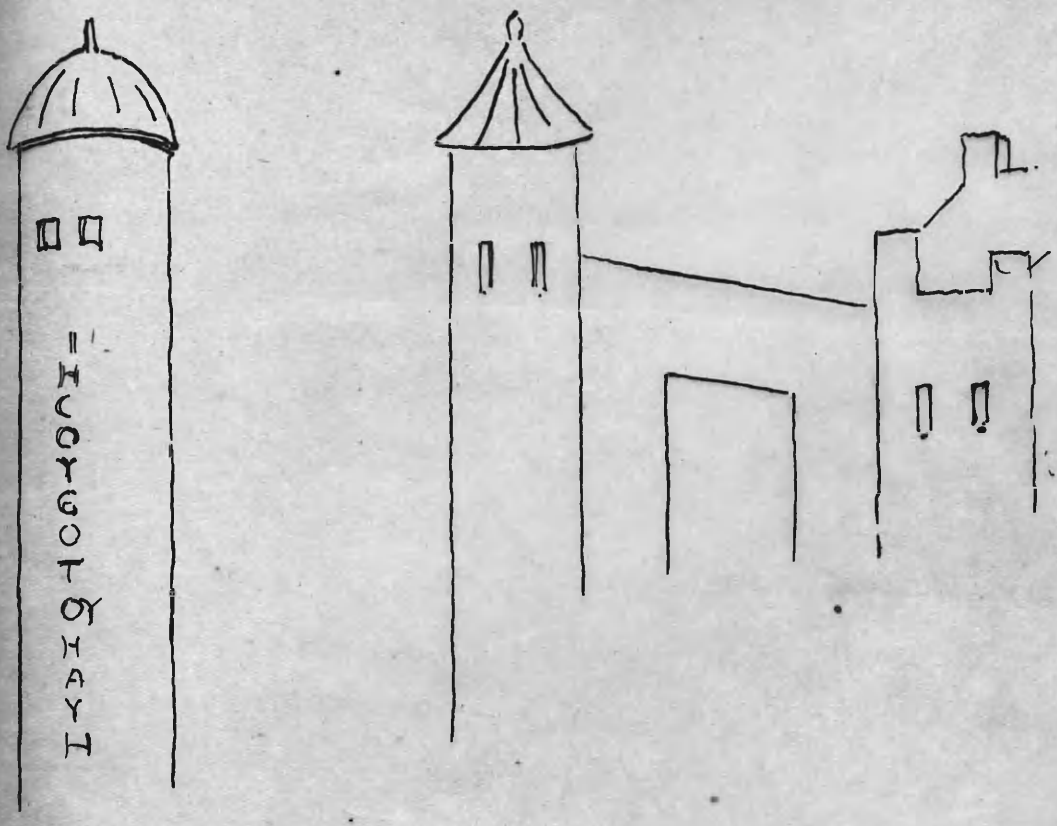
"Each tower is usually two storeys high, square on plan, and each side on the upper storey is relieved by two open arches, highly stilted and round-headed. The position which the tower occupies is quite immaterial, but it is always virtually detached." [1]

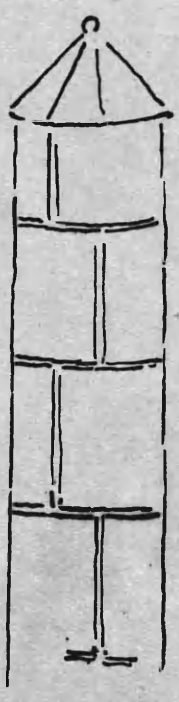
There are round towers at Ravenna and in Gaul. At Epinal, in Lorraine, a round tower of strikingly Irish type is attached to the transept of the church of S. Maurice.

Other examples of ecclesiastical towers might be quoted, but the above show the trend of their distribution.

In addition to actual towers, pictorial representations are found in such as the tablet belonging to the library of S. Gall, (an Irish foundation), ascribed to an abbot who died in 912 A.D. upon which is shown two round towers roofed with cupolas, and having several oblong windows on each floor; while on the plan for the rebuilding of the same monastery, begun in 839 A.D. two round towers are shown, one on each side of the western end of the main church to which they are connected by passages. The two towers have each a chapel at the top.[2]

1. Butler: 'Coptic Churches'. vol. I. p. 15.
2. Champneys: 'Irish Eccles. Architecture': pp. 53, 54.
This plan is shown in "An Essay on the History of English Church Architecture" G. Gilbert Scott. plate XVIII. facing p. 74.





FROM THE "JOSHUA ROLL".
ROTULO DI GIOSUÈ
Codice Vaticano Palatino Greco.

SKETCHED FROM FACSIMILE IN LIBRARY OF UNIVERSITY OF GLASGOW.

Another early pictorial example is to be found in the "Joshua Roll" a Greek manuscript of the 7th or 8th century, wherein round towers, having conical tops, are shown attached to the city walls of Ai A facsimile of this MS - one of the few executed in the classical style of art - is contained in the library of the University of Glasgow.

In regard to the origin of the Irish Round Towers, it is generally accepted that the type is to be traced through France to Ravenna.[1] But the existence of towers associated with the early church in the East, together with the evidence of those forces from the same source which were formative in moulding Irish ecclesiastical architecture in general, justify the extension of the track of distribution of these ecclesiastical towers of which the Irish Round Towers are a group, far beyond Ravenna; - the line of influence reaches to Syria and the desert monasteries of Egypt.

As to the use, purpose or function of the Irish Round Towers Petrie's findings are considered to have set at rest many varied speculations. His conclusions are these:- (1) that they were intended to serve as belfries, and (11) as keeps, or places of strength, in which the sacred utensils, books, relics, and other valuables were deposited, and into which the ecclesiastics to whom they belonged, could retire for security, in cases of sudden predatory attack.[2]

1. Margaret Stokes: "Early Christian Art in Ireland" (Building & Architecture) p. 63.

2. Petrie: "Ecclesiastical Architecture of Ireland". p. 360.

Petries arguments are well founded, and his conclusions in regard to the function of the towers are generally accepted.

I have closely examined Petrie's findings; yet a question forces itself upon me, as I view these towers. Were they purely utilitarian?

In the first place, multiple-function, it seems to me, connotes weakness. No less than three functions are assigned to them - belfry, store-house and fortress. Which holds precedence? Is the tower a bell-tower, designed to provide accommodation as a keep; or is it a keep elongated vertically to accommodate a bell at the top?

Now, it is contrary to architectural principle and conception to create a homogeneous architectural unit to fit a multiplicity of functions. An architectural unit implies single-ness of purpose, and a tower is a unit in this sense. Particularly is this true of the Irish Round Towers; whatever they express it is surely and certainly a stark and simple "single-ness". The various functions are not architecturally marked off.

It is least difficult to regard them as belfries; they certainly do not look like store-houses, notwithstanding the fact that the door is usually elevated from the ground. If not for the

purpose of defence, why was the door placed in this position? Whether or not for this purpose, it was the only position which structural considerations would permit a doorway.

To place an opening at the ground level in a round tower would impair the stability of the structure; the tower would be standing on stilts. That this fact was recognised, is apparent in the common use of the plinth at the base of these towers.

On the question of their use as bell-towers, there is no evidence of mountings or attachments for bells found in the existing towers, and it is not likely that the cage system of mounting bells would be employed at that period.[1] The inference is, therefore, that the bell would be rung by hand. Now, a tower specifically designed for the ringing of bells by hand is scarcely likely to have been built of an altitude reaching to a hundred feet or more, particularly if bells were required to be rung at frequent intervals. If, however, the ringing of bells was of the nature of a warning against the coming of the enemy when viewed from afar, this altitude was no doubt desirable and necessary; but even in this case, it is not clear that the function has adequately been met. If the offsets in the

I. Eleanor Hull suggests that the Towers may have been "repositories for bells". "Early Christian Ireland". p. 214.

internal face of the walls denote the level at which floors were carried, the position of the belfry floor is not always placed at such a level as would render the ringing of the bell effectual; in which cases, it is also too low to permit watchers to look out from the openings. Further, were sound emission a first consideration, it is likely that these openings would be specialised in regard to size, as is demonstrated in the later towers. On the contrary, the apertures in the early towers are mere slits, a fact which, with the others mentioned, suggests that the practical aspect of the bell-tower as such, was not paramount in the minds of the builders.

In regard to the offsets found in the walls of the towers, it is not, I think, improbable, that these were employed as supports for the scaffolding planks required in the process of building the wall - a necessary feature if the towers were built from the inside as is likely - and the conical cap which would necessarily be built from the outside, would be reached by "needles" - horizontal supports - extending through the apertures at the top.

As a store-house or keep, the tower is obviously not "proportioned" to this function. Nor can it convincingly be said that as a refuge

for ecclesiastics during siege or stress, that the round tower is convenient or suitable. At its best as a bell-tower, the structure, it might have been, and no doubt was employed for these purposes in a secondary way, in the manner of fitting the function to the structure rather than the structure to the function.

With these observations on the practical uses of the towers as given by Petrie, I shall turn to another aspect of the matter, - the architectural "voice" of the tower itself.

It seems to me that the tower is an architectural unit that speaks through itself, not through what it contains.

Whatever message it conveys; whatever impression it has upon the observer, that message or impression is there in virtue of its being a tower. Moreover, a tower is inherently symbolic.

The more I study the effect of these towers, the more I listen to their "voice", assuredly the more I am constrained to believe that, when they built the Round Towers, the old Irish architects were thinking more of the tower as such than of its utilitarian functions.

Now, a tower expresses certain attributes peculiar to itself; it evokes Aspiration; it may kindle Remembrance.

Whether their builders meant it or not,

the Irish Round Towers kindle some such response.

Was there symbolic intention in the Round Towers? There may have been. The fact of the conception of a Tower as a symbol, is not without corroboration in early Christian literature. The Vision of the Tower in the Book of Hermas is an example.

It was characteristic of the early Christian Church that it portrayed the story of the religion in its art and architecture. A hieratic cycle of subjects came into use, not necessarily for doctrinal purposes, but as expressive of religious faith.

A system of symbols was developed in Christian Celtic art, expressive of the salient points in the religion. The symbolic is in the church plan; was the tower excluded?

Champneys says "And (whether this was at first intended or not) they" (the round towers) "certainly give unity and dignity to the ecclesiastical establishment over which they seem to preside."

It is not inconceivable that the Irish builders had this dignity in view. "A Tower expresses, as nothing else can, the peace and strength of the church". It is claimed that the Round Towers were built because of the Norse invasions; perhaps they were built in spite of these invasions. The Church Triumphant demanded

expression. The Jewish Synagogue showed the same spirit of aspiration - "The building was erected on the most elevated spot of the neighbourhood, and no house was allowed to overtop it. In the absence of a commanding site, a tall pole from the roof rendered it conspicuous."[1.]

There is the other symbolic motive however, to which the Round Towers show some response - Latha a' Bhreitheanais, the Day of Judgment or Doomsday.[2.] The question may be asked, are there any facts to support the view that the idea of "Judgment" may be symbolised in a Tower.

In the Book of Hermas we have the following: "When all were departed, I said unto that shepherd: Sir, why is not the building of the tower finished? Because it cannot, said he, be finished until its Lord comes, and approved of the building; that if He shall find any stones in it that are not good, they may be changed, for this tower is built according to His will. But He examined the building with so much care that He handled every stone; and struck every one with a rod which he held in his hand; of which some being so struck, turned black as soot; others were rough; some looked as if they had cracks in them; others seemed maimed; some neither black nor white; some looked sharp and agreed not with the other stones, and others were full of spots.

These were the several kinds of those

1. Schaff: "History of the Christian Church" p. 457.

2. I have shown that structural considerations can explain the placing of the door above the ground. It is curious that this placing fits the association with Doomsday in the light of the following:- "Fail" ol intaingel "muir mór do tuidecht tar hErinn secht mbliadna riambráth".
Whitley-Stokes: "Tri-part. Life of S. Patrick". I. p.116.

stones which were not found proper in the building; all of which the Lord commanded to be taken out of the tower, and laid near it, and other stones to be brought and put in their places."[1]

From this passage, it is clear that in the Vision of the Tower, the idea of the judgment of God is expressed in the act of sorting out the good from the evil and the apportioning of values in the spiritual sphere.

I am not aware that the Book of Hermas in particular was known to the Irish ecclesiastics, but other books of the apocrypha certainly were known, as is shown, for instance, by reference to the Leabhar Breac.

There is one tower, however, which was undoubtedly known to them. This is the Tower of Nimrod; and it is not difficult to extract the idea of "judgment" from the circumstances associated with its creation.

Josephus, referring to the building of this Tower, states: "When God saw that they acted so madly, He did not resolve to destroy them utterly, since they were not grown wiser by the destruction of the former sinners, but He caused a tumult among them by producing in them divers languages, and causing that, through the multitude of these languages, they should not be able to understand one another."[2]

1. Hermas: (Apocrypha) Similitude IX. 42. p51-53.
2. Josephus: 'Antiquities of the Jews'. BK. I. Chap. IV. 2.3.

That the Tower of Nimrod and the story attached to it were known to the old Irish scholars, is borne out by the prominence given to the subject in Auraicept na n-eces, the Scholars Primer, a work which deals with grammar and poetry.

The poets, filid, formed a society whose influence upon the people and the affairs of the country was considerable: S. Columba was a fili.

The Auraicept opens with an account of the origin of Gaelic:- "What was the place, time, person and cause of Gaelic?

Its place, the Tower of Nimrod, for there it was invented at first."[I.]

It seems to me, therefore, that, in any event, the building of the Round Towers could scarcely be dissociated from at least the knowledge of Nimrod's Tower and what it connotes.

Now, according to the authorities, the Round Towers were known by the term cloicthech, with certain variants, including guilcach. The word is taken to mean "bell-house".

Yet there is a passage from the Leabhar Breac quoted by Petrie, in which this term is applied to a tower of the Nimrod character:- "Great indeed, was the pride, vanity and pomp of this sensual king, for it is he who performed an act of pride (such as) was never accomplished before: to wit, he erected for himself a tower of bright silver,

I. Dr. Geo. Calder: "Auraicept na n-Eces". p. 5.

and great was the size and breadth and height of that tower which was higher than all the other houses of the town, being a bright and lofty cloictheach.[1]

Here the word cloictheach is employed synonymously with tor, a tower. Hence it would appear that a cloicthech may not literally be a bell-tower.

It is possible, therefore, that the term "bell" was used symbolically, to signify the idea of the Judgment associated with Doomsday.

An extract from an old Irish document may be quoted in support of this suggestion.

"Is ann beanfaiter in clog i Cruachan Aidble, 7 do dusgud firu Eirend eder biu 7 marbhu o guth in cluig .i. Bernnan Patraic."[2]

"Then shall the bell be struck in Cruach Patrick, and the men of Ireland, both quick and dead, will awake at the voice of the bell, to wit, the Bernan of Patrick."

I have mentioned the fact that on the plan of the round tower at S. Gall,* a chapel is shown at the top. In the towers of the desert monasteries of Egypt, a chapel at the top is common; and it is of peculiar interest that those chapels are dedicated to S. Michael,[3] the special office attached to whom is well expressed in an Irish homily.

1. Leabhar Breac. Fol. 108. a. Petrie: Eccles. Arch. of Ireland. p. 373.
2. P. Grosjean: 'A Tale of Doomsday'. 'Scott. Gaelic Studies' vol. III. part I. p. 75.
3. Butler: 'Ancient Coptic Churches'. vol. I. p. 315 and p. 303.

* It is significant that the plan shows these towers marked respectively: "St. Michael and S. Gabriel".

"Michél archaingel do thidecht o nim d'erfuaccra na hesergi coimdeta for in cined ndoenda il-ló bratha, co n-eper friu fo thrí:- Ercid, ercid, ercid a chined Adaim! 7 atrésit na huli fris-in fhoccra sin." [1]

"The coming of the archangel Michael to proclaim the resurrection of all the human race on the day of judgment, when he shall say to them thrice, arise, arise, arise, ye race of Adam! and all shall arise at that summons."

Again:- "Is e so in t-archangel as a guth res-a n-erigfe in cined doenna do luaithred in talman il-ló bratha, in tan doberthar do chách in ní dligfes." [2]

"It is the archangel (Michael) at whose voice the human race shall arise from the ashes of the earth at the day of judgment, when there shall be assigned to each what he shall deserve."

I am aware that the foregoing arguments are by no means conclusive, but they may at least be suggestive. After long consideration I am not quite convinced that the Round Towers of Ireland were purely utilitarian; perhaps the practical and the symbolic were united. In any event the significance attached to the Day of Judgment is apparent in the Irish literature of the time; the theme is important enough to justify a symbolic reminder; and the Round Tower is eminently fitted to occupy that place.

1. Atkinson: "The Passions & Homilies from Leabhar Breac: Todd Lecture series, Vol II. p. 141.

2. Ibid. p. 219.

SCOTO-CELTIC ORNAMENT.

In Scoto-Celtic decorative art of the Early Christian period, the chief motifs to be recognised in its composition are Spirals, Key-patterns and Interlacements.

Spirals.

Spiral ornament of this period is to be regarded as a development of an earlier phase of spiral design, known as La Téne ornament.

The name La Téne which is given to this style of art of the Iron Age culture, is identified with an ancient Celtic stronghold situated at Lake Neuchatel, where objects, decorated with this peculiar form of ornament were discovered.

The period associated with the development of this style of ornamentation, has been divided by archaeologists into three stages, each connoting a certain phase of differentiation in art-form. These stages are La Téne I (500-300 B.C.) La Téne II (300-100 B.C.) and La Téne III (100 B.C.-100 A.D.).

Examples of La Téne art of the first period are not found in Scoto-Celtic objects, but certain Continental examples such as the helmet from Berru (Marne) and a spear-head from Lower

Thielle, (Switzerland) of that period afford useful evidence in linking up the later examples with the source of origin of the style.

In attributing the origin of the spiral forms under consideration to the La Téne source, the fact of the presence of certain early spiral ornaments in Ireland and Scotland which might have formed proto-types of the early Christian forms, has not been overlooked; but it is now generally agreed that these, of which the New Grange examples are noteworthy, have no direct connection with the later spiral motifs. The latter are properly to be regarded as an extension of the Aegaean or, as I have called it in connection with the sphere of architecture, the Mycenaean group of motifs which spread through a great part of Europe in Bronze Age times and did not establish contact with La Téne development in the West. Yet these Mycenaean spiral motifs are not unrelated to the evolution of the La Téne style if the origin of the former may be traced to the lotus in Egyptian and Assyrian art,[I] which in turn developed into such forms as the palmette, anthemion or honeysuckle patterns of Greek art, motifs which clearly form the basis of the early La Téne patterns.

From the 7th century B.C. the palmette appears as a decoration on Greek vases. Among the later Athenian vases and also those made in Italy,

I. As put forward by Romilly Allen: "Early Christian Monuments of Scotland". p. 363.
The question of origin of such spirals need not be stressed. The making of spirals is instinctive.

there are many specimens in which a group of these patterns are so arranged that the series of palmettes are linked together by the continuation of the lines which form the spiral "sepals", and in some cases the "petals" themselves assume a spiral form, making the pattern almost wholly a system of connected spirals.[1] On these undulations appeared terminal and other expansions, the whole suggesting at once the theme of the La Téne style.

La Téne ornament, then, appears to be a local development of Italo-Greek foliageous scroll-work,[2] practised by a Celtic people who had come in contact with classical civilization some few centuries preceding the Christian era.

At Aylesford in Kent, there were found side by side, in a pit-burial, a bronze flagon of Italo-Greek manufacture, decorated with a palmette design, and a bronze-mounted bucket bearing Celtic adaptations of classical ornament depicting the palmette - an illustration of the penetration of these motifs into Britain, although the vogue of this spiral art was but limited there.

Coming now to the Christian variants or derivatives of the La Téne patterns, the chief modifications were these:- the closely coiled spiral became more predominant and they were distributed in a more regular and symmetrical manner over the surface to be decorated. The

I. Champneys: 'Irish Eccles. Arch.: p. 63.
2. Romilly. Allen: "Early Christ. Mon. Scot.". p. 371.

trumpet-like expansions of the divergent portions of the spirals, however, and the almond-shaped figures formed by the meeting of the ends of the trumpets, were retained.

Broadly speaking, there are two types of spiral patterns employed; in the one case, the band of which the spiral is formed, expands into a trumpet-shaped end - characteristically La Tene. In the other case, the band of which the spiral is formed is of uniform breadth throughout.

In the first of these forms, which is the earlier of the two, the expanding spirals are so arranged as to leave three-sided spaces, which form the ground-work, and are ornamented with small circles, triangular and almond-shaped figures, which, in manuscript work, are left white on a coloured or black ground.

In the second type, the centres of the spirals are all placed symmetrically at the corners of the square, and the space occupied by each spiral is of the same size. To this class of spiral work, there is a corresponding Key-pattern to each type.

In general, spirals are composed of several bands diverging from one point, but a preference is shown for triple-band spirals, and the number of curves converging towards one centre never exceeds six, and seldom four.

Spirals may be right or left handed and the bands may be loosely or closely coiled. A spiral may commence from a central point or from

a circle; sometimes the centres are formed of birds heads or figures of men with interlaced limbs.

When the centre of a spiral is not ornamented, it generally develops round a pear shaped spot. It is closely coiled at the beginning after which the bands separate somewhat until they become loose and finally diverge at a tangent.

After divergence, the band expands in width to form a trumpet-shaped end which abuts upon the trumpet of the next, leaving an almond-shaped space between the two.

Variations in spiral design are made (a) by choice of number of bands (b) by making the spiral right or left-handed, (c) by coiling closely or loosely, (d) by design of centre, (e) by relation of centres of spirals to each other, (f) by method of connecting the spirals (C or S curves) and (g) by treatment of backgrounds.

The symmetrical methods of arranging the centres of spirals are based upon the principle that squares, equilateral triangles and hexagons are the only regular plane figures which will entirely cover a surface in whatever position the figures are placed, so that their corners meet round a point and their sides touch.

There are but two ways of connecting two adjacent spirals together. If the two spirals have an opposite direction of coiling, the curve

joining them will be C shaped; if they have the same direction of coiling, it will be S shaped.

In Irish MSS, as in the frontispiece to the Epistle of Jerome in the Book of Durrow, a common design is that of three spirals interlocking at their centre, of which each may pass out to form a trumpet. This combination seems to connote association with the "triskele", a design which suggests the arms of the Isle of Man, and is believed to be an adaptation of the "fylfot" or "swastika"[I] so widely used in ancient art. Further examples of the idea are found on the carved pillar-stone from Mullaghmast, Co. Kildare, and, with the ends or legs passing round and out to form the trumpet-pattern, in the Lindisfarne Gospels.[I]

- KEY- PATTERNS.-

Key or Fret-patterns, like spiral ornament, are employed in the art of many countries. Such patterns are found in ancient Egypt, on Mycenaean pottery, in classic Greek work, in the Roman mosaics and on Gaulish pottery. On some of the coins discovered at Cnossus in Crete, certain labyrinths are shown, which may have influenced the formation of the Greek key, and this in turn is probably the ultimate source of the Celtic Key patterns. On the other hand, they may be skenomorphic - derived from patterns produced by the

I. Svastica - "or revolving wheel of light, the original symbol of the worship of the sun in the East, and the earliest known ornament". BUTLER. "Coptic churches": vol. I. p. 133.

I. Champneys: Irish Eccles. Arch. p. 66.

process of attempting to weave spiral forms.

In the productions of early Christian Celtic work, adherence to the classical forms of the pattern is occasionally observed, but as a rule, these key-patterns are treated in a characteristic manner in which much freedom, ingenuity, and skill are displayed.

The special peculiarities of the Celtic Key-patterns are expressed in the treatment of the margins and in the diagonal lay-out.

In regard to the margin, the shape of the panel with its border was first determined and the pattern adjusted to it - a principle applicable to Celtic art design in general.

As to the choice of diagonal setting-out, this may be due to aesthetic considerations and to the fact that interlaced work followed the same plan.

The diagonal lay-out so influences the marginal treatment, that the squares are cut diagonally at the borders of the pattern to form a series of triangles in which, in most cases, the Key-pattern is modified to form straight line spirals adapted to fill the space.

Key-patterns are particularly well represented in the stone monuments of Scotland, while in Ireland, the sculptured stones at

Clonmacnois afford notable examples.

"The square, rectangular fret - a survival from the universally favoured fret of classical times, was no doubt introduced from the Continent. When, however, it was used, as at Clonmacnois, to fill semi-circles of cross ends and curved border patterns, the traditional form was broken, and all possible variations were entered upon, as we see in the MSS., metal and stone-work." I.

Interlaced Ornament.

The term interlaced work is applied to patterns consisting of bands or cords passing over and under each other alternatively, as in plaiting.

The basic arrangement of the pattern is a system of squares usually set diagonally, the lines forming the squares being the centre-lines of the bands, the latter of such a breadth as will leave small interstices between them. When these bands are interlaced, a reticulated or "grid" pattern is the result. Such a pattern is mere plait-work and lacks interest when employed to cover surfaces other than small panels; but it is possible to effect variations in the design by a process which produces striking results. This is accomplished by forming breaks in the plait

I. Coffey: "Guide to the Celtic Antiquities of the Christian Period" IN NATIONAL MUSEUM, DUBLIN. p. 19.

at regular intervals as may be determined, such breaks being horizontal or vertical, in which way a change of direction is given to the cord and the shape of the spaces between the cords is altered by two adjoining squares being thrown into one. By this process knot-work can be produced, and on the same principle, a circle can be developed. The cords may be plain, or divided by one or two incised lines into two or three equal sections; or the margins of the cord may be emphasised by an idented line placed close to the edges.

As regards the origin of interlaced ornament, any fabric formed of plaited work may have suggested its employment for decorative purposes. Plait work is somewhat rare in ancient art; in classic Greek art[1] it is occasionally found and if the guilloche be regarded as a variant of the pattern, this ornament is common.

In Roman work, interlaced ornament was commonly employed for borders and panels of mosaic pavements, both in Italy and the provinces including Britain.

It is with Christian art, however, that interlaced ornament is closely identified, this motif being part of the repertory of ornament employed by the Christian church as a whole. We find examples in Syrian, Coptic, Byzantine and

I. A 4cord plait with margins thus  is carved on the capitals of the Erechtheion.

Romanesque work; while in Scoto-Celtic art it is probably the most characteristic type of ornament.

In this art, it is possible that interlaced ornament was known in Ireland prior to the Christian epoch,[1] but it is certain that it was not practised as a vogue until after the introduction of Christianity. It is no doubt the case that whether or not it had an independent origin in Ireland, the use and development of this style of ornament was the result of contact with the church abroad, particularly that of the East.

Romilly Allen[2] says, speaking of origin; "The plait was not used for purposes of decoration until after the introduction of Christianity into this country, indicating that it must have come in with the new religion from some external source; for if it had not done so, there is no reason why it should not be found on the metal-work of the pagan period in combination with the divergent spiral. The earliest copies of the Gospels brought into Great Britain by the first Christian missionaries were no doubt of Eastern origin and similar to the Greek codices of the 4th and 5th centuries, some of which are still in existence."

On examining one of these Greek manuscripts, the "Codex Alexandrinus", I found a tail-piece to the Book of Revelations, consisting of interlaced ornament which an observer would at once

1. A bronze brooch found at Ardakillen shows La Tène C curves and interlaced work. Its type appears to be earlier than Christian art.

2. Romilly Allen: Early Christian Monuments of Scotland. p. 142.

FROM "CODEX ALEXANDRINUS".

FROM CROSS SLAB, CRIEFF,
AND ELSEWHERE.

CORNER PIECES
FROM "BOOK OF DURROW".

"O AGIOS
MATTHEUS"

FROM "BOOK OF
LINDISFARNE.

pronounce Celtic.

In the treatment of the cord, Celtic art employs the simple or the duplex band, never the triple. In this respect it follows the Syrian and Coptic. I know of one case in Scotland where the band is divided into three spaces - a cross-slab at Ardchattan, Argyll - but here the incised lines are marginal, as in certain crosses at Donegal in Ireland. Roman Christian art on the other hand, almost always employs the triple band, perhaps following the style of the old Roman mosaics wherein the bands were composed of three sections of tesserae. Regarding this feature, Coffey states: "This seems to indicate that the Celtic interlaced patterns did not come through Italy. On the whole it seems that single and double bands pertain rather to the Byzantine tradition surviving from the early centuries, as contrasted with the three-fold band of the Italian tradition." 1

Like Celtic architecture, Celtic decorative art was largely influenced by the East, as is shown more particularly by antecedent specimens of Syrian and Coptic art, evidence which, taken together with that of the connection between the Eastern and Celtic churches, is well founded. Professor Sayce points definitely to Egypt as the source of origin of the motifs of Celtic art. 2. "It was from Egypt that the interlaced patterns

1. Coffey: 'Guide to Celtic Antiquities'. Nat. Mus. Dublin. p. 14.

2. Prof. Sayce: 'The Indebtedness of Keltic Christianity to Egypt' Transactions, Scott. Ecclesiological Society. 1912. p. 256.

and frets of Celtic art were derived, along with the foliageous ornament that was alike characteristic of both the early Coptic and the Christian Celtic... The illuminations of the earlier Celtic MSS. reflect the influence of the East, not of the West. In the pictures of the evangelists, for instance, in the Gospels of Lindisfarne, not only are the pictures themselves Byzantine in character, but the Egypto-Greek title o agios in Latin letters is attached to the names of the evangelists."
In the carved wood panels of Sitt Miriam at Cavio, the nimbus of Christ in the scene of the Entry into Jerusalem is marked with a cross. This feature appears also in the Book of Kells and in some of the crosses in the Isle of Man.

Some features of Celtic interlaced ornament may now be noticed. Combinations of unsymmetrical loops are employed very largely. These loops are almost always pointed at the ends, which adds greatly to the beauty of their form. In addition to all the ordinary knots or combinations of bends and loops which can be derived from a plait, two other kinds of interlacements were devised viz: circular and triangular knot-work. In some of the most elaborate knots employed, the principles of circular and triangular knot-work are combined.

Rings are used very sparingly in Celtic

art and only when artistically effective. Norse work, on the other hand, is partial to the use of the ring.

Zoomorphic interlacements are often employed; not only of snakes[I] and dragon-like creatures, but of nondescript animals and birds whose long necks and legs are intertwined, the plumage being somtimes treated as ornament.

In this connection, a distinction between Celtic and Teutonic interlacements may be noticed. Teutonic interlacements are derived from interlacements of animal figures; Celtic interlacements show rather a derivation from patterns produced by a technical process such as weaving. Hence in the former case, the bands often vary in breadth in correspondence with the varying thickness of the animal's body, and their ends tend to bifurcate and run off into free terminals as is natural in plaits derived from the twisting limbs of animal figures. In Celtic work, the bands are of uniform breadth throughout and they do not bifurcate.

In Teutonic animal figures, the foot possesses two toes, in Celtic work, three toes; in Teutonic, the caruncle of the eye is either absent, the eye being circular, or in front towards the profile of the face; in Celtic figures, the caruncle is at the other end of the eye.[II]

I. Warren suggests Eastern influence: The serpent appears in the Mozarabic Liturgy. WARREN: Lit. & Rit. of Celtic Church": p. 53.

II. Prof. R.A.S. MacAlister: "Archaeology of Ireland" pp. 276-277.

In concluding these references to interlacing ornament, it remains to be said that while its origin may be traced to an Eastern source, the Celts of Ireland and Scotland developed the style to such a high degree of excellence in originality of treatment, in variety of expression, in refinement and elaboration, always subservient to unity like the variations of a piobaireachd, that it may properly be regarded as peculiarly their own. Indeed it may truly be said that the Celt began where the Greek left off; and it may rightly be claimed as a national version of a form of Christian art.

Foliageous and other forms.

It is characteristic of Celtic art that plant forms were seldom employed up to the period of its highest development.

In the Book of Kells there are a few trefoil leaves and foliated or flower-headed sceptres are depicted. Upon some of the stone monuments, as upon the cross in the churchyard at Kells and on the smaller cross at Clonmacnois, a spiral vine is shown, with birds and animals feeding on the fruit.

This particular motif is found on early sarcophagi in Syria, and on the Ravenna throne, a Coptic work. It found expression on the Northum-

brian crosses also, a further recollection of Egypt being found there in the legend attached to the figures of two saints, "S. Paul and S. Antony broke bread in the desert", depicted upon the Ruthwell Cross.

The design known as the vine spiral became very common in the West of Scotland about the 16th century in the ornamentation of grave slabs and crosses; examples of these are to be found in most old grave-yards in the Highlands. In Christian art this idea was no doubt taken from the saying "I am the True Vine", but the pattern probably became mixed up with an old Babylonian pattern of the Tree of Life, with a beast guarding its foot, and it is found that frequently the stem of the plant is a continuation of the tail of the beast. I.

Several forms of leaf were employed, all of a conventional type; interlacements, twistings and spirals were also used in combination with these foliageous patterns.

Other ornamental designs found in Celtic art are chiefly the chevron and a step-pattern - common in the Lindisfarne Gospels.

In brief, Scoto-Celtic art of the early Christian period comprises three main motifs, spirals, interlacements and key patterns. It differs from that of pagan times in being no longer confined to spiral forms. By the use of these motifs, separately

I. Prof. MacAlister ascribes introduction of vine-motif to Syrian sculptors. see page 169

or in combination, in course of time virtually a new style was created. The growth of the style may be traced in the manuscripts, in the metal work and on the sculptured stones by the manner in which the interlaced and key-patterns are employed with increasing prevalence in the composition, while in a corresponding manner, the spiral patterns practically cease to appear.

Ireland manifests her highest excellence in the art of the illumination of manuscript, and in metal work; Scotland in the art of the sculptured stone.

Celtic decorative art ranks high among the art contributions of the nations.

What can be said of Celtic architecture? The examples which remain to us may compare but poorly with architectural achievements elsewhere.

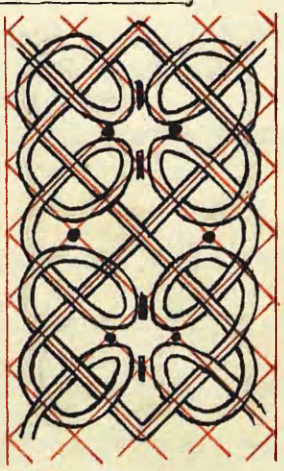
The buildings are small and unpretentious; there is nothing on the grand or monumental scale among them.

Yet this architecture has a character of its own - a character charged with potentiality. It may be that its most important achievement was the discovery of a method of devising a stone roof which was lofty, picturesque and enduring. In its later stages, it marks the transition from the round to the pointed arch, and its buildings show, in a regular series, the striving after and final accomplishment of this advanced feature. We know too, that it did not fail to provide a definite basic contribution to the national version of the Romanesque phase.

INTERLACING PATTERNS.
VARIATIONS OBTAINED BY BREAKS IN THE PLAIT.

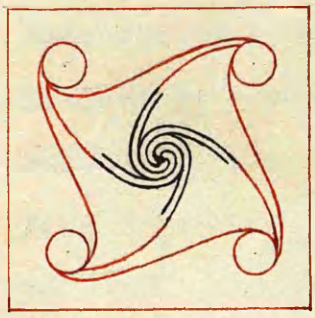
4-CORD PLAIT
● = HORIZONTAL BREAKS
▮ = VERTICAL BREAKS.

5-CORD PLAIT.



8-CORD PLAIT

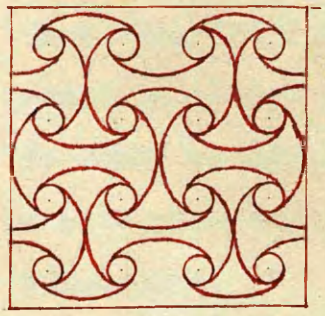
SPIRAL PATTERNS



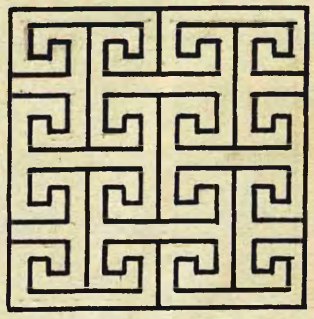
C AND S CURVES.
BASIC. LAY-OUT.

C AND S CURVES.
SHOWING DEVELOPED TREATMENT.
(NOTE THAT OF S CURVES.)

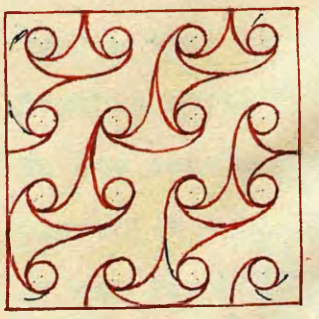
KEY PATTERNS



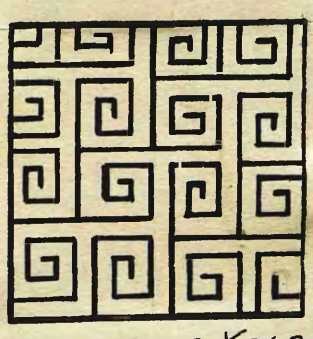
C CURVE SPIRALS.
BASIC LAY-OUT.



CORRESPONDING KEY-PATTERN.
C "SQUARE" SPIRALS.



C AND S-CURVE SPIRALS.
BASIC LAY-OUT.



CORRESPONDING KEY-PATTERN.
C AND S "SQUARE" SPIRALS.
PARTIALLY SUPERIMPOSED.

"DIAGONAL" KEY-PATTERN -
TYPICALLY CELTIC TREATMENT.

FOLIAGEOUS-SCROLL PATTERN -
(ZOOMORPHIC TERMINATION)

· Appendix ·

LEGENDARY NARRATIVE OF THE COLONISATION OF ANCIENT IRELAND.

showing the native inclination to Eastern origins.

According to these accounts, the races which first found admission to the country, were, in chronological succession, the Partholonians, the Nemedians, the Fir Bolg, the Tuatha Dé Danáan and the Milesians.[1]

In the Annals of the Four Masters, it is recorded that Partholón and his people came to Ireland in the year B.C. 2674 or A.M. 2520. In the Book of Invasions, he is stated to have journeyed from Mugdonia, in Greece, a territory probably corresponding to that known as Mygdonia, a province which became part of the lands of the Macedonians.

The descendants of Partholón are said to have occupied Ireland for a long period, and a recollection of the tradition of their occupancy is found in certain ancient sepulchral mounds on a hill near Dublin, called "Tamhleachta muintire Phartolain."

The tenure of the Partholonians came to an end with the arrival of the Nemedians, under Nemed, who, it is recorded, came from a part of Scythia which had been inhabited by a Greek colony. In the Annals of the Four Masters, his arrival is placed at A.M. 2580, thirty years after the overthrow of the Partholonians.

I

H.M. Westropp: "Pre-historic Phases". Lond: 1872 - states. (p. 26).
"The so-called three races were evidently the primitive indigenous inhabitants in their different phases of civilization. The Milesians, the early Irish, in the hunting phase; the Firbolgians, in the pastoral: and the Tuatha be Danaans in the agricultural."

This does not fit the chronological succession, it would appear, of O'Curry's findings. from which the above is extracted.

The Nemedians are stated to have remained in the country for some three hundred years; and they were driven out by the Fomorians - sea kings or pirates, who "swarmed through all the German Ocean and ruled over the Shetland Islands and the Hebrides."

The Fomorians, according to the Book of Leinster, compelled the Nemedians to flee in three parties, under three chiefs, Simon Brec from whom the Fir Bolg were descended, Ibath, the parent of the Tuatha Dé Danaan,[1] and Britain Mail who is said to have settled in North Alban.

The Book of Invasions states that the first party returned to Greece or Thrace, and that the second party settled in the Grecian islands, while the third party occupied Anglesey and the coast of Britain.

The Fir Bolg arrived in Ireland about A.M. 3266 and, according to the tales, the Tuatha De Danaan were present in the country at that time. This race, having fled from Greece travelled over a great part of Europe ultimately reaching Ireland and to them is attributed a deep knowledge of the arts, having learned "magic from the Greeks and becoming more skilled than their masters."

In the Book of Drom Sneachta, we are told that the last great colony, the Milesians (the Scots) arrived in Ireland A.M. 3500, (B.C. 1700) under the

1. Danann ? gen. s. Danu ?
as eg. Eiru . g. s. Eirenn.
Deirdriu . g. s. Deirdrenn.
Aru . g. s. árann.

command of Eremon, one of the eight sons of Galamh or Milesius. This race, it is related, was originally settled in Scythia, and in the course of their journeyings, they reached Egypt, back to Scythia, to Greece and latterly to Spain.

Their landing in Ireland is said to have taken place at the mouth of the river Slainge or Slaney in County Wexford.

In the Book of Genealogies, compiled by Dugald MacFirbis, 1650-1666, it is stated that "there came no colony into Eirinn but from the eastern world.....after having passed through such travels as they did - from Scythia, from Egypt, from Greece and Athens, from Felesdine (Palestine) from Spain etc., into Eirinn."

The following extract from "Auraicept na n-Éces," I the "Scholars Primer," may be quoted to show further the leaning towards eastern association which old Irish tradition displays.

Cest, cia tír i rrugad Gaedeal?	Query, in what land was Gaedel born?
InEgipt. Ocus cia airm sonnrud?	In Egypt. And what special place?
Immaigh Ucca.	In the plain of Ucca.
i rraind iartharaig descertaig Egipti.	In the south-western division of Egypt.
Cia din scoil dus-cuaid gu suidhe?	Who of the school went to it thither?
Gaedel mac Etheoir mic Toe.	Gaedel son of Ether son of Toe.

I. Dr. Geo. Calder : "Auraicept na n-Éces".

mic Barachaim do Grecaib Scitie.	son of Baracham, a Scythian Greek.
Gaedel...in dara sái.	Gaedel...was one of the two sages.
robai i coemtect Feniusa.	in the company of Fenius.
conad uadh rohainmuigead Gaedealg.	so that from him was named Gaelic.
7 apud Eotenam (vel Athena) civitatem arrictha. I	And in the city of Eotena or Athena they (certain divisions of Gaelic) were invented.

In the Dindshenchas,[2] there is a reference to the presence of Greek traders in ancient Ireland:-

Trí marggaid sin tír treóraig marggad bíd, marggad béochraid marggad mór na nGall ngrégach i mbid ór is ardd étach.	Three busy markets in the land the market of food, the market of live-stock, the great market of the Greek foreigners where were gold and fine raiment.

I came upon an old West Highland tale[3] from which it is evident that in Scotland too, Greece and Spain were not unknown to its tradition.

The opening passage is as follows:-

Bha Mac Rìgh (na) Gréige agus a athair a seòladh, là de na laithean, agus iad a'gabhail toil-inntinn agus cridhealas a'chuain : (c'iod e) gu'dè chunnaic iad ach eilean	The son of the King of Greece and his father were sailing on a day of the days and were enjoying the pleasures and delights of the ocean and what did they see but an island....

The story concludes thus:-

Gheall Mac Righ (na) Gréige do Chuachaig, Nighean na Banaraich, gu'n caitheadh iad an laithean eadar a' Ghréig agus an Spàinn. Bha aoibhneas agus ceòl an caisteal bòidheach Righ (na) Gréige.	The son of the King of Greece promised Cuachag, Nighean na Banaraich that they would spend their days between Greece and Spain. Joy and music prevailed in the beautiful castle of the King of Greece.

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1. Dr. Geo. Calder: "Auraicept na n-Eces": pp. 3. 17.
2. Dr. Ed. Gwynn, "The Metrical Dindshenchas" Part III. p 25.
3. J. G. MacKay: "Scottish Gaelic Studies" vol. I. Pt. 2. p. 156 seq.

ARCHITECTURAL DESCRIPTIONS FROM GAELIC LITERATURE.

I. EXTRACTS FROM NOTES ON THE CONSECRATION OF A CHURCH. LEABHAR BREAC. pp. 277, 278. (MIDDLE IRISH)

In the "LEABHAR BREAC", there is a passage describing the CONSECRATION OF A CHURCH, which, while dealing chiefly with ritual, contains certain important references to architectural features.

The passage begins thus :. (p. 277, a 26).

"INCIPIT coisecrad eclaisi indso no daurthaighe nui"....

"Daurthige", with variants in spelling, means "oak-house" and the term is commonly applied to a church or oratory constructed of WOOD. Hence, the above may be read as supporting the view that the word "ECLAIS", in Irish literature, means a WOODEN CHURCH, (as against "TEMPUL" and "DAMLIAG", a STONE church or oratory.

"Is eadh tra chanar iar ndul dar crand ...
..... dogni intescop cona tinchedul cóir asin libur escoib air mbi in caingel." (p. 277a 55-58).

The "crand" is the "tree" i.e "beam" from which, in the absence of a solid screen, a curtain or veil was suspended to provide the seclusion of the sanctuary.

The combination CRANN-CHAINGEL embodies "beam" and "screen" and is used technically to denote the partition of whatever kind, which divided the chancel from the nave. — clergy from laity — i.e. as an "iconostasis".

Continuing, (p. 278a 17-24).

"Aniar imorro o dorus eclaisi tinscanna a coisecrad a n-echtair .i. is in lucht aile do ughdoraibh is fodail cethardha tete forsin eclais dia n-echtair oca coisecrad 7 forsna salmu canticum .i. on ersain[1] descertaigh aniar cus i mbenchobar iarthar thuaiscertach o shuidiu cus i mbenchopur airthar thuaiscertach o shuidiu cus i mbenchopur airther descertach 7 is andsin dofoirne[2] in t-escop crois asin tulcolamain[3] anair 7 on benchopur airther descertach anair don benchopur iarther descertach 7 dognithid a medhon 7 a n-echtair in fodail cechtarda sin don eclais."

"From the West, from the door of the church there begins its consecration on the outside i.e. according to the other authorities, it is a four-fold division that goes upon the church at its outward consecration and on the psalms sung is from the southmost door-post from the west to the N.W. corner-post from that to the N.E. corner-post from that to the S.E. corner-post and it is there that the bishop marks out a cross on the pilaster... from the east and from the S.E corner-post from the east to the S.W. corner-post and they make in the centre and on the outside that fourfold division to the church"

(Thus the circuit is complete.)

1. ersa . f. ersain, dative: door-post. mod. URSANN. OR URSAINN

2. dofoirne . pres. 3 sing. of toirndim . "denote"; "signify" - "to mark" "to mark" is the meaning above : It is used in this technical sense elsewhere - e.g.
"DOFORNDE Patraic crois isind lic conabachaill"
"Patrick marked out a cross in the slab with his crozier" - (Whitley-Stokes. "Tri-p. Life of S. Patrick" I. p. 78)

3. Tulcolamain . Tulcholamain . - a face column.
. the anta-face
. the pilaster-face.

The foregoing passage provides technical information of considerable interest.

I. That the door was placed in the west wall, is evident.

II. That the meaning of the term "BENCHOPUR" (OR BENNCHOPUIR) OR BENDCHOBAR). is not confined to "a conical cap" or "a pointed roof" or a "dome" as given by Whitley-Stokes[I] and others.

BEND (F) = pinnacle" or "border"[I]
COBAIR. = CABAIR = help = support = (technically) rafter or post.
mod. Gaelic - 'cabar'

BEND CHOBAR = MARGIN-SUPPORT
= CORNER-SUPPORT OR POST (OR "ANTA" FORMATION)

There is no evidence of any kind, that "pinnacles" were formed at the corners of churches either of wood or stone; in fact, it is certain that there were no such features.

On the other hand, there certainly were corner-standards at the angles of the wooden churches (a structural necessity) and in many cases we find "antae" in the stone churches.

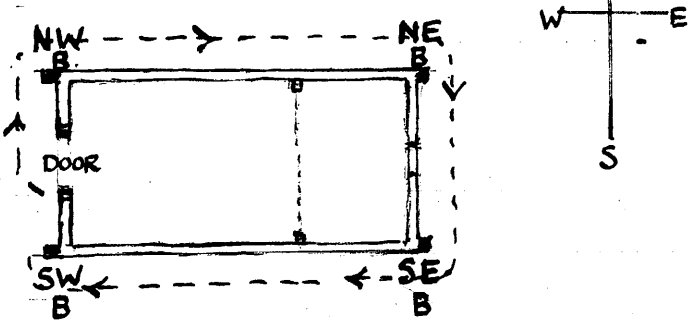
THE FOUR "BENCHOPUR" SPECIFICALLY MENTIONED IN THE PASSAGE QUOTED WERE, IN MY OPINION, NOT "PINNACLES" NOR "POINTED ROOFS", BUT CORNER POSTS, PILLARS OR PILASTERS.

Whitley-Stokes translates "amal chaile for bendchobar daurthige"

as "like chalk on the pointed roof of an oratory"

A roof would never have an application of lime or chalk but it is most likely that the corner members of an oratory would thus be emphasised; (as was done to the door-posts.) (according to Westropp: "Guide to the Collection of Irish Antiquities": Part V. p. 24).

THE CIRCUIT OF THE BISHOP - FROM THE DESCRIPTION GIVEN.



B = "benchopur" of the text.

I. Whitley-Stokes: "Tri-part. Life of S. Patrick" I. p. clvii.

2. Atkinson: "Passions & Homilies from Leabhar Breac" Todd Lect. Series. vol II. p. 558.

TYPICAL ARCHITECTURAL DESCRIPTIONS FROM GAELIC LITERATURE.

II. THE HALL OF BRICRIU. - MIDDLE IRISH -

This description is from "FLED BRICREND", a tale belonging to the Cuchulainn Saga. It is given in "Leabhar na h-Uidri" — "The Book of the Dun Cow" and in other MSS - v. HENDERSON. IRISH TEXTS SOCIETY. VOL II.

CONROTACHT[1] IAROM A TECH SIN LA BRICREND I N-DÚN RUDRAIGI FO CHOSMAILIUS NA CRAEBI RUADI I N-EMAIN MACHA :

Thereupon that house was built by Bricriu in Dún Rudraigi in the manner of the Red Branch in Emain Macha.

ACHT NAMMÁ RODERSCAIGESTAR A TECH SO, ETER ADBUR OCUS ELATHAIN ETER CHAIMI ETER CHUMACHTAE ETER ÚATNI OCUS AIRINIGI ETER LÍGRAD OCUS LÓGMAIRE ETER SOCHRAIDE OCUS SÚACHNIDE ETER IRSCARTED OCUS IMDORUS DO THIGIB INNA HAMSIRI SIN ULI.

Yet this house surpassed in material and art, in beauty and architectural form in pillars and facades in wealth of colour and costliness in beauty of form and conspicuousness in carving and door-architraves all the buildings of that period.

IS AMLAID TRA DORONAD A TECH SIN; SUDIGUD TIGE MIDCHÚARTA FAIR ; NÓI N-IMDADA AND O THENID CO FRAIGID TRAIGED I N-AIRDI, CACHA HAIRINIG CRÉDUMAE CO N-DIORAD ÓIR FRIU ULI

Thus then, was that house constructed on the plan[2] of the Mead Banqueting Hall, Nine compartments therein from fire to wall thirty feet in height each bronze facade all overlaid with gold.

CONROTACHT RÍGIMDAE AND IAROM DO CHONCHOBUR I N-AIRINUCH IND RÍGHTHIGE SIN UAS IMDADAIB IN TIGE UILE CO N-GEMAIB, CARRMOCAIL OCUS LÓGMARAIB ARCHENA OCUS LIGRAD ÓIR OCUS AIRGIT OCUS CHARRMOCAIL OCUS DATHA CACH THÍRE CO M-BO CHOMSOLUS LÁ OCUS ADAIG INTI.

A royal compartment was erected there for Conchobar in the front of that Royal house above the compartments of the whole house (set) with gems, carbuncles and precious (stones) in general and the sheen of gold and of silver and of carbuncles and colour of every hue so that day and night were alike in it.

OCUS CONROTACHTÁ DANO DÁ IMDAI DÉC IN DÁ ERRED DÉC ULAD IMPE

And moreover, the twelve compartments of the twelve heroes of Ulster were set around it.

BA CHOMNART IAROM INDAS IN GNIMA SIN OCUS IND ADBUR DOBRETH DÓ DÉNOM IN TIGI.;

On a level then, were the style and the material of that work with the making of the house ;

SESRECH OC TABAIRT CECHA CLETHI OCUS MORFESSIUR DI THRENFERAIB ULAD OC COR CACHA HÓENSLAITE OCUS TRICHA SÁER DO PRIMSÁERAIB H ERENN OC A DÉNAM OCUS OC A ÓRDUGUD.

A team of six to bring each beam and seven (big six) of the strong men of Ulster to set each single post and thirty workmen of the chief craftsmen of Eirinn at its building and at its arranging.

1. CONROTACHT = passive form of CONUTUINC (COM-UD-DING-) to build : to fashion.

2. "IX nimgada and o thein co fraich" in "Fled Bricrend, nach dem codex Vossianus" -(Stern) : Zeitschrift für Celtische Philologie : 1903. p. 148:

DORÓNAD DANO GRIANÁN LA BRICRIND FODESSIN FÓ CHOMARDUS IMDAI CONCHOBAIR OCUS INNA LÁTH N-GAILE.	A Balcony moreover was made by Bricriu himself on a level with the compartment of Conchobar and of the heroes of valour.
CONROTACHT IAROM IN GRIANÁN SIN DO IMDENMAIB OCUS CUMTAIGIB SAINAMRAIB OCUS ROSINDIGTHE SENISTRE GLAINIDE ASS FOR CACH LETH.	That grianan was decorated with embossments and ornaments specially wonderful and windows of glass were placed on each side of it.
CONROTACHT IAROM SENESTER DIB UASA IMDAID-SEOM FADÉIN, CO M-BO FODIRE DÓ-SOM IMCISSIU IN TIGE MÁIR UAD ASSA IMDAI DÉIG ROFITIR-SOM NÍ LÉICFITIS[I] ULAID ISATECH.	One of the windows was set above his own compartment (couch) so that he could have a full view of the great house from his compartment as he knew the Ulster men would not permit him into the house.

[I] NI LÉICFITIS — correctly NÍ-S-léicfitis. (infixed pronoun omitted in text.)

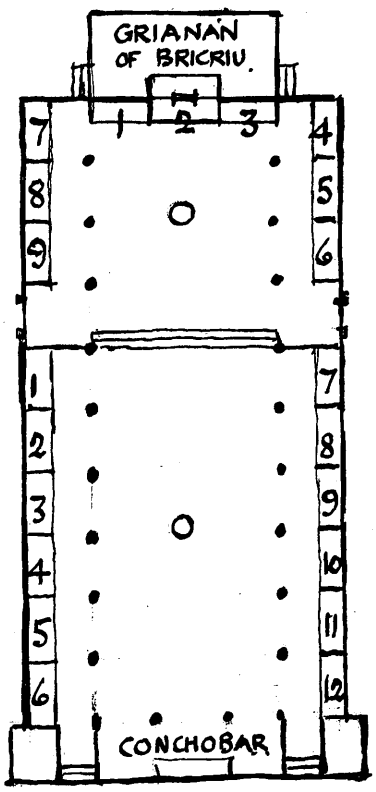
NOTES. The building described here is a secular one, and from the allusion to UATNI, it would appear to be of the BASILICA type, having pillared aisles.

While the type was no doubt introduced into Ireland from Britain, where Roman work was known, the lavish decoration —(exaggerated it may be)— suggests a peculiarly Irish architectural conception.

"NINE COMPARTMENTS FROM FIRE TO WALL" is difficult to interpret in the case of a rectangular structure.

The phrase, however, may be that which was commonly employed in describing a circular house in which the compartments were ranged around the wall, with the fire in the centre, (as at Machair Leathann, N. UIST.)

The Book of Leinster contains a description and plan of the Banqueting Hall of Tara, upon which Bricriu's House is said to be based. A plan is also shown in the Yellow Book of Lecan. Petrie has dealt with this structure in his work on "Tara Hill."



CONJECTURAL PLAN OF HOUSE OF BRICRIU.

TYPICAL ARCHITECTURAL DESCRIPTIONS FROM GAELIC LITERATURE.

III. THE HOUSE OF CRÉDHE (BOOK OF LISMORE. R.I.A.).

"SILVA GADELICA". (S.H O'GRADY.) p. 120.
"MANNERS & CUSTOMS OF ANCIENT IRELAND" (O'CURRY) vol. III. pp. 13-14.

A DATH AMAR[1] DATH AN AEIL	ITS colour is as that of lime
COILCID ETURRA OCUS AEIN	coverlets and rushes abound among them
SÍDA ETURRA IS BRAT GORM	silk among them and blue mantles there,
DERG ÓR ETURRA IS GLAN CHORN	among them red gold and the polished drinking horn.
A GRIANÁN AC LOCH CUIRE[I]	Her bower by Loch Cuire
D'ARCAT OCUS D'ÓR BHUIDHE	of silver and of yellow gold.
TUIGHI DHRUIMNECH GAN DOCHMA	Ridgy thatch without defect
D'EITIBH DHONNA IS DHERG CHORCRA	of wings of brown and crimson red.
DÁ URSAINN UAINIDHE ADCHI	Two doorposts of green thou see'st.
A CHÓMHLA NÍ DOCHRAIDH HÍ	Their door has no deformity
AIRCET ECHTDHA CIAN RO CHLOS	Silver taken as spoil from the slain
IN CRANN BÚI INA FORDORUS	Was the beam that [(tis of old renown) furnished its lintel.
CÉD TRAIGED I TIGH CHREIDHI	A hundred feet in Crédhe's house
O'N CHUIRR GUROICH A CHÉILE	from one corner till you reach another
IS FICHIT TRAIGED TOMHAIS	and twenty feet measure
A LEITHET A DEGH-DHORUIS	the width of its noble door.
	her
A HUDHNACHT[2] IS A TUIGHI	Her roof with its thatch of
D'EITIBH ÉN NGORM IS MBUIDHI	wings of birds blue and yellow
A HURSCAR[3] THAIR AC TOBAR	Her parapet in front at a well
DO GLAIN IS DO CHARRMOCAL.	of crystal and of carbuncle gems.

I. O'Curry gives "A CLOCH CUIRE" - corner stone.
2. " " "UDHNACHT" = portico.
3 " " "URSCAR" = Lawn.

The poem from which the above is an extract is of the type which, in respect of its architectural descriptions, bears resemblance to a similar feature of certain Homeric poems - pp. 30. 31. here.

Certain references to building terms, rules &c. are contained in the Ancient Laws of Ireland - the "Brehon Laws", noted by O'Curry: "Manners & Customs". vol. III.

References to building methods are to be found also in "The Archaeology of Ireland" - Prof. R.A.S. MacAlister - and in "A social History of Ireland" - Joyce.

Westropp's "Irish Architecture", in "Guide to the Collection of Irish Antiquities", Part V. gives descriptive notes.

Petrie, Dunraven, Stokes and others have been already noted.

TYPICAL ARCHITECTURAL DESCRIPTIONS FROM GAELIC LITERATURE

MODERN SCOTTISH GAELIC.

IV. A SCHOOL-HOUSE IN COLONSAY. (DONALD MACKINNON: 'An Gaidheal'. 1874).

TIGH FADA; FARSUING, DORCHA LE BHALLACHAN IOSAL DE CHLOICH GHLAIS NACH DO GHEARAIN AIR BUILLEAN AN ÙIRD AIR AN SALACHADH AIR AN TAOBH MUIGH LE CRÈ, AIR AN TAOBH STIGH AIR AN DUBHADH LE TOIT.

A long, wide, dark building with low walls of whinstone which received but little hammer-dressing: plastered on the outside with clay, on the inside darkened with smoke.

DORUS AIR GACH TAOBH DO'N TIGH ACH GUN CHÒMHLA[I] MAR BU TRICE RI AON DIÙBH.

A door(way) on each side of the house, but often without a door[I] to either.

URLAR DE THALAMH FUAR, FLIUCH, ACH LÀRACH NA TEINE A MHÀIN.

A floor of earth, cold and wet excepting only the fire-slab.

UINNEAGAN LETH-LIONTE LE PLUIC 'S AN CÒRR COMHDAICHTE LE LIC IS CLACH R'A CUL.

Windows half-filled with clods the remainder covered with a slab having a stone behind it.

DÀ THOLL AIR DRUIM AN TIGH A LEIGEIL A MACH NA TOIT NACH IARRADH A RATHAD TROIMH DHORUS NO UINNEIG.

Two openings on the ridge of the house to let out such smoke as ~~did~~ would not find its way through doors or windows.

DÀ THEINE AIR AN URLAR DLUTH AIR MEADHON AN TIGHE, AGUS CLACH EATORRA. B'I CHLACH SO "STÒL (NO FURM) AN AITHREACHAIS".

Two fires on the floor, near the middle of the house with a stone between them. This stone was "The Stool of Repentance."

I. Còmhla - properly a leaf of a door. - a folding together.

· FRAGMENTS ·

SIR SEUMAS NAN TÙR 'S NAN BAIDEAL. S.O. p 44a, line 13.

Sir James of the towers and of the battlements.

CHUIR IAD SMÙID RI TUR-ÀRDA S.O. p. 49b. line 40.

They put smoke to (thy) lofty-towers. i.e. castle.

'SA BHI FAICINN DO THÙR GUN CHEÒ S.O. p. 54a, line 21.

and seeing thy castle without smoke.

ÙRLAR FARSUINN - a broad floor. S.O. p. 54b. line 32.

ANN AD THALLA. in thy hall. S.O. p. 55a, line 12.

S.O. = "Sar-Obair nam Bard Gaelach" ed. Mackenzie, 1841.

GLOSSARY OF ARCHITECTURAL AND BUILDING TERMS: I. IRISH (CHIEFLY MIDDLE)

LB = Atkinson. "Passions & Homilies from Leabhar Breac" R.I.A. Todd Lect. series. II.
WS = WHITLEY STOKES. 'TRI-PART. LIFE of S. PATRICK'
Ad. = REEVES. ADAMNAN. LIFE OF S. COLUMBA. (Historians of Scot. Vol. VI).
K = BERGIN. STORIES FROM KEATING'S HIST OF IRELAND. R.I.A. 1925.

ADBA (M) g. adbai: dwelling place: habitation. L.B. p. 245.

AITTREB. (N) habitation: LB. p. 99.

AREGAL. oratory: (oraculum) W.S. I. p. clv.

AROSS (M) g. areis. a residence W.S. I, p. cxlviii.

ÁRUS (M) a dwelling. AROS. K. p 105.

AIR-FORTACH. a portico: vestibule.

AURDOM J. URDOM il. AURTEGHDHAIS no fria tegdais anechtair. a side-house - against a house outside: exhedra. Ad. p. 239.

ALTOIR (F). altar.

AIRINECH dat. airiniqi. face or facing - front elevation: facade.

ADBUR. building material. F.B. | F.B.

AURDROCHAIT stairs.

AICDE a building. W.S. II. p. 640. Petrie: p. 292.

AURSCARDAD - carving

BASLICE (F). basilica. L.B. p 101.

BEND. a pinnacle: a border. L.B. p. 558. - a gable.

BEND-CHAPUR. a dome LB. p. 101.

BENNCHOPUIR conical cap for tower. W.S. I. clvii

do. BENDCHOBAR { MARGIN POST. CORNER PILLAR. CORNER PILASTER. ANTA. } L.B text. p. 278 a 20.

BOTH (F). a hut. BÙTH. BOTHAN.

CLAIDE. digging. W.S. I. p. clvii.

CENNACUL (F). chamber. L.B. p. 193.

CAIRTHE. (M) pillar. K. p 106.

COLBHA (M). post: doorpost. K. p. 107.

CATHIR - (F). stone fort. city: monastery. ĆATHAIR. g. CATHRACH.

COMLA. - a door.

COLUMA - (F) pillar: column. L.B. p. 89.

CELL. (M) cell: oratory. W.S. I. p. clv.

CONGBAIL. cloister: convent: eccles-establishment. W.S. I p clv.
(a holding. - con + gabail?)

CUBACCUL. (F) Chamber. L.B. p. 53.

CLUSÁL (F) enclosure: prison. L.B. p. 271.

CULE: CUICENN- kitchen. W.S. I, p. clvi.

CLOCC-THIGE: CEOL-TIGE. bell-house. W.S. I p clvii

CLOICTHEACH. bell-house: (round tower) Petrie: p 148-150.

CROCHAINGEL: a screen: W.S. II. p. 339

CRAND. CRANN, (M) a beam: a post.

CRANN-CHAINGEL: screen: partition: iconostasis. Petrie: p. 206.

CÚMTACH: a building: a shrine: ornament. L.B. text. p 277 a 55.58. Petrie, p 291-292. L.B. p. 624.

CLÍ · stake: post. W.S. II. p. 643.

CLOC g. CLUIC. a bell.

DÚN (M). Fortress. W.S. I. p. cxlviii.

DOMNACH. pl. domnaige. a church. W.S. I p. clv.

DAURTHECH: DUIRTHECH. oratory (of wood). W.S. I. p. clv. Petrie: p 120.

DAURTHIGE: oratory (of wood) W.S. I p. clvii. L.B. text. p 277 a 26.

DAIMHLIAG. stone church or oratory: Petrie: p. 141.
DAIMLIACC. W.S. I. p. clvi.

DISERT. hermitage. W.S. I. p. clvi.

ECLAIS. (F) a church.

ERSA (F) a pillar: post. L.B. p. 687.

(ERSAIN-dat. door post.) L.B. text. p. 278 a 19.

ERFORTOICH a portico.

ELADU. (F) art: skill. acc. ELADAIN. g. ELADAN. L.B. p. 679.

FRAIG (F) partition: wall. g. froiged: L.B. p. 724

FRITHMUR. buttress.

GALLÁN (M) pillar stone. K. p. 109.

GRIANAN. sun-chamber. solarium. balcony. L.B. p. 743.

GARRDA. (M) enclosure: garden: precinct. L.B. p. 736.

IMDA. (F) couch: compartment: enclosure. L.B. p. 758.
pl. imdada.

IMSEING. couch: compartment: enclosure. L.B. p. 762.

IMM-ALTOIR. a portable altar. W.S. p. 652.

IMDORUS. lintel: "architrave".

LESS. fort: "castellum". L.B. p. 783.

LIAS. (M) Cattle-shed. L.B. p. 784.

LIE g. Liace. (M) stone. Strachan: "Old Irish Glosses". p. 110.

LEAC. (F) flagstone. K. p. 110.

LIA (m) stone: pl. liaga. K. p. 110.

LEBIN. terrace.

PRAINNTECH. refectory. W.S. I. p. clvi.

MÚR (m): a wall W.S.I clvii. K. p. 111.

RAITH: earthen rampart. W.S. I, p clvii.

RÍG-DÚN: royal stronghold. W.S I, p clvii.

RINDAD: carving. W.S. I. p. clv.

SENESTER: window. (Fled Bricrend).

SÉAD-CHOMHARTHA. (m.) monument: memorial: K. p. 112.
lit. a sign of a treasure.

TECH (m) a house: g. tige. Strachan: "Old Irish Glosses". p. 125.

TECH N-ÓIGED: GUEST HOUSE. W.S. I. p. clvi.

TEMPUL.: church: temple. W.S. I. p. clvi.

TOGBHÁIL (f). raising: building. K. p. 113.

UATNI.: UAITHNE. Pillar. ("fuaithntean") L.B. p. 600.
= POSTS.

TULCOLAMAIN. face-column: pilaster. face. (p. 215 here).

"Exprimuntur" (are drawn) glossed by "DOFÓRNDITER."
"Finguntur" (are moulded) glossed by "CRUTHIGTIR."
W.S. I. p. clv.

ARCHITECTURAL & BUILDING TERMS -

II. MODERN GAELIC. (Scotland).

* Words marked with Asterisk refer in particular to the construction of the "TAIGH DUBH" — a type of house of which soon there will be no examples.

* ACAIR (f) (one of the) stones fixed in loops of heather-ropes to keep thatch down.

AITREABH. (f). premises: steading.

* ANAINN. (f) eaves or top of wall.

ÁRD-DORUS. (f) lintel.

AROS (m) habitation: house.

* AD. cross-piece joining legs of couple immediately below ridge-pole.

BAIDEAL. (m) pillar.

* BAIRCEAN: cross sticks or side timbers between rafters. - "dwangs".

BALLA. (m) Wall.

BALLA-BACAIDH (m) barricade.

BALLA-TAICE (m) buttress.

BARR-MHAISE. (m) cornice.

BARR-BHAILC (m) entablature.

BARR-BHALL (m) battlement. embrasure.

BÀTHACH (m) or (f) byre. (bo + taigh).

BATHARNACH. (m) Warehouse: shop: store-house.

BONN (m) foundation.

* BONNACHA-BAC: position above eaves where "acair" are set.

BOTHAN. (m) hut: cottage.

BUABHALL AN EICH (m.) horse-stall.

BUABHAILL. (f) cow-stall. BUABHALL NAM BÓ.

BUNAID. (f) plinth: foundation: base.

* BUN-CHEANGAL. The lower end of couple of roof sunk into the wall and reaching the groin. Upright post built into wall to support the couple.

BÙTH (m) shop: booth: tent.

* BUTHAILT (m) recess. (Jura).

* CABAR - DROMA (m) ridge-pole.

* CABAR - FRAIGHE (m) eaves beam.

* CABAR (m) rafter. ie. one of the "common" rafters carned by purlins.

CACHAILEITH. gate.

CAGAILT. (f) hearth.

CAISTEAL. (m) castle: turreted mansion.

CALPA. Walls as distinct from roof.

CASAN - CEANGAIL. (f) joists.

* CAS AN TEANNACHAIDH. side of loops or rope which is to be tightened & secured in roping after thatching.

CATHAIR. (f). city: town: fort.

* CÈARN (f) Kitchen or "but".

* CEANGAL. (m) roof-couple. (of two "principal" rafters).

CLACHAIREACHD. (f) masonry: architecture.

CLACH AN DORUIS. (f) door-sill.

CLACH AN UINNEIG (f). Window-sill.

CLACH - GHLASAIDH (f) Key-stone.

* CLAIDHEAN. wooden door-latch or "sneck."

* CLEITHEAN (OR TAOBHAIN) purlins: ie. runners laid across the couples. (horizontally)

* CLEITHEAN - BUINN. Pieces of wood running upwards from top of wall and resting upon lower purlin: (taobhan iosal)

* CLEITHEAN - MULLAICH. Pieces of wood fixed to ridge and resting upon top purlin (taobhan àrd)

COLBH (m) pillar.

COMHLADH (f) door: shutter. leaf of door. (folding-door type).

CÒRN - CHLÀR. cupboard.

CLAIS. (f) mortise.

* CRANN - TAIRNGNEAN. pins or wooden nails used in fastening the various timbers.

* CUAILLE. rafters.

* CÙIL. private room or "ben".

CULAISD. store-room.

* CRUP. Groin in roof.

* CAS - CHEANGAL. (f). one of the legs of a couple. ie. "principal rafter."

* COIR or CORR. (f) a thick stick or couple-leg reaching from the middle of the end wall to top of nearest couple.

* CORR - THULCHANN (Two). as above but generally bent, meeting at end of ridge pole, fastened to one another by wooden pin called CRANN - TARRUING.

DORUS. (m) door.

* DRAGH (m) straw rope laid around the thatch about 3 feet from top of wall, round which the loops of heather are bound before weights (acraichean) are attached.

* DROMANAICH (m) ridge-ropes for fastening on thatch.

* DRONN. (m) ridge.

DRUIM (m) ridge.

* DUIBHEAD. turf for roof.

DÙN (m) fortress: fort: castle.

* EADAR-DHÀ-BHITH. Space between kitchen door and outer door.

* FARADH. (m) loft of sticks covered with divots: hen-roost.

* FAR-LEUS (m) skylight.

* FAIRLEUS. (m) smoke-aperture. (for + lés)

* FOID-FAIL. (m) sods of turf laid along top of wall.

FOR-DHORUS. (m) porch: vestibule.

FOR-SHEÒMAR (m) lobby.

FRAIGH (f) wall: partition: shelf.

* FRIOGHAN (m) layer of thatch on ridge of house.

* GATH-DROMA (m) ridge-pole. "roof-tree". GOBHLAG. m. forked ends of rafters at ridge.

GEATA (m) gate.

* GLUTARANADH: GLUTADH (Tiree) packing between outer and inner "thickness" of wall.

GEINN (m) wedge. GOBHLAG: forked upper extremity of couple.

* LAMHNAIN: LÀNAIN (sing. LÀNAN.) (f) roof-couples. of 2 "principal" rafters. cf. CEANGAL.

LÀMH (f) tenon.

* LATHUS. (m) a piece of wood laid lengthwise on thatch.

LIOS (m) courtyard.

LEAC AN DORUIS (f) door-step.

LOCAIR (m) mortice.

LUCHAIRT (f) palace: castle.

LUIDHEAR. (m) chimney: vent.

LETH-CHEARCALL. (m) arch.

MAIDE - AIDE . (m) cross-head joining door-posts.

* MAIDE - SLABHRAIDH (m) cross stick laid on two roof-ties from which chain & hook are suspended over fire.

MULLACH (m) roof.

MULLACH A STEACH . ceiling.

* MAIDE - DROMA - (m) ridge beam.

* MAIDE FEANNAIG (m) stick projecting through the thatch from the "sparr" at each end of the ridge used as peg round which to pass the "siomain fraoich".

* ROINN OISINN (OISNE). hip-rafter - piend.

SABHAL . (m) barn.

SEÒMAR (m) a room: apartment.

S. CADAIL. bedroom.

S. BIADHTACHD . dining-room.

S. CLOINNE . : nursery.

S. CUIDEACHD . drawing-room.

S. DÌOMHAIR : consulting room.

S. ÉIDIDH : dressing room.

S. GNOTHAICH . business room: office.

S. MARSANTACHD . ware-room.

S. MÒID : court room.

S. SUIDHE : parlour: sitting room.

S. STUIDEARACHD : study.

S. DEASAICHIDH : Kitchen.

SGIOBAL. (m) barn.

* SGOLB . pin or wattle for fixing thatch.

* SGONN : balk.

SAIL : (f) joist.

* SIOMAIN - FRAOICH. Heather rope used for tying down thatch.

* SPÀRR (m) joist : collar or balk to roof couple.

* SPÀRR - EALAIG : as MAIDE FEANNAIG.

* SPÀRR - GAOITHE : as SPÀRR iø. collar beam.

* SPIRIS : Hen roost.

* STAGH : stay.

* SIMILEAR CROCHAIDH . vent of thin wood or canvas to confine the smoke ; generally, but not always, when fire is in gable.

* STALL: space between door and fire.

STAIDHIR. (f). stair.

STÉIDH (f) foundation: base.

SGÀIL-THAIGH. (m) porch.

STUADH: (f) pillar: column.

SREATH-MHULLAICH-BALLA (f) coping.

* TALAN: partition - (about 3 fl. high).

TAOBH-THAIC. (m) jamb.

* TAOBHAN (m) purlin: as cleithean. T. ard: top p. T. iosal: bottom P.

TÀTHADH. (m) scarf.

TRAIGH: basement.

* TRANNSA: lobby.

TÙR. (m) tower.

TULCHAINN (f) gable.

* TUGHADH. Thatch.

TEINDIRE. (m) fire-grate.

TEINNTEAN (m) hearthstone.

TIGH: TAIGH: g. TAIGHE: (m) a house. general term.

T. COCAIREACHD: kitchen.

T. SGOIL: school-house.

T. BAINNE: dairy.

T. CÌSE: customs-house. T. CUSBUINN.

T. MÓR: mansion house.

T. NIGHEADAIREACHD: wash-house

T. ÒSDA: inn. TIGH TÀINN: TIGH SEINNSE: TIGH LEANNA.

T. RÉIDH: banking house.

T. STÒIR: pantry.

T. EIRIDINN: infirmary.

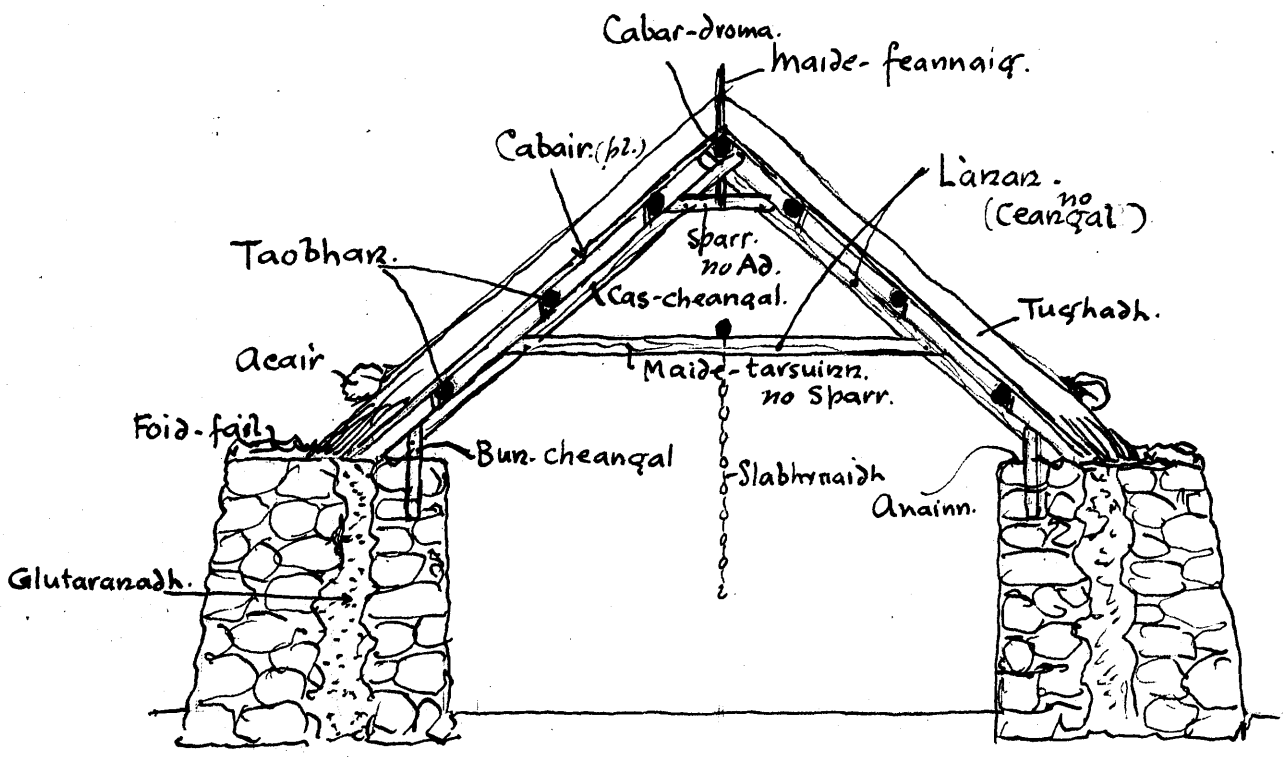
T. MALAIRT: exchange.

ÙIRLIOS (m) walled garden: AR + LIOS.

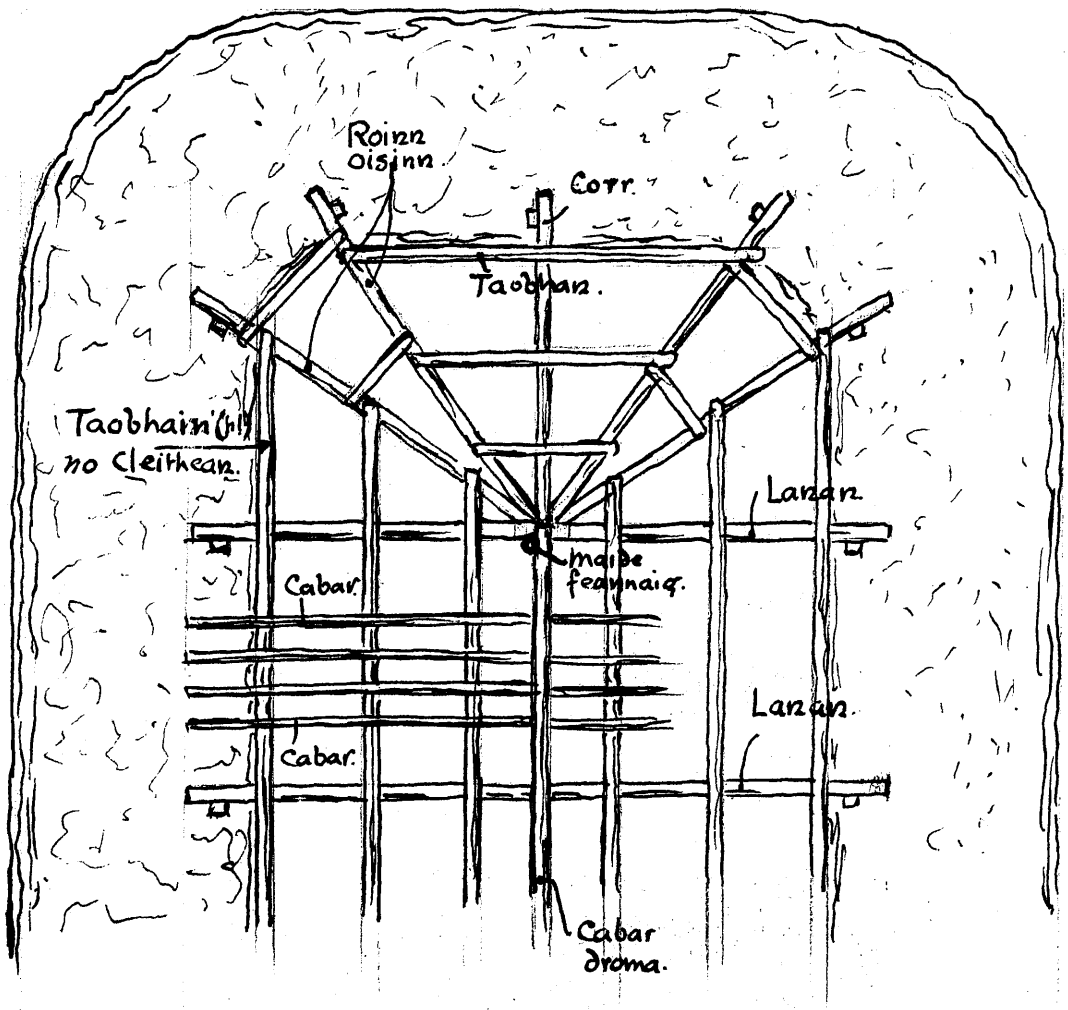
ÙRLAR (m) floor. AR + LÀR.

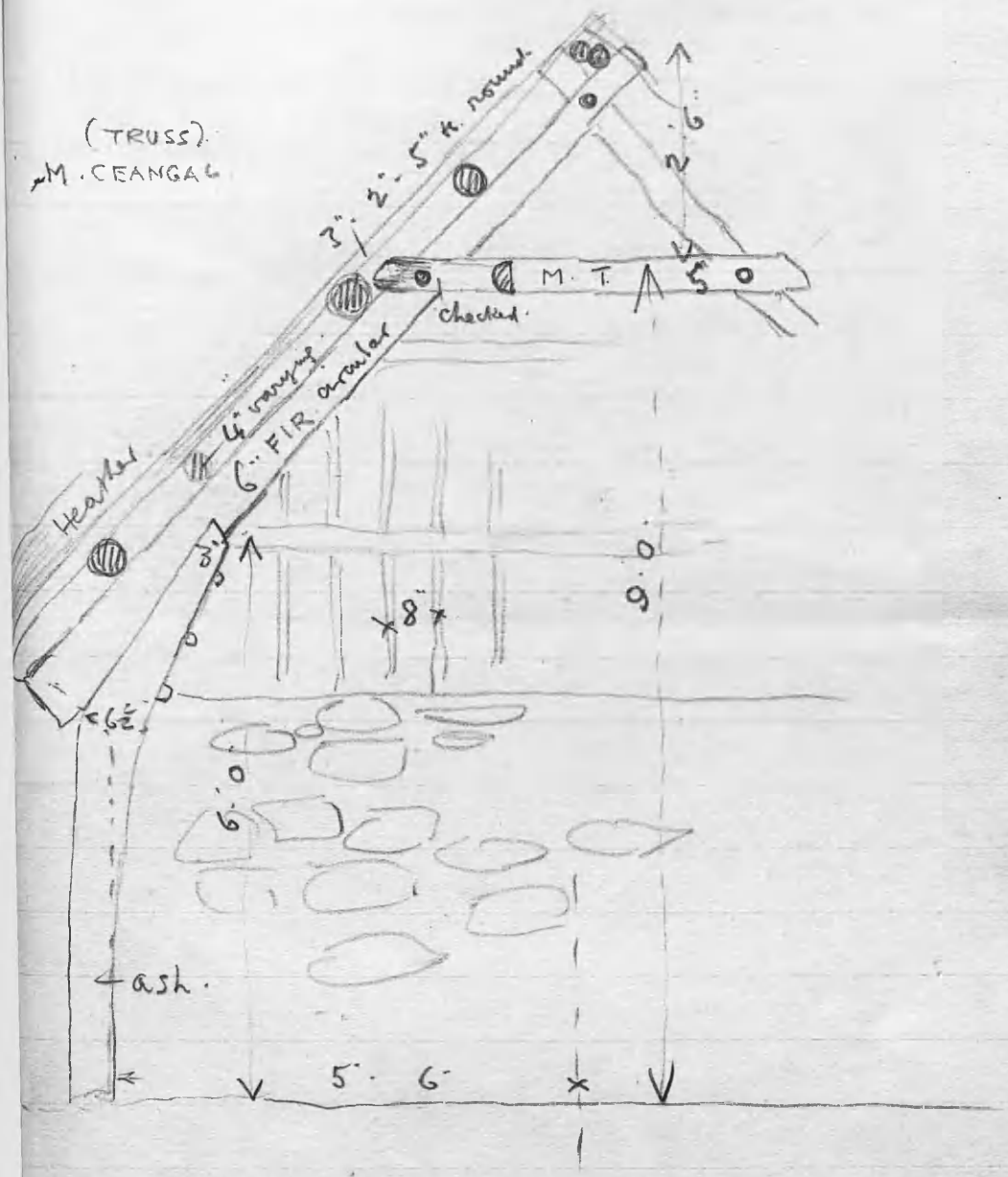
UINNEAG (f) window.

URSANN: (f) door-post.
URSAINN


Cabar-droma.
Maide-feannaig.
Cabair. (pl.)
Lanan. no (Ceangal)
Sparr. no Ad.
Taobhan.
Cas-cheangal.
Tughadh.
Acair
Maide-tarsuinn. no Sparr.
Foid-fail
Bun-cheangal
Slabhrnaidh
Anainn.
Glutaranadh.

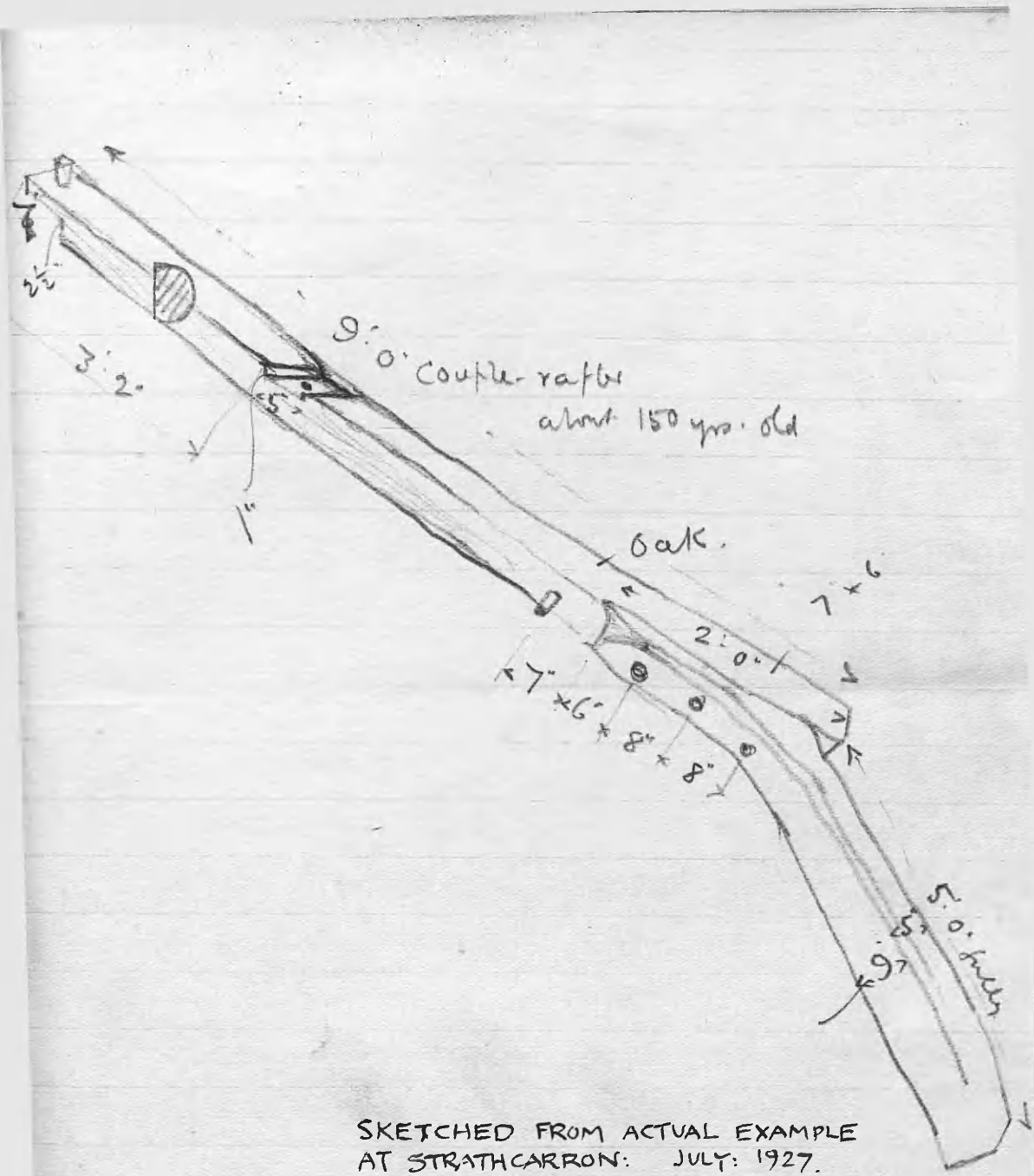
TAIGH DUBH


Roinn oisinn.
Corr.
Taobhan.
Taobhain (pl.) no Cleithean.
Lanan.
Maide feannaig.
Cabar.
Lanan.
Cabar.
Cabar droma.



SKETCHED FROM ACTUAL EXAMPLE
AT STRATHCARRON : JULY: 1927.

C.S.



SKETCHED FROM ACTUAL EXAMPLE
AT STRATHCARRON: JULY: 1927.

C.S.

AM BOTHAN.

Notes on the Construction of a Highland Cottage.

"Cùl ri gaoithe, aghaidh ri gréine," "back to the wind face to the sun," as the old saying has it, was the principle which governed the placing of the house.

The bothan was of simple form and small dimensions, providing but the bare essentials of a people whose material wants were few.

Bounded by four rude walls of undressed stone, it usually contained two apartments fitted with two or more box-beds and such articles of furniture as a table, rude seats, stools, some form of dresser, peat-chest, meal barrel, water-stoup, "seise" or bench along a wall, and a three-legged pot suspended from the "slabhraidh" - a chain attached to a cross-beam of the roof.

The lighting was scanty; sometimes one or more small windows were present; sometimes an improvised sky-light.

The fireplace was set on the middle of the earthen floor, the smoke escaping through an opening formed in the roof.

The roof was thatched with straw, rushes, bracken or heather.

Of the old houses of the West, I find that I am enabled to classify them in three groups, distinguished chiefly by the formation of the roof.

Class A :- In the houses of the Outer Isles, the roof was of simple form, the scarcity of timber imposing limits upon its use,-the island people being largely dependent upon wood washed ashore from ships.

In these houses, the walls were built of great thickness, designed to withstand the impact of storms. Six feet was common:- I measured the "reveal" of a window in a house at Harris and found it to be four feet. (In modern building

this would be less than six inches.) Such great thickness of wall was in a measure determined by the nature of the material,—chiefly rounded shore-stones built without mortar.

The roofs were hip-ended, and there were no projecting eaves. They were rounded at the angles, (as were the walls) and a peculiar device is to be observed in the arrangement at the wall-head.

Instead of the roof reaching the front edge of the wall, it springs from the inner edge, resulting in a broad ledge being formed along the wall-top round the house. This arrangement, besides effecting economy in timber, affords protection for the roof during Atlantic gales, for the wind current on striking the face of the wall and being deflected upwards, leaves the roof intact.

Class B :- The second type is found in the houses of the Western seaboard and in some of the Inner Isles. Here the roofing is arranged to form overhanging eaves, the rounded hip-ends of the former type being retained.

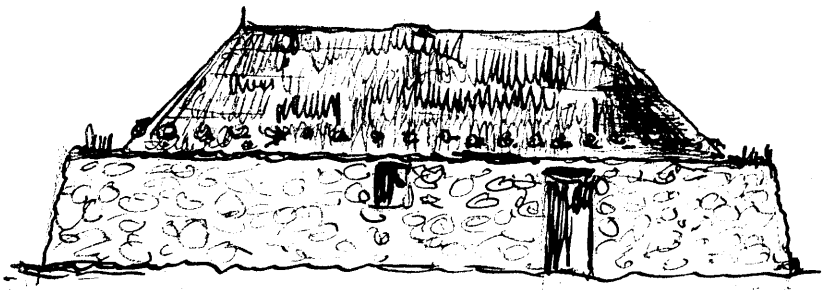
Class C :- In the more Southern and inland parts, the third type is represented in the development of the vertical, triangular gable-ends against which the roof abuts. Projecting eaves are employed. In the later examples of this type, the fireplace and smoke-flue were placed against the gable, the chimney being formed of a timber wood and shaft, terminating in a fanciful top.

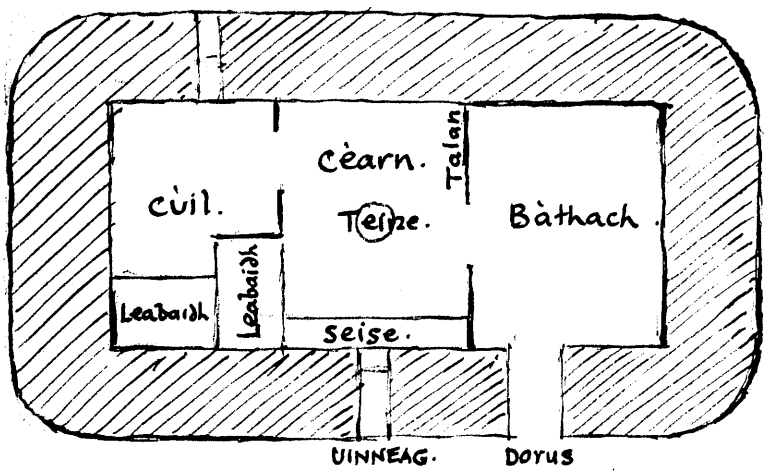
In these houses of the mainland, the walls were of moderate thickness, and the couples of the roof were often carried down to the floor, whereby the roof load was carried practically independently of the walls -(a practice adopted in modern steel construction.)

The carpentry displayed in these roof couples was of quite an advanced type, as is shown in the example from Strathcarron. of which a sketch is included here.

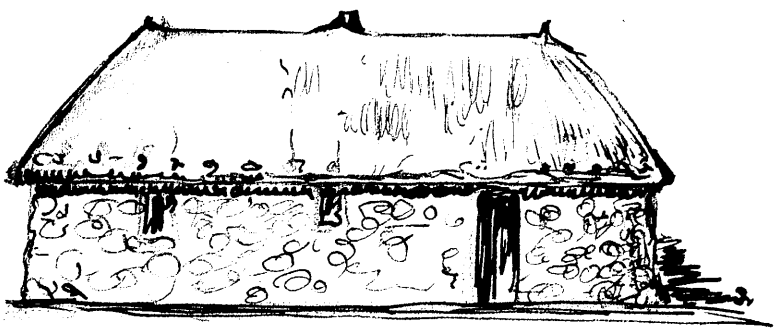
Am Bothan.

CLASS A.





CLASS B.



CLASS C.