

THE ARCHITECTURAL OCTAGONAL PLANNING (DOME OF THE ROCK AND EUROPEAN CHURCHES)

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Abstract

The Dome of the Rock considered one of the most important landmarks of Aqsa Mosque in Jerusalem, built by Caliph Abdul Malik bin Marwan, (685-691 A.D), it is an octagonal building has four doors, and within, another octagon based on pillars and cylindrical columns, in inside it, the circle surrounding the Rock and the dome above it. When the Crusaders conquered Jerusalem (1099), they turned the Aqsa Mosque as an accommodation for soldiers. And transferred the Dome of the Rock into a church, and kept control of Jerusalem until liberated by Saladin (1187). In the middle Ages, Jerusalem was a source of inspiration for Europeans architects and photographers in general and the Italians in particular. Dome of the Rock became an element in the urban planning of the city, any architectural or artistic perception to Jerusalem, did not prejudice the perception of the control of the Dome of the Rock. The dome also controlled most of the urban planning of Italian cities. In fact, the Rome imitation of Jerusalem in urban and architecture in ninth-century AD, and attempted to portray Jerusalem in technically and imitated it architecturally. The image of Jerusalem was a model imitated of most important European churches in Italy, Constantinople, France and Germany. The importance of research in highlighting the religious and artistic impact of the Dome of the Rock on the European architecture, in order to highlight the octagonal planning, which was followed in the churches since the ninth to the fifteenth centuries AD. This paper addresses - through the analytical method - octagonal Dome of the Rock planning, Europeans have been affected by this planning to build a large number of religious buildings, especially churches, and thus most affected by the spiritual influence in Jerusalem in general and the Dome of the Rock in particular, it is clear that the architectural, Islamic and Arabic identity in Jerusalem, imposed its presence in the religious monuments.

Keywords: Dome of the Rock, Octagonal Planning, Religious Architecture.

Introduction

The Dome of the Rock in Jerusalem (fig.1) is the first example of a religious building with an octagonal ground plan in Islamic architecture¹. The dome is placed over the rock, where the prophet Mohammed ended his Night Journey to Jerusalem and ascended to heaven².

The Dome is composed of an external wall, followed by a smaller octagon, and then comes the dome circle; we can say based on the study of the planning of the Dome and previous models it and planning of models that proceeded.

It was the only example of where the octagonal planning³, and It seems that, when the Caliph Abdul Malik bin Marwan ordered to begin the construction of the Dome, the picture of some similar Byzantine buildings in his mind, but the dome surpassed in magnitude and in the scheme of the octagonal from the outside shape, and circular in the centre, all what is known of domes, even it can be considered the building has no parallel⁴.

It consists of an external wall, followed by a smaller octagonal dome then come the circle; there are two octagonal arcades around the dome. Hence, it can be said based on a study Dome of the Rock layout and planning of previous models it, it was the only example of where the eight planning⁵.

Before the advent of Christianity, Jerusalem was under the political authority of Rome, to be liberated by Muslims (636 A.D). Christianity was moved to Rome by Peter who established the Apostle Church. The center of Christianity then began to turn slowly from Jerusalem to Rome⁶.

The center of religious authority has continued in Jerusalem as the spiritual centerin, because it is the home and the call center of Christ, making it the center of attention of Christians.

The status of Jerusalem in Christianity went through three stages: the first runs from the beginning of Christianity and even recognition by the Emperor Constantine (306), where the Christians were unable to make any presence in Jerusalem, as they could not make any physical presence them out.

The second stage (306-636) when liberated by the Muslim Arabs, Christian was able to achieve a political presence and bring about the dense existence and was building Resurrection Church, and another group of churches, so that Jerusalem's architectural identity has become a Christian.

The third stage, (636 until the present time), architectural identity has shifted from Christianity to Muslim Arab, without prejudice the Christian human or material presence, spiritual status of Jerusalem stayed in Christianity, but architectural Christianity identity receded to become Arab Islamic, despite the Crusader occupation (1099-1187), and attendance of Urban Representative Christian churches⁷.

Again, attention of Rome and the Vatican's turned to Jerusalem for control of the

Church of the Resurrection, and the rest of the Christian holy places in the city.

When the Crusades occupied Jerusalem (1099), they turned the Al-Aqsa Mosque to housing for soldiers, Chapel of Marwan to stable and turned the Dome of the Rock to a church called "Temple of Solomon"⁸, they did not change architectural form of the Dome of the Rock, but they changed the surface of the rock only, covered it by tiles and stayed an altar above it, Crusaders control over Jerusalem is continued to be liberated by Saladin (1187) (Lorimer, 1982, p.84), who ordered to remove the internal construction and returned the mosque⁹.

In this period, especially since the founding of the church until the liberation of Jerusalem (1099-1187), the conflict of imagination or consciousness of the Christian concepts of Jerusalem are the spiritual and mundane concept¹⁰ The spiritual concept is the product of an unspecified religious visions of cultural, urban and architectural elements¹¹, were perceptions of the clergy and architects in the broader mostly in the period at the end of the Middle Ages (476-1453 AD) and Renaissance (14-16 A.D) influenced by the Urban Planning of Jerusalem, and was a source of inspiration for Italian architects in particular and Europeans in general¹². The religious concept was tangible, it was significant by the urban elements includes buildings, roads, fences, and the urban planning which includes residential, commercial, administrative and religious buildings.

Jerusalem - in Christian traditions - possesses architectural, Arab and Islamic identity, characterized by the Dome of the Rock and Al-Aqsa Mosque. Since the Dome of the Rock with its visual personality, the most presence in the urban planning of the city¹³. There is no architectural or artistic design for the city of Jerusalem, without the control of the Dome of the Rock. Spiritual stature of Jerusalem has remained in Christianity, but the architectural identity of Christianity receded to become an Arab Muslim, although the Crusader occupation (1099-1187), and attendance of Urban Christian churches¹⁴.

When the Arab-Islamic Jerusalem - with its Urban and architectural Planning and its Arab-Islamic identity -, is the earthly Jerusalem, the impact in the Italian cities specially in the Middle Ages (11-14) and Renaissance was evident, where formed the idea of the ideal city¹⁵.

Jerusalem has become a bilateral religious City, a unified identity and culture¹⁶, the Urban and architectural planning and all the visual vocabulary became Arab Islamic, even the buildings of non-Muslims, the bulk of the architectural elements and visual vocabulary of Arab Islamists became the most important site of the city, including Al-Aqsa Mosque and the

Dome of the Rock, Jerusalem has been documented the planning and construction in the works of Arab geographers¹⁷.

As for rooting the octagonal planning of the Dome of the Rock, there is a team of orientalist and researchers believe that the plan as a Roman descent, since there are some buildings in Rome constructed in the reign of Emperor Constantine (324-337)¹⁸.

The origin of Octagonal Planning

Octagonal Planning is found in European cities during the Roman age, including that found in Italy, in the city of VirofficVengda "Vitruvius", and planning fortifies angles eight cylindrical towers (Fig. 2)¹⁹.

The octagonal planning in Palestinian churches is associated with Roman roots, specially the Dome of the Rock. The octagonal design adapted directly from the design of some famous churches that existed in the Levant²⁰, but differed in some of the details, Creswell turn compared to building the Dome of the Rock with the Church of the Resurrection scheme "The Holy Sepulchre" in Jerusalem (326) to contain the rock where the tomb of Jesus Christ, and was built to contain the rock on which mohamed ascended to heaven²¹.

But when studying this special plan the Resurrection Church, we find that it was relying essentially on the design is not octagon, and thus we find here the focus of Creswell study on the central dome, and therefore this example are excluded from our study of the impact of the Church of the Resurrection on the octagonal planning, because the Church of Resurrection plan does not match the reality of the Dome of the Rock layout in any way. We find the octagonal planning at the beginning of the fourth century, was the construction of Diocletian "Dioclétien" shrine in Spalato "Spalato" (303)²², and octagonal planning abroad and stationed around a circle. (Fig.3).

The Church of the Ascension "Anastasis" in Palestine (fourth century), which was built in the reign of Emperor Constantine was designed an octagonal inside a circle around a rock he was standing by Jesus Christ when ascended to heaven²³. Consequently, we find octagon from abroad, only the Church of planning, and is centered in position on the circuit, which this design less complex and simpler in design of the Dome of the Rock, which depends on the appraiser from home and abroad planning, it is full octagon outwardly and inwardly in the Dome of the Rock planning.

The Church of Natifti "Nativité" in Bathleem "Bethléem"²⁴.is one of churches dating

back to the beginning of the fourth century has been used in the construction of this model, we find with a single octagonal planning centered (fig.4).

We find Oscenion "L'Aseension Church" holy house (378)²⁵, the outside of the plan centered on a circle. (fig.5).

It is the churches of the fifth century, we find Baptistr Constantine Church "Baptistèreconstantinien" in the Lateran "Latran" (the beginning of fourth century)²⁶, it is to be with octagonal planning (mid-fifth century). (fig.6).

We also find the Church of St. Simeon Castle "QalatSimanMartyriums" Syria (470), the Architectural planning resulted from its intersection octagonal shape holds a central wooden dome mounted on eight columns²⁷.

We find the Church of the octagonal planning called the gift of God Church known as the Theotokos "La Théotokos" which is located on Mount Gerizim near Nablus, on the part of the rock that ascended from the Lord Jesus Christ (484), the first church, which maintained its octagonal planning (fig.7)²⁸.

The cathedral of Bosra (Syria) (512) is an example of the octagonal design (fig.8), the geometric (octagonal and hexagonal) ground plan of the *caldarium*, carried forward as a basic theme of the early churches in Syria²⁹

Other buildings in Syria with an octagonal ground plan are the Church of St. George at Ezra'a (or Zor'a) (fig.9), the ancient Zorava Southern Syria³⁰. This church is built in (515). The small baptistery of Simean castle, (fig.10) was part of a much larger complex, consisting of a cross-shaped church built around an octagonal court with the pillar of St. Simeon in the middle³¹.

The Church of San Sergius and Bacchus in Constantinople (fig.11) is built by Justinian, probably in 527 AD. The church became known as 'Little Hagia Sophia', because the general principals of the building were the same as the Hagia Sophia (became a mosque between 1506-1512), the ground plan was based on an octagonal, the building established a further move of this type of plan from Syria to the west (Ravenna). The Christian architecture in Western Europe was ready to pick up the octagonal as a sign of the multitude.

The Dome of the Rock in Jerusalem got its first representative in Europe some hundred-and-forty years earlier in the Church of San Vitale in Ravenna. Building started under Archbishop Ecclesius (521–534) and finished in 547.

It has a double octagonal plan with an inner and outer shell (fig.12). The diameter of the dome is seventeen meters and its height of thirty meters. The church became, some two

hundred and fifty years later in Carolingian times, the prototype of a number of octagonal churches and chapels in Europe³².

Impact of Jerusalem on European cities

The Impact of Jerusalem on Italian cities, where it became a model for the evolution of Italian cities, was the Popes believe that Rome - which St. Peter established its church - is the new Jerusalem³³. The Church of Rome is also considered a place of ancient Temple of Jerusalem. Add to these two concepts, the Dome of the Rock imposed an architectural presence on most European cities.

In fact, The Roman urban and architectural tradition of Jerusalem back to the ninth century AD, There are attempts to portray Jerusalem technically, architecturally and imitated, to evoke the sanctity of the Christian faith³⁴, so as not had by Christians, perhaps because of political circumstances or because of the central practiced by the Church of Rome.

Again, Rome and the Vatican's attention turned to Jerusalem for control of the Church of the Resurrection, and the rest of the Christian holy places in the city. Were the Crusades and the occupation of Jerusalem (1099), and turned the Al-Aqsa Mosque to housing for soldiers, Chapel of Marwan to stable and turned the Dome of the Rock to a church, and called it the "Temple of Solomon"³⁵, they did not change architectural form of the Dome of the Rock, but they changed the surface of the rock only, covered it by tiles and stayed an altar above it, Crusaders control over Jerusalem is continued to be liberated by Saladin (1187)³⁶, who ordered to remove the internal construction and all aspects of the church and returned the mosque³⁷.

In this period, specifically since the founding of the church until the liberation of Jerusalem, the conflict of imagination or consciousness of the Christian concepts (Saint Augustine, 1984, 18, pp.472- 474), are the spiritual concept and the concept of the mundane. The spiritual concept is a product of religious visions³⁸, non-specific urban and urban and architectural elements, were perceptions of the clergy, photographers and architects in the broader mostly in the period at the end of the Middle Ages (476-1453) and Renaissance (14-16) subject to the Urban Planning of Jerusalem and influenced by it, and was a source of inspiration for architects and photographers Italians in particular and Europeans in general³⁹. The worldly concept was tangible; representing urban elements includes buildings, roads, fences, and the urban planning, which contains residential, commercial, administrative and religious buildings.

In Jerusalem, the Christian city with the Arab-Islamic by distinctive architectural

identity of the Dome of the Rock and Al-Aqsa Mosque. Since that, the Dome of the Rock and the presence of visible figure in the urban planning of the city, and did not prejudice any perception of architectural or artistic control of Jerusalem's Dome of the Rock it, especially in the urban planning, architectural importance, urban and visual character of the Italian cities. When Jerusalem was Arab-Islamic, planned by the Urban and fabric architecture and identity architecture Arab-Islamic is the ground of Jerusalem, the impact was evident in the Italian cities in particular the Middle Ages (11-14) and Renaissance, where formed the idea of the ideal city⁴⁰.

Jerusalem began to influence the urban planning of the Italian cities, the popes are believed to Rome, which established the Church of St. Peter is the New Jerusalem⁴¹, also considered the Holy Church of Rome place the old structure.

In addition to these two concepts that the Dome of the Rock architecturally exposed the existence of the most European cities. In fact, the tradition of Rome to Jerusalem from urban and architectural point of view in the ninth century, called attempts to portray Jerusalem technically imitated architecturally to evoke the sanctity of the Christian faith⁴², because they cannot visit, probably due because of political circumstances or because of the central practiced by the Church of Rome.

Octagonal planning in Christian Churches

When Constantine won the victory over Maxentius in (312 A.D), he favored the Christian belief, and started to build churches, his octagonal church in Antioch also known as the Golden Church, another churches in Jerusalem. The octagonal design is found in many early Christian churches in Syria⁴³. It is of historical significance that a similar situation to an octagonal design in the middle of the eight century. Charlemagne (742/747–814) became acquainted with the achievements of Roman church architecture.

The ground plan of the San Vitale and its symbolic significance must have attracted his attention, and he ordered to build a similar building in his capital Aachen (Germany)(fig.13)⁴⁴. The ground plan of the *Münster*(Dome church) in Aachen is seen here with various extensions, which were added over the years. The original Carolingian *Pfalzkapelle* (Palatine chapel) 805 AD, is drawn in black, the Gothic additions are cross-hatched and the Baroque affixture is marked with vertical lines.

The chapel in Aachen was copied in various places in Europe⁴⁵. The Carolingian church in Torhout (Belgium), started its history in the ninth century as a possible copy of

Germigny-des-Prés with a ground plan of a Greek cross – but might at some stage been covered by an octagonal domed tower.

This latter suggestion remains a guess, because the outlay of the tower is not reflected in the ground plan and there are no archeological sources to determine the upper part of the oratorium⁴⁶, flected in the ground plan and there are no archeological sources to determine the upper part of the oratorium⁴⁷. The octagonal plan of the church in Ottmarsheim⁴⁸, which was already earlier discussed, is inspired by the Palatine chapel in Aachen.

The building of the octagonal church in Ottmarsheim (Alsace, France) started in 1030. The adjoining bell tower was erected in the fifteenth century (fig.14), the original church – a replica of the Palatine chapel in Aachen. The religious and symbolic significance of the octagonal and numerological references in general was widely understood at the time of construction in the middle of the eleventh century⁴⁹, the church of Ottmarsheim (Alsace) on the borders of the Rhine, east of Mulhouse, based on an octagonal design, the church was built in the middle of the eleventh century.

The influence of the octagonal chapel in Aachen seemed fading in the later ninth century or was restricted to the western part of the divided Carolingian empire⁵⁰. The *S. Maria degli Fiore*, (fig.15) better known, as the Cathedral of Florence (Italy), is an impressive representation of the octagonal identity. It combines the ground plan of the baptistery with the Renaissance geometrical spirit.

San Vitale of Ravenna and the various baptisteries in Italy⁵¹. – including the Baptistery of Florence, of which the first plan dated from the middle eleventh century – carried the symbolism of the eightfold forward through the ages to find a new meaning of beauty in the *Duomo* in Florence⁵².

The history of the cathedral started between the fourth and fifth century when the city of Florence enjoyed a period of wealth. The new church called Santa Reparata after her miraculous apparition on the anniversary of her martyrdom. Sancta Reparata was born in the third century in Caesarea (Palestine). The story of her life was rather pitiable. She was tortured as a child of eleven years during the persecution of the Christians by Emperor Decius (249/251 AD). She was thrown in the fire, but escaped unharmed. Later she was offered to apostatize, refused and was beheaded.

The original cathedral was demolished after the Gothic-Byzantine war of the sixth century. A rebuilding of the second Santa Reparata took place in the eight of the ninth century, following the original dimensions with three naves, but with the addition of two side

chapels in the area of the apse.

Arnolfo di Cambio again enlarged its size in a plan in 1294 and the first stone was ceremoniously laid on the eight of September 1296. The ground plan followed the classical outlay of a basilica with a trefoil shaped tribune on which the *cupola* rests. The *cupola* aimed at a diameter of forty-five meters. The construction of the *cupola* was the work of Filippo Brunelleschi (1377–1446)⁵³.

The final execution of the dome of Santa Maria del Fiore Cathedral was the work of Filippo Brunelleschi (1377-1446). Brunelleschi worked in the meantime on the plan of the *Rotonda* of Santa Maria degli Angeli, also in Florence. The building started around 1434, but was not finished during Brunelleschi's lifetime (fig.16)⁵⁴. The octagonal design in Germany, as established in the Carolingian *PfalzKapelle* in Aachen (in the early ninth century), remarkable predecessors, other than the traditional reference to the San Vitale Church in Ravenna: the Gallo-Roman *Umgangstempel*⁵⁵.

An octagonal example is situated geographically some hundred and eighty kilometers to the south east of Aachen and can be found in the city of Mainz⁵⁶ (fig.17).

The octagonal temple in Mainz was dating from the last part of the first century AD to the beginning of the second century. The temple had a double wall and could be either round, square or octagonal. These temples might have influenced Emperor Charlemagne – some sixth centuries later – to build his Aachen chapel in just the same way. The mausoleum of Emperor Diocletian in Split (Spalato) also followed the octagonal tradition of the *Umgangstempel*. The imperial complex was built in the fourth century.

There are number of churches with an octagonal ground plan in Germany. The ground plan of the Busdorf Church in Paderborn (Nordrhein-Westfalen) (fig.18). The crypt of the Stephansdom in Kourim (Bohemia) (fig.19) was part of a religious complex built by the Cistercians Order. The Roman/Gothic church was of the basilica type, with large towers on its side. The crypt (underground chapel), called Katerinka, has an octagonal plan. The theme is reflected in the ribs of the roof as an eighth pointed star. This form of a roof might be the oldest of this type on the Continent (outside England).

The S. Aegidius Church is the hallmark of the small town of Oschatz in Saxony with two spires of seventy-five meters. The church started as a chapel of wooden church in the eleventh century. The first stone church dated from the fourteenth century, but was demolished in 1429. The rebuilding took place from 1443 onwards and was in Gothic style. The crypt underneath the altar choir took shape in 1464, following an octagonal design

(fig.20).

The octagonal church of Ludorf (Saxony, Germany) (fig.21) was consecrated in May, 1346. The idea of the ground plan might be introduced by visitors to the Holy Land, who saw the Dome of the Rock in Jerusalem.

Conclusion and search results

- The Dome of the Rock in Jerusalem is the first example of a religious building with an octagonal ground plan in Islamic architecture. It was the only example of where the octagonal planning, and It seems that, when the Caliph Abdul Malik bin Marwan ordered to begin the construction of the Dome, the picture of some similar Byzantine buildings in his mind, but the dome surpassed in magnitude and in the scheme of the octagonal from the outside shape, and circular in the center, all what is known of domes, even it can be considered the building has no parallel.
- The spiritual concept of Jerusalem is the product of an unspecified religious visions of cultural, urban and architectural elements, were perceptions of the clergy and architects in the broader mostly in the period at the end of the Middle Ages (476-1453 AD) and Renaissance (14-16 A.D) influenced by the Urban Planning of Jerusalem, and was a source of inspiration for Italian architects in particular and Europeans in general, the religious concept was tangible.
- Jerusalem - in Christian traditions - possesses architectural, Arab and Islamic identity, characterized by the Dome of the Rock and Al-Aqsa Mosque. Since the Dome of the Rock with its visual personality, the most presence in the urban planning of the city.
- Octagonal Planning is found in European cities during the Roman age, including that found in Italy, in the city of VirofficVengda, and planning fortifies angles eight cylindrical towers.
- We find the octagonal planning at the beginning of the fourth century, was the construction of Diocletian shrine in Spalato (303), and the Church of the Ascension in Palestine (fourth century), which was built in the reign of Emperor Constantine was designed an octagonal inside a circle around a rock he was standing by Jesus Christ when ascended to heaven. Consequently, we find octagon from abroad, only the Church of planning, and is centered in position on the circuit, which this design less complex and simpler in design of the Dome of the Rock, which depends on the appraiser from home and abroad planning, it is full octagon outwardly and inwardly in the Dome of the Rock planning.

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- The cathedral of Bosra (Syria) (512) is an example of the octagonal design, the geometric (octagonal and hexagonal) ground plan of the caldarium, carried forward as a basic theme of the early churches in Syria.
- Other buildings with an octagonal ground plan are the Church of St. George at Ezra'a, the ancient Zorava Southern Syria (515). The small baptistery of Simean castle.
- The ground plan pf the Church of San Sergius and Bacchus in Constantinople, probably in 527 AD, became known as 'Little Hagia Sophia', was based on an octagonal, the building established a further move of this type of plan from Syria to the west (Ravenna).
- The Dome of the Rock in Jerusalem got its first representative in Europe some hundred-and-forty years earlier in the Church of San Vitale in Ravenna (547).
- The church became, some two hundred and fifty years later in Carolingian times, the prototype of a number of octagonal churches and chapels in Europe.
- The Impact of Jerusalem on Italian cities, where it became a model for the evolution of Italian cities, was the Popes believe that Rome - which St. Peter established its church - is the new Jerusalem. The Church of Rome is also considered a place of ancient Temple of Jerusalem. Add to these two concepts, the Dome of the Rock imposed an architectural presence on most European cities.
- Rome and the Vatican's attention turned to Jerusalem for control of the Church of the resurrection, and the rest of the Christian holy places in the city. Were the Crusades and the occupation of Jerusalem (1099), and turned the Al-Aqsa Mosque to housing

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- The octagonal plan of the church in Ottmarsheim, which was already earlier discussed, is inspired by the Palatine chapel in Aachen.
- The building of the octagonal church in Ottmarsheim (Alsace, France) started in 1030. The adjoining bell tower was erected in the fifteenth century, the original church is a replica of the Palatine chapel in Aachen
- The S. Maria degli Fiore, better known as the Cathedral of Florence (Italy), is an impressive representation of the octagonal identity. It combines the ground plan of the

baptistery with the Renaissance geometrical spirit.

- San Vitale of Ravenna and the various baptisteries in Italy. – including the Baptistery of Florence, of which the first plan dated from the middle eleventh century – carried the symbolism of the eightfold forward through the ages to find a new meaning of beauty in the Duomo in Florence.
- The octagonal design in Germany, as established in the Carolingian PfalzKapelle in Aachen (in the early ninth century), remarkable predecessors, other than the traditional reference to the San Vitale Church in Ravenna.
- The octagonal temple in Mainz was dating from the last part of the first century AD to the beginning of the second century. These temples might have influenced Emperor Charlemagne – some sixth centuries later – to build his Aachen chapel in just the same way.
- The mausoleum of Emperor Diocletian in Split (Spalato) also followed the octagonal tradition of the Umgangstempel. The imperial complex was built in the fourth century.
- There are number of churches with an octagonal ground plan in Germany. The ground plan of the Busdorf Church in Paderborn.
- The crypt (underground chapel) of the Stephansdom in Kourim (Bohemia), has an octagonal plan.
- The crypt of S. Aegidius Church is the hallmark of the small town of Oschatz in Saxony, underneath the altar choir took shape in 1464, following an octagonal design.
- The octagonal church of Ludorf (Saxony, Germany) was consecrated in 1346.

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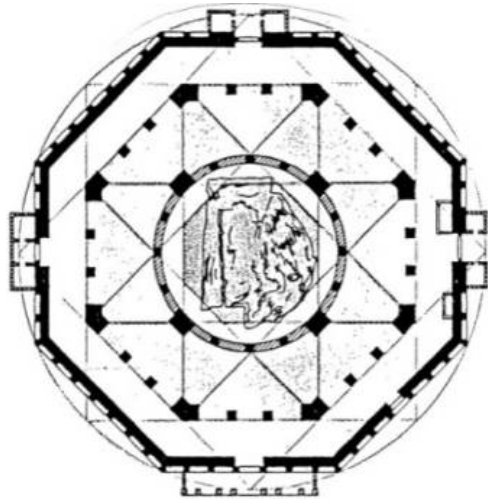


fig. 1. The Dome of the Rock in Jerusalem
Source: Écochard, 1936, fig.12.

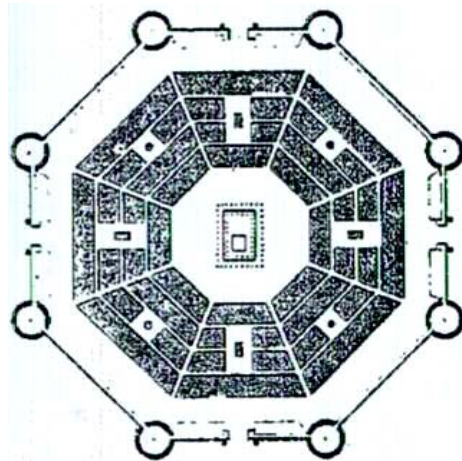


fig.2. The city of ViroffieVengda "Vitruvius",
Source: Morris, 1974, fig.5

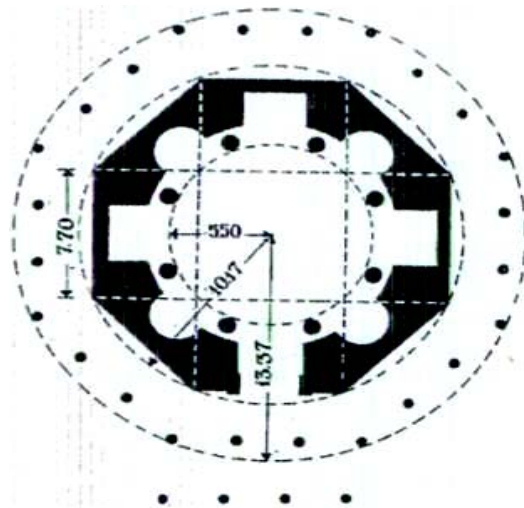


fig.3. Diocletian "Dioclétien" shrine in Spalato "Spalato"
Source: Écochard, 1936, fig.12/2

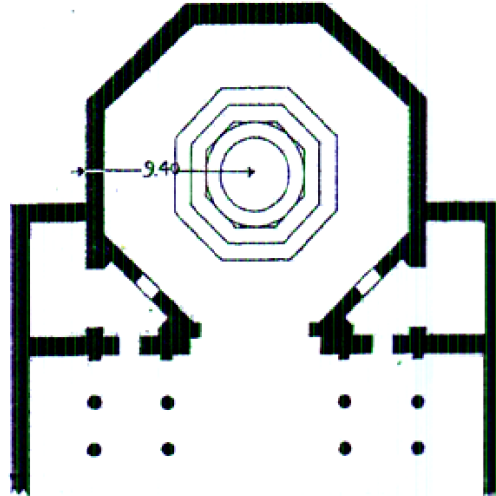


fig.4. The Church of Nativity "Nativité" in the city of Bethlehem "Bethléem"
Source: Écochard, 1936, p.84, fig.12/5

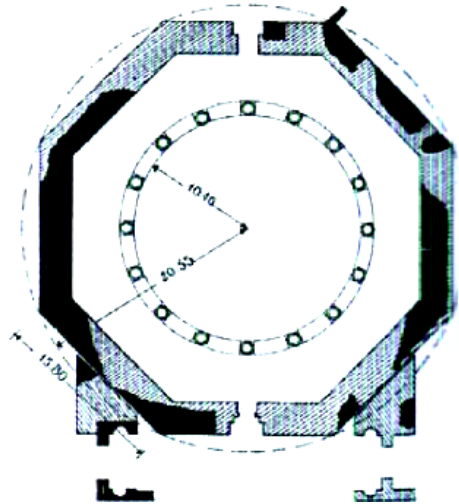


fig.5. Osnabrück "L'Ascension Church"
Source: Écochard, 1936, fig.12/7

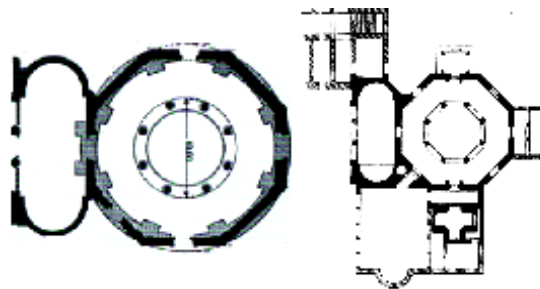


fig.6. Baptistery of Constantine Church in the Lateran "Lateran", Rome
Source: Écochard, 1936, fig.12/2

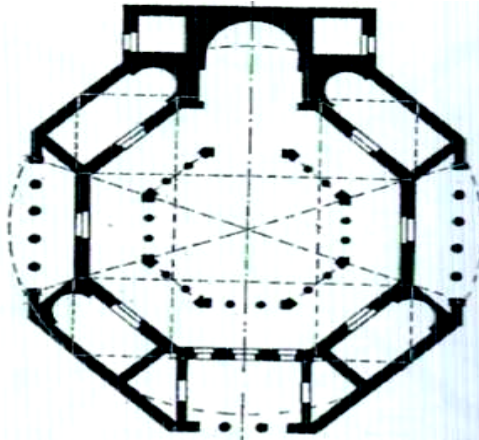


fig.7. the Theotokos "La Théotokos" near Nablus
Source: Al-Tall, 1989, fig.5

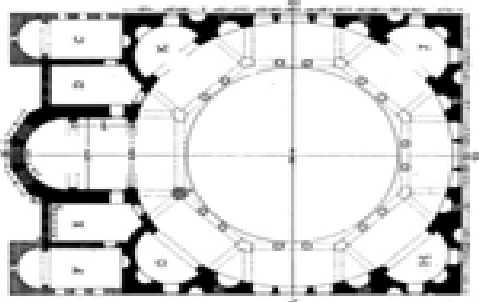


fig.8. The cathedral of Bosra (Syria) 512 AD
Source: Baldwin, 1929, fig.243.

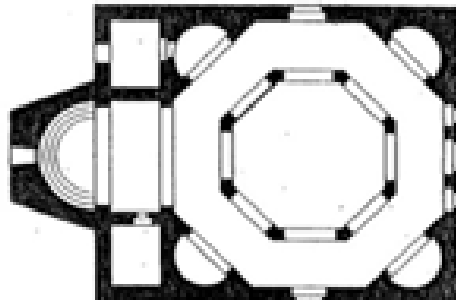


fig.9. The Church of St George at Zorah (Syria) 515 AD.
Source: Baldwin, 1929, fig.243.

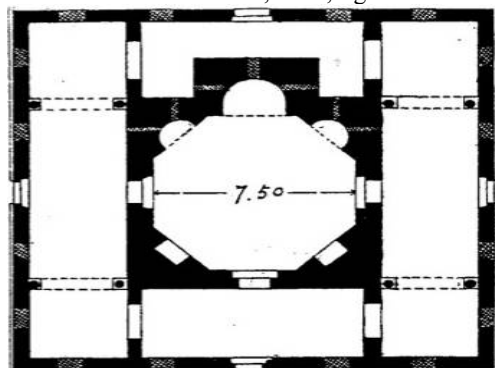


fig. 10. The baptistery of Kal'atSimean in the convent complex of St. Simeon Stylites
Source: Kuilman, 2011, fig.244.

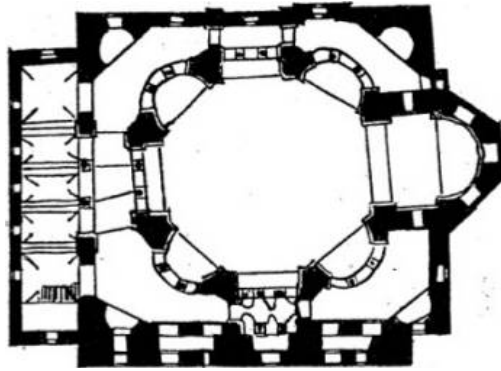


fig.11. The Cathedral of St. Sergius, Bacchus and Leontius in Istanbul (Turkey),
Source: Kuilman, 2011, fig. 247

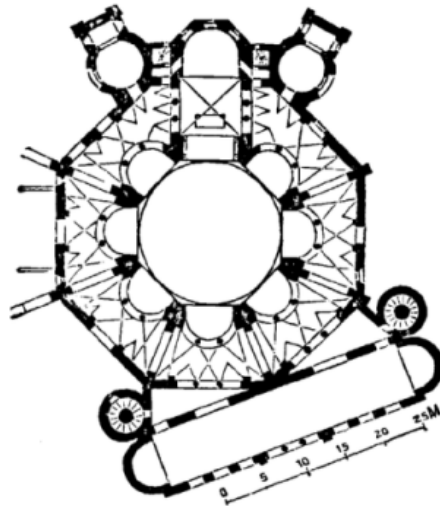


fig.12. The San Vitale Church in Ravenna (Italy)
Source: Kleinbauer, 1973, fig.16

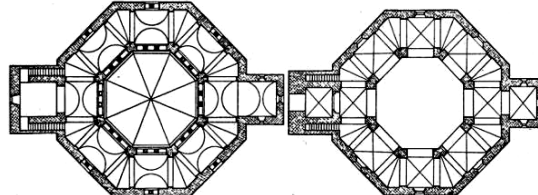
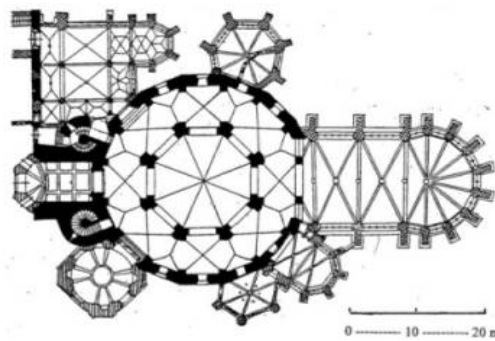


Fig.13. The Münster (Dome church) in Aachen
Source: Kuilman, 2011, fig.252



.14. The church of Ottmarsheim (Alsace)
Source: Baldwin, 1929, fig.250 fig

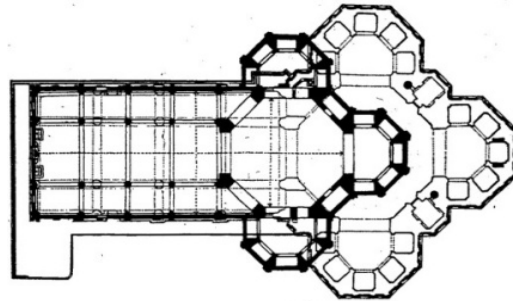


fig.15. The church of S. Maria degli Fiori in Florence
Source: Götz, 1968. fig.123

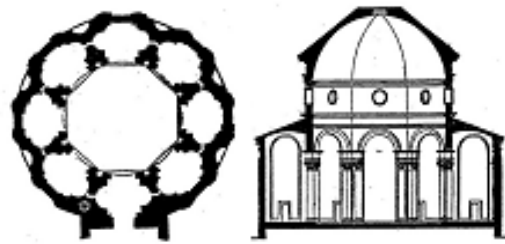


fig. 16. The Church of S. Maria degli Angeli (*Duomo*) in Florence
Source: Pevsner, 1943-1961, figs.52-53

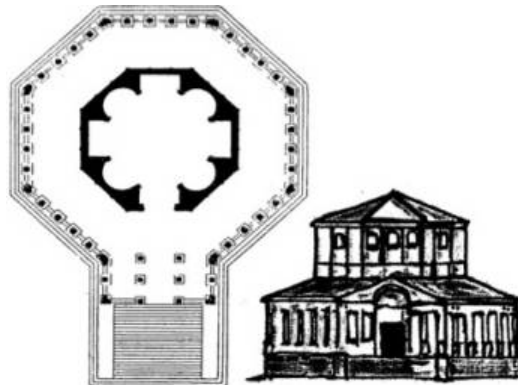


fig.17. The octagonal temple in Mainz
Source: Kuilman, 2011, fig.258

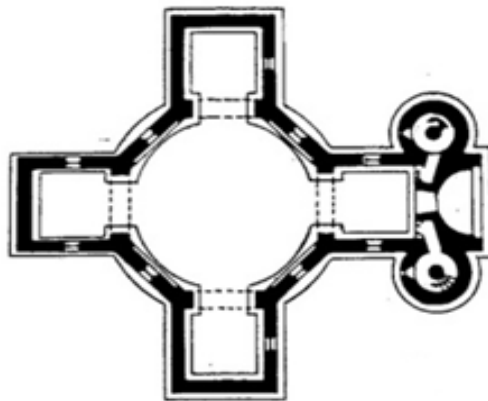


fig.18. The Busdorf Church in Paderborn (Nordrhein-Westfalen)
Source: (Kuilman, 2011, fig.258A

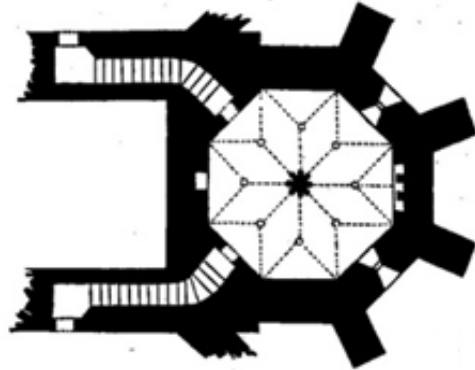


fig.19. The Stephans Church in Kourim, Bohemen
Source: Kuilman, 2011, fig.258B

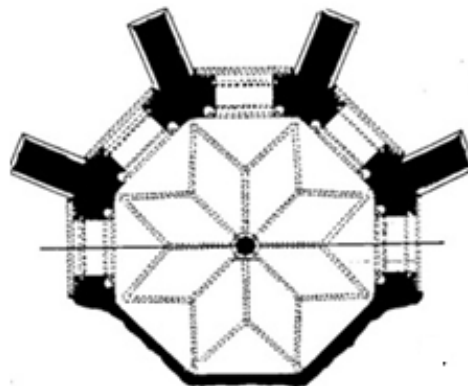


fig.20. The S. Aegidius Church in Oschatz (Saxony) Germany
Source: Kuilman, 2011, fig.258C

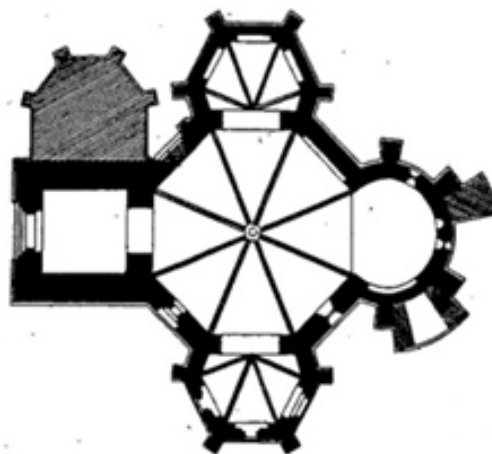


fig.21. The octagonal church of Ludorf (Saxony) Germany
Source: Kuilman, 2011, fig.258D

- ¹Creswell, 1924, p.20. 1929, p.70etseq; 1969, p.65. Ali, 1946. Goitein, 1950.Crinson, 1996, pl.1.Slavik, 2001, p.60. Davidson, and Gitlitz, 2002.Islam, & Al-Hamad, Zaid, 2007, p.139, 2, 109–128.Stark, 2009, p.33.Avner,2010, pp.43-44.Écochard, 1936, 79-84, figs.10-12, no.12.In Arabic: Al-Maqdidi, 1909, pp. 165-171. Strang, 1970, pp.126-169). It begun in 684 AD,Kuilman, 2011, Fig.248p.313. Curatola, 1981-1983.
- ²Creswell, 1924.Ali, 1946.Goitein, 1950.Slavik, 2001.Davidson, Linda, and Gitlitz, 2002.Islam, & Al-Hamad, Zaid, 2007.Stark, 2009.Avner, 2010.
- ³In Arabic: Al-Maqdisi, 1909, pp.171. Strang, 1970, pp.126-169.
- ⁴Creswell, 1929.p.20. Écochard, 1936, 79-84, figs.10-12, no.12. In Arabic: Al-Maqdisi, 1909, pp.165-169. Strang, 1970, pp.126-127-169.
- ⁵In Arabic: Al-Maqdisi, 1909, p.169.
- ⁶Lorimer, 1982, 1, pp.83-84.
- ⁷Gilbert, 1985, pp.220.
- ⁸Nardi-Rainer, 1998.pp.218. Fleck, 1998, pp.448-452.
- ⁹Sabar, 1989, pp.218-301.
- ¹⁰Saint Augustine, 1984.18, pp.472-474.
- ¹¹Hopkins, 1970, pp.96-97.Peters, 1985, pp.129-130.Ahlstrom, 1993, pp.527-530. Wightman, 1993, pp.86-184:186-191-201. Linder, 1998, pp.166-172.Smith, 1998, p.188.Nardi - Rainer, 1989, p.218. Sabar, 1998, p.301.Silver, 1998, p.314.Ousterhout, 1998, p.402, In Arabic: Al-Tabari, 1967, 3. Al-Maqdisi, 1909, pp.165-171. Maqqar, 1992, pp.65-83.Al-'Abed, 2001, pp.1-70.Helal, 2001, pp.77-105.McDowell, 2002, 1, pp.83-84.Lorimer, 1982, pp.83-84.
- ¹²Collins, 2000, 1, pp.267-453.Moscrop, 2000, pp.14-15. In Arabic: Hilal, 2001, pp.16-19-61-62.
- ¹³Creswell, 1924, p.20. 1929, p.70etseq; 1969, p.65. Ali, 1946.Goitein, 1950.Slavik, 2001. Davidson, and Gitlitz 2002. Avner, 2010.Islam & Al-Hamad, 2007, 1, p.139, 2, pp.109–128.Stark, 2009, p.33.Avner, 2010, pp.43-44.Écochard, 1936, 79-84, figs.10-12, no.12, In Arabic: Al-Maqdidi, 1909, pp.165-171. Strang, 1970, pp.126-169.
- ¹⁴Gilbert, M. 1985, p.220.
- ¹⁵Ousterhout, 1989, p.407.
- ¹⁶Procopius, (6th century), 1971, VII, pp.345-349.
- ¹⁷In Arabic: Al-Tabari, 1967, 3. pp.609. Al-Maqdisi, 1909, pp.165-171.
- ¹⁸Al-Tall,1989, p138.
- ¹⁹Morris, 1974, p. 114, figs. 5-9.
- ²⁰Rajab, 1981, p.213; Al-Tall, 1989, pp.123, 128-139, figs.2-10.
- ²¹Al-Tall, 1989, p.127, fig.2.
- ²²Écochard, 1936, p.79-84, fig.12/1.
- ²³Creswell, 1929, p.40.Al-Tall, 1989, pp.129-130-137, fig.3A.
- ²⁴Écochard, 1936, p.84, fig.12/5.
- ²⁵Écochard, 1936, p.84, fig.12/7.
- ²⁶Écochard, 1936, p.83, 84, fig.12/2.
- ²⁷De Vogué, 1865-1877, p.141 et seq., pls.139etseq; Dieill, 1925, pp.35-38; Krencker, 1934, pp.62-89; Écochard, 1965, pp.61-90, figs.1-14, pls. X-XV. Krautheimer, 1965, p.110. Al-Tall, 1989, pp.124-132-137-146 fig.7)
- ²⁸Bulter, 1929, p.124, Div. II, Section B, pl.XXIII, Écochard, 1936, pp.61-79, 81, fig.12, 8, Krautheimer, 1965, pp.116-117, Creswell, 1929,p.112.Al-Tall, 1989, pp.130-131-137-144 fig.5.
- ²⁹Baldwin, 1929, Fig.243, p.308.Kleibauer, 1973, p.89ff.
- ³⁰Davies, 1952, fig.244 left.
- ³¹Kuilman, 2011, fig.244, p.309. see also figs.187–188.
- ³²Kuilman, 2011, fig.249p.314.Davies, 1952, fig.21.Kleinbauer, 1973, fig.16.Janson, 1962/1986.figs.306 -308.
- ³³Ousterhout, 1998, p.407.
- ³⁴Fleck, 1998.pp.448-452.
- ³⁵Nardi-Rainer, 1998.p.218. Fleck, 1998, pp.448-452.
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- ³⁹In Arabic: Hilal, 2001, pp.16-19-61-62.
- ⁴⁰In Arabic:Maqqar, 1992, pp.65-83.
- ⁴¹In Arabic:Al-Tabari, 1967, 3. Al-Maqdisi, 1909, pp.165-171.
- ⁴²Fleck, 1998, pp.448-452.
- ⁴³Baldwin, 1929, fig.245.

- ⁴⁴Baldwin, 1929, fig.250p.315.Gall, 1956.Götz, 1968.
⁴⁵Timmers, 1985.pp.104–145. Era, &Ciggaar, figs.201-202.
⁴⁶Courtens, 1969.p.316fig.251.
⁴⁷Courtens, 1969.p.3.
⁴⁸Kuilman, 2011, fig.252p.317.
⁴⁹Wedepohl, 1967.
⁵⁰Verbeek, 1967, pp.113-156.
⁵¹Kuilman, 2011, fig.64.
⁵²Kuilman, 2011, fig.255p.320.
⁵³Kuilman, 2011, fig.256p.321.Götz, 1968.fig.123.
⁵⁴Kuilman, 2011, fig.257p.322.Pevsner, 1943-1961, figs.52-53.
⁵⁵Kuilman, 2011, figs.101-168.
⁵⁶Kuilman, 2011, fig.258p.323.Behn, 1963.